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# The Role of Accountability in Motivating Knowledge Sharing Among Team Members in Information Technology Projects

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## ABSTRACT

In an information technology project environment it is essential that all team members collaborate, communicate effectively and openly contribute their knowledge to increase the likelihood of project success and organizational value. It is proposed that team member accountability and knowledge sharing behavior are essential preconditions for project success. This study explores aspects of accountability as motivators of knowledge sharing behavior by applying Ryan and Deci's Self Determination Theory (SDT) to the context of IT projects teams. By applying the SDT framework we attempt to provide some insight into the role of accountability and the origination of a team member's knowledge sharing motivation including which loci of causality (intrinsic or extrinsic factors) have more of an influence. By understanding the role of accountability on team member motivation and knowledge sharing behavior, project managers can more effectively develop and engage communication and control policies that better promote knowledge sharing and collaboration within the project team.

## Keywords

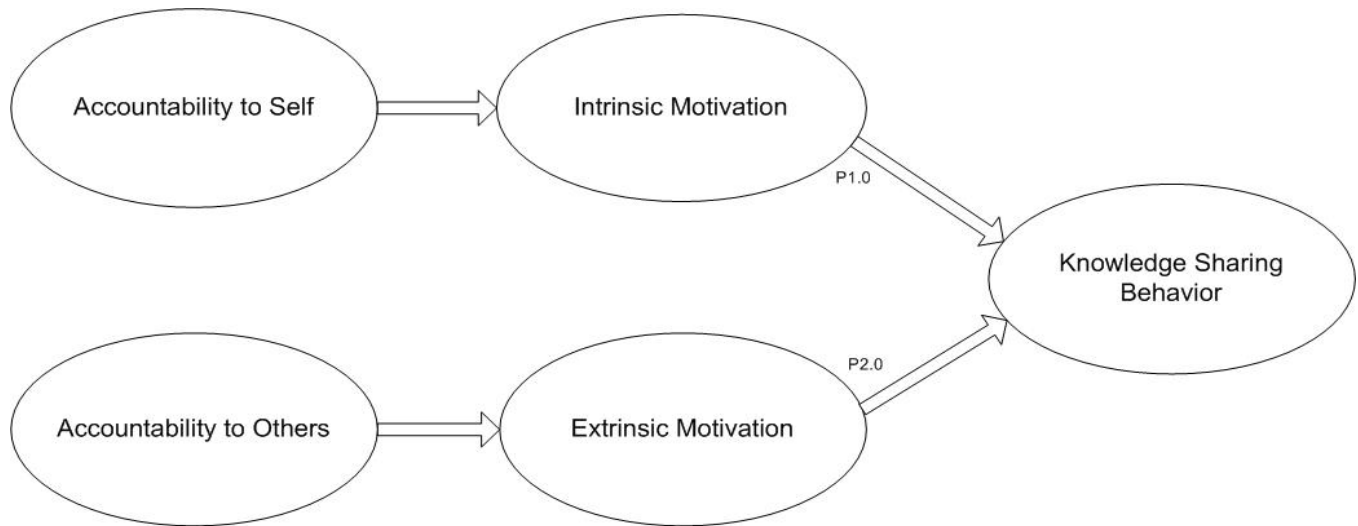
Knowledge Sharing, Accountability, Motivation, Self Determination, Project Management

## INTRODUCTION

Knowledge sharing within project teams is widely recognized as a critical success factor of IT projects. In addition to its direct contribution to project success, knowledge sharing plays a critical role in generating organizational value especially today when teams are comprised of interdisciplinary members (Marchewka 2003). Knowledge sharing can be understood as the behavior by which an individual voluntarily provides other social actors (both within and outside of the project team) with access to his or her unique knowledge and experiences (Hansen and Avital 2005). This conceptualization of knowledge sharing is closely related to information sharing as outlined by Jarvenpaa & Staples (2000): "Information sharing embeds the notion of 'willingness to share'. In the same way, knowledge sharing represents the voluntary act of providing others with a certain access to one's own knowledge and expertise. Various theoretical conceptualizations of knowledge sharing have been discussed extensively in the literature (e.g., Boland & Tenkasi, 1995; Cook & Brown, 1999; Szulanski, 1996) and few have attempted to examine intention to share knowledge (Brock et al 2005). However, there is not much empirical evidence about the motivation of knowledge sharing behavior. Huber (2001) observed that an exploration of the psycho-social determinants of knowledge sharing is foremost among unanswered research questions, which "if answered with sound studies, would enable organizations to be more effective in their transfer of knowledge" (p. 75). Therefore, further study of knowledge sharing is valuable. The importance of knowledge sharing in the project team context may be even more significant given knowledge exchange is essential for favorable information technology project outcomes.

