

RANDOM REWARDS AS INCENTIVES FOR KNOWLEDGE SHARING

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ABSTRACT

Organizations have begun to accept working knowledge as valuable corporate intangible asset. They also recognize performance could be improved through knowledge sharing (KS) among their knowledge workers. However, there are many barriers and resistance to sharing organizational knowledge. KS is a behavior which could be modified using various reinforcers. Behavior is a function of its consequences. Several scholars have suggested reinforcement of a behavior is obtained through a schedule of continuous or intermittent reinforcement. Intermittent schedule includes (a) fixed ratio, (b) variable ratio, (c) fixed interval, and (d) variable interval. Variable ratio (VR) reinforcement schedule is a prevailing means of modifying behavior because VR reinforcement produces high rate of responses and resists extinction. The desire to gain rewards (economic or recognition) is a key employee motivator. Thus, organizations commonly use reward to modify and reinforce the behavior of their employees. A researcher proposed reward should be personalized to fit the person being rewarded. The objective of this paper is to connect VR reinforcement schedule with KS, and to present the idea for further discussion and research. The author of this paper also proposes a random KS reward system.

INTRODUCTION

Knowledge residing in the heads of the knowledge workers (KWs) is one of the main organizational knowledge resources. KWs are human beings with diverse behaviors. Finding a way to capture their knowledge has always been a challenge due to the behavioral issues. However, behavior could be modified using reinforcers. There have been various studies and findings on behavior modification using different reinforcers under various settings with animals and humans. Knowledge sharing (KS) is a behavior which can be encouraged using different methods of reinforcement. Rewards (monetary or non-monetary) are considered effective motivators for employees. The main focus of this paper is to discuss whether random reward can be an effective means to modify the behavior of KS. A proposed random KS reward system is presented to elicit further research. The objective is to stimulate ideas from scholars on KS tactics and methods for organizations to support employees to share their working knowledge.

KNOWLEDGE SHARING

Organizational knowledge has been recognized and accepted as valuable corporate intangible asset. Thus, KS activity within the organization is essential to enhancing organizational performance (Earl, 2001). KS is “the exchange of knowledge between and among individuals, and within and among teams, organizational units, and organizations” (King, 2006, p. 498). Through KS, learning is also taking place. Such learning can be one of the outcomes from KS over (a) written contributions, (b) personal interactions, (c) organizational communications, and (d) communities of practice (Yi, 2009).

There are typically two types of organizational knowledge, explicit and tacit. Explicit knowledge is knowledge that has been codified into information. This information is available in hard copies and in numerous digital formats stored in the information systems of the organization. The

challenge is capturing and codifying tacit knowledge which resides in the brain of KWs. It is impossible to capture organizational knowledge without KWs’ willingness to share it.

BARRIERS AND RESISTANCE TO SHARE KNOWLEDGE

Due to the nature and usefulness of specialized knowledge, some KWs are reluctant to share it. The resistance can include their perceptions of job security and power. Some KWs do not know they know—until they apply their knowledge. Most employees often do not know who knows what, as well as, where to find the pertinent information they need. These scenarios are making establishing an organizational culture which facilitates KS even more complex. There are many barriers within the organization which hinder KS. Reige (2005) listed 36 KS barriers. He categorized those barriers into: (a) individual barriers, (b) organizational barriers, and (c) technology barriers. KS barriers have also been discussed by Davenport and Prusak (2000) as lack of trust and lack of time; and Jain, Sandu, and Sidu (2006) as lack of rewards and recognition.

THE BEHAVIOR OF KS

KS is a human behavior which has been studied using numerous existing motivational theories on reward and recognition (Subramanian & Soh, 2009). KS behavior can also be studied based on the concepts of theory of reasoned action and game theory (Ho, Hsu, & Oh, 2009). Social norms and identity also affect the behavior of KS (Kimmerle, Wodzicki, & Cress, 2008). Eccles and Wigfield (2002) presented a variety of motivation theories to learn why individuals choose an action. They listed: (a) theory on expectancies for success, (b) theory on task value, (c) theory integrating expectancies and values, and (d) theory integrating motivation and cognition. Behaviors are controlled through consequences (see table 1); however, whether a reward promotes the desired behavior depends on the individual; and not all rewards act as reinforcers (Nahavandi & Malekzadeh, 1999).

Table 1
Behavior Is a Function of Its Consequences—the “Law of Effect” (Robbins, 2005).