Recently we completed a qualitative research study which explored factors that influence knowledge sharing among team members during information technology related projects. Insights gained from this research disclosed that knowledge sharing behavior can be related to factors of social and self accountability. Through the coding and interpretation of qualitative interview responses, two groups of themes emerged which appear to influence knowledge sharing among team members during information technology related projects. The first group can be characterized as Social Accountability themes that relate to being accountable to other project team members and to the project environment. Project environmental aspects also in this group include perceived social pressure, project manager communication and control mechanisms, project team shared vision and expectations and team member interdependencies. The second group can be characterized as Self

Accountability that relates to the level of team member perceived autonomy, competence and relatedness. Figure 1 outlines the core constructs of our qualitative study findings. This following quantitative study aims to test empirically the validity of these findings through a survey of approximately 300 people in 15 companies. The direct contribution of the study will be an enhanced understanding of the facilitators of knowledge sharing in IT projects. This study is likely to provide further insight about knowledge sharing overall in the organizational setting.



**Figure 1. Accountability Motivation for Knowledge Sharing Model**

## THEORETICAL FOUNDATION AND CONCEPTUAL MODEL

In this section we review and outline the key constructs of accountability, motivation and knowledge sharing behavior.

### Accountability

Harold Garfinkel (1967) who studied the concept and levels of accountability states that “every setting organizes its activities to make its properties as an organized environment of practical activities detectable, countable, recordable, reportable, tell-a-story-about-able, analyzable and in short - accountable.” (P. 33). Accountability makes the invisible visible. Accountability forms a key element in organizational stability. According to Karl Weick, accountability is enacted and reenacted in organizations forming interlocking routines, mutually reinforcing interpretations, and patterns of communication (Weick 1995). These routines, interpretations, and communication patterns provide organizations with encoded means for sense making and the ability to sustain themselves over time.

It is reasonable then to state that the presence of various forms of accountability foster communication in project teams. This communication increases the likelihood of information and idea exchange among team members which provides a foundation for the knowledge sharing. The two forms of motivational accountability are self accountability which relates to intrinsic motivation and social accountability which relates to extrinsic motivation. These forms of team member accountability are discussed later in this paper.

We propose that being held accountable for something or to someone can be a knowledge sharing motivator. There are two perspectives or levels of motivational accountability, internal and external. Internal or intrinsic motivation is the concept of being accountable to one's self which may stimulate a desire and intention to act based on internal emotional or intellectual drivers. External or extrinsic motivation is the concept of being accountable to others which may stimulate the desire, reason or incentive to act based on something in one's environment. To be accountable as defined by Webster is to be responsible, answerable, or liable to someone or to others, or for something or one's acts. Being accountable to self affects intrinsic motivation and accountability to others affects extrinsic motivation. When we motivate ourselves, someone else or when others motivate us, we develop incentives in which we set up conditions that initiate or impede behavior. Both self and social motivational forms affect knowledge sharing behavior.

## Motivation

**Proposition 1.0:** *Intrinsic motivation influences knowledge sharing behavior.*

**Proposition 2.0:** *Extrinsic motivation influences knowledge sharing behavior.*

Based on these insights, we have applied the Self Determination Theory (SDT) in the context of knowledge sharing and focused our study quantitatively on the self and social dimensions of accountability which are specifically related to intrinsic and extrinsic motivators that influence knowledge sharing behavior. Extrinsic motivation refers to the performance of an activity in order to attain some separable outcome and contrasts with intrinsic motivation which refers to doing an activity for the inherent satisfaction of the activity itself (Ryan and Deci 2000). So from this perspective, we would like to determine the primary origination of a team member's knowledge sharing motivation or which locus of causality (internal or external factors) has more of an influence? Is it an individual's self interest, enjoyment, competencies or inherent satisfaction (intrinsic motivation) of a knowledge sharing activity that compels an individual to engage in sharing behavior? Evaluating this from a dimension of accountability and the intrinsic perspective, does being accountable to self such as consciousness or self-regulation influence knowledge sharing? Or from the extrinsic perspective, is it being accountable to others such as the compliance with controls, or the interdependencies and expectations within the project team (extrinsic motivation), which stimulates an individual to engage in knowledge sharing behavior?

The SDT is an approach to human motivation and personality that uses traditional empirical methods while employing a macro-theory that highlights the importance of humans' evolved inner resources for personality development and behavior self-regulation (Ryan, Kuhl, and Deci 1997). The SDT is concerned with the development and functioning of personality within social contexts and focuses on the degree to which human behaviors are voluntary or self-determined and the influence and internalization of extrinsic behavior motivations. In a study by Ryan and Deci (2000), they inductively using an empirical process identified three human psychological needs. They are the need for competence, relatedness, and autonomy which can be related primarily to intrinsic motivation. Ryan and Deci have submitted accumulated research that suggests that commitment and conscientiousness reflected in intrinsic motivation and integrated extrinsic motivation are most likely to be evident when an individual's experience supports competence, autonomy and relatedness. This research can therefore be applied to the team member experience in which an individual is accountable to self in the information technology related project context. The SDT framework for intrinsic and extrinsic motivation of knowledge sharing is depicted in figure 2. The accountability to others constructs employed here were derived from our qualitative study findings previously discussed.

### The Affect of Accountability to Self on Intrinsic Motivation

When an individual has a well-developed sense of self-accountability, they are honest with themselves, and are answerable and responsible for what they say and do, void of any influence from others. Recent research offers insight that self-accountability is directly related to an individual's expectations of and contributions to their success (Robbins 2005). Being accountable to self increases the likelihood that an individual will be motivated to contribute and share information to assure that they are doing their part in the team. The components of self accountability are autonomy, competence, and relatedness and are each proposed to influence intrinsic motivation.

**Proposition 1.1:** *An individual's self interest, self value, and self regulation which comprise their perceived autonomy will have an effect on their intrinsic motivation and intention to share.*

**Proposition 1.2:** *An individual's self efficacy and self confidence which comprise their perceived competence will have an effect on their intrinsic motivation and intention to share.*

**Proposition 1.3:** *An individual's team affiliation and belongingness which comprise their perceived relatedness will have an effect on their intrinsic motivation and intention to share.*

### The Affect of Accountability to Others on Extrinsic Motivation

Katzenbach and Smith (1994) state that, "individuals are not likely to become a real team unless members hold each other accountable". The idea that "we hold ourselves accountable is much more powerful than the boss holds me accountable". This is based on their in depth study of what makes teams successful. Being socially accountable, people's actions and statements are inevitably subject to evaluation by others. Social accountability requires shared intention, responsibility, ownership, and commitment to action. Such evaluations take place against a background of normative expectations that members of a particular community hold in common (Garfinkel 1967). These normative expectations will affect team members' extrinsic motivation to share.

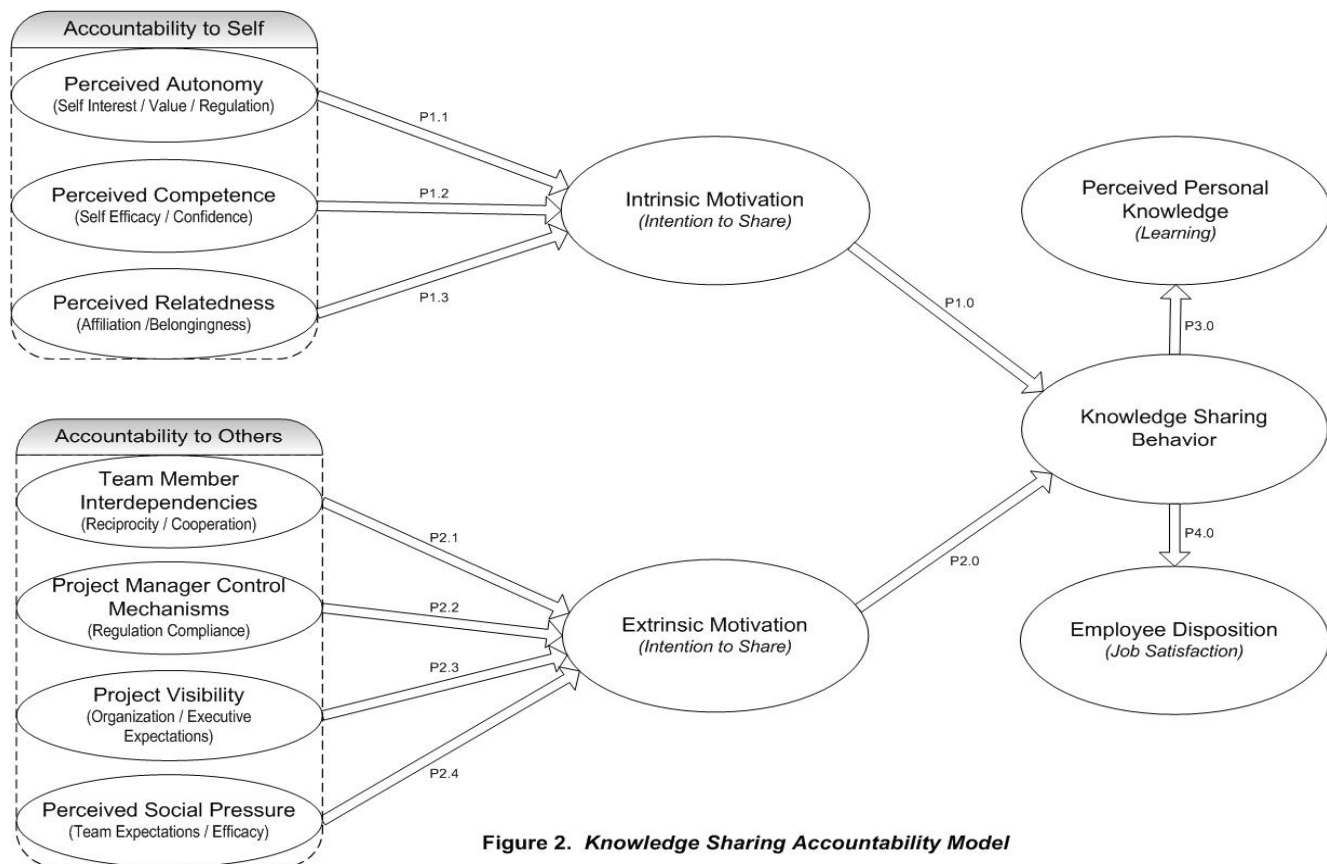


Figure 2. Knowledge Sharing Accountability Model

- Proposition 2.1:** Team member interdependencies promote cooperation and reciprocity which will have an effect on their extrinsic motivation and intention to share.
- Proposition 2.2:** Project manager control mechanisms regulate activities and create the need for compliance which will have an effect on team member extrinsic motivation and intention to share.
- Proposition 2.3:** The visibility or importance of the information technology project within the organization indicates a level of the executives' expectations which will have an effect on team member extrinsic motivation and intention to share.
- Proposition 2.4:** The level of an individual team member's perceived social pressure is associated with fellow team members' expectations or team efficacy which will have an effect on extrinsic motivation and intention to share.

### The Affect of Knowledge Sharing Behavior on Learning and Job Satisfaction

To provide insight and a basis for further research, the dependent constructs personal knowledge and employee disposition are included in this research model to evaluate this knowledge sharing behavior contributory relationship in the IT project team context. It is conjectured based on our qualitative study findings that the act of sharing knowledge with other team members will affect their perceived personal knowledge growth and job satisfaction perspectives.

- Proposition 3.0:** The degree to which a team member shares their knowledge with others will affect their perception of what they have learned (personal knowledge) in the process.
- Proposition 4.0:** The degree to which a team member shares their knowledge with others will have an effect on their overall disposition and job satisfaction.

### The Project Environment Modifies Knowledge Sharing Behavior

Knowledge sharing behavior will be modified by project environmental factors such as the organization structure and the type of project. Based on our qualitative research findings organizational reporting structures appear to have an affect on project team members' willingness to share knowledge. It is proposed that a project operating in an organization with a matrix type structure will promote a higher team member desire to cooperate, collaborate and exchange knowledge than the traditional hierarchical structure. Additionally the type of project will make a difference in the quantity and quality of knowledge shared among team members. Projects that have an objective or goal that requires team members to explore new frontiers and stretch their capabilities which are typically associated with development type (as opposed to maintenance projects) will promote more knowledge sharing due to the perceived greater learning opportunities.

### METHODOLOGY AND RESEARCH DESIGN

For an effective test of the propositions developed in the model, the study will attempt to incorporate a variety of environments and industry sectors including financial services, software, manufacturing, retail and universities. It is hoped that a sufficient sample of each industry sector will be obtained to detect any variance among sectors. All types of team members will be surveyed including project managers along with IT and business professionals that have participated in a recent IT related project. An inquiry into the project outcome will also be included in the survey instrument to validate project success as it relates to motivation and knowledge sharing behavior. The survey instrument will be developed based on a combination of the literature review and the results of the qualitative study data collected. The instrument will be thoroughly tested to ensure construct validity and appropriateness for the focal phenomenon. Upon completion of instrument development and refinement, the survey will be administered online. Data collected will be analyzed using Factor Analysis and Structural Equation Modeling to determine the validity and reliability of the model.

### CONCLUSION

It is proposed that self and social accountability of team members in information technology projects are key motivators of knowledge sharing behavior. Through the application of the SDT this study provides the framework to better understand the role of accountability and the origination and loci of causality (intrinsic and extrinsic motivation factors) of an IT project team member's knowledge sharing behavior. The quantitative data collection phase of this study will be completed and analyzed by mid-summer. Preliminary results will be presented at the AMCIS conference.

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