Type	Nature	Goal	Timing
Positive Reinforcement	Pleasant event or outcome	Increase a certain behavior	After behavior takes place
Negative Reinforcement	Unpleasant event or outcome	Increase a certain behavior	Before behavior takes place
Punishment	Unpleasant event or outcome	Decrease a certain behavior	After behavior takes place

SCHEDULE OF REINFORCEMENT

The following schedules of reinforcement requirement must be met to obtain reinforcement of a behavior (Powell, MacDonald, & Symbaluk, 2005):

- Continuous reinforcement (CRF) schedule (= FR1: reward after each task is completed)
- Intermittent (or partial) reinforcement schedule
 - Fixed Ratio Schedules (FR)
 - FRn: reward after a number (n) of tasks are completed
 - FR1 = CRF: reward after each task (n=1) is completed
 - Variable Ratio Schedules (VR)
 - reward after a random number of tasks are completed
 - Fixed Interval Schedules (FI)
 - reward at the end of a fixed period

- Variable Interval Schedules (VI)
- reward at the end of a random period

Table 2 shows both FR and VR schedule yield high response rate. However, there is no post-reinforcement pause for VR but high for FR. This might explain why playing the slot machine could be addictive because the payout is random in instances and in amount. VR reinforcement schedule also decreases the pause between plays; thus, leading the players to keep going.

Table 2
Intermittent Reinforcement Schedule Response Rate and Post-reinforcement Pause (Powell et al., 2005)

	Fixed Ratio	Variable Ratio	Fixed Interval	Variable Interval
Response Rate	High	High	Increasing	Moderate
Post-reinforcement Pause	Yes	No	Yes	No

SCHEDULE OF REINFORCEMENT RELATED TO KS

Schedule of reinforcement can be viewed from the organizational KS perspective:

- (a) FR_n—reward after a fixed number (n) of instances of KS,
- (b) FR1 (same as CRF)—reward instantly for each instance (n=1) of KS,
- (c) VR—reward after a random number of instances of KS,
- (d) FI—reward of KS after a fixed waiting period, and
- (e) VI—reward of KS after a variable waiting period.

VARIABLE RATIO REINFORCEMENT SCHEDULE

VR reinforcement schedules reward the desired behaviors only occasionally and a varying number of responses must occur before reinforcement. When applied, VR reinforcement schedules can produce high rate of responses that is steady and resists extinction (Behling, Schnesheim, & Tolliver, 1974). Some organizations use variable-pay programs, such as incentives, bonuses, and profit sharing to improve employee productivity; variable-pay is consistent with expectancy theory predictions (Robbins, 2005). Conceivably, organizations could apply similar variable-pay programs to reward employees who share knowledge.

DISCUSSION

Rewards are strong motivators of organizational KS. However, Hung, Durcikova, Lai, and Lin, (2011) suggested economic rewards might not be adequate. Additional motivators such as reciprocity, altruism, and reputation feedback should also be considered. They found “reputation feedback served as a strong incentive for both quantity and quality of knowledge shared” (p.425). Ravishankar (2008) cautioned that reward program might lead employees’ focus purely on rewards rather than on the KM initiative.

VR schedule of reinforcement is effective in modifying behavior; organizations should consider applying random (VR reinforcement schedule) rewards as incentives to encourage employees to share knowledge. If these rewards are presented randomly (intermittent reinforcement—variable ratio schedules), employees would be willing to practice KS more frequently—the *slot machine* effect. Bartol and Srivastava (2002) proposed organizations to implement a database system to capture knowledge, and use it to measure and reward the behavior of KS. Using information technology, database system could randomly select a contribution entry efficiently. The database system could also connect to other information systems to register and dispense rewards. This schema could very well appear as a slot machine.

A PROPOSED KS REWARD SCHEMA

An organization could establish a random reward system to facilitate managing individual KW's contributions to the organizational information database (see figure 1).

The reward process begins with the KW entering information, selecting the category, and adding keywords to an entry. This entry is deposited to an information database. The system automatically assigns a number to the entry. This number is run through a randomizer. If it is not selected, an e-mail acknowledging receipt of the entry is sent to the KW. If this number is selected, the entry is going through the following five-step process:

- (1) The system notifies a team of peer reviewers and forwards the entry to them for evaluation.
- (2) Each member of the team assigns a weight to the entry. This weight is determined using a predesigned rubric to evaluate: (a) significance, (b) usefulness, (c) relevancy, and (d) economic impact. An average team weight is then calculated.
- (3) The system's randomizer generates a base point.
- (4) The system generates the total point which is the product of the randomized number and the average team weight.
- (5) The KW receives a congratulatory e-mail specifying the points awarded.

The above five-step process should be completed as soon as practicable to shorten the time of the reward notification. The objective is to create an instant gratification effect.

In addition, this system could also generate points for each entry submitted adopting the practice of the "frequent-flyer program". KWs can redeem the accrued points to exchange for the reward of their choice from a list of options. Dalkir (2011) recommended the reward should be personalized because it should fit the person being rewarded.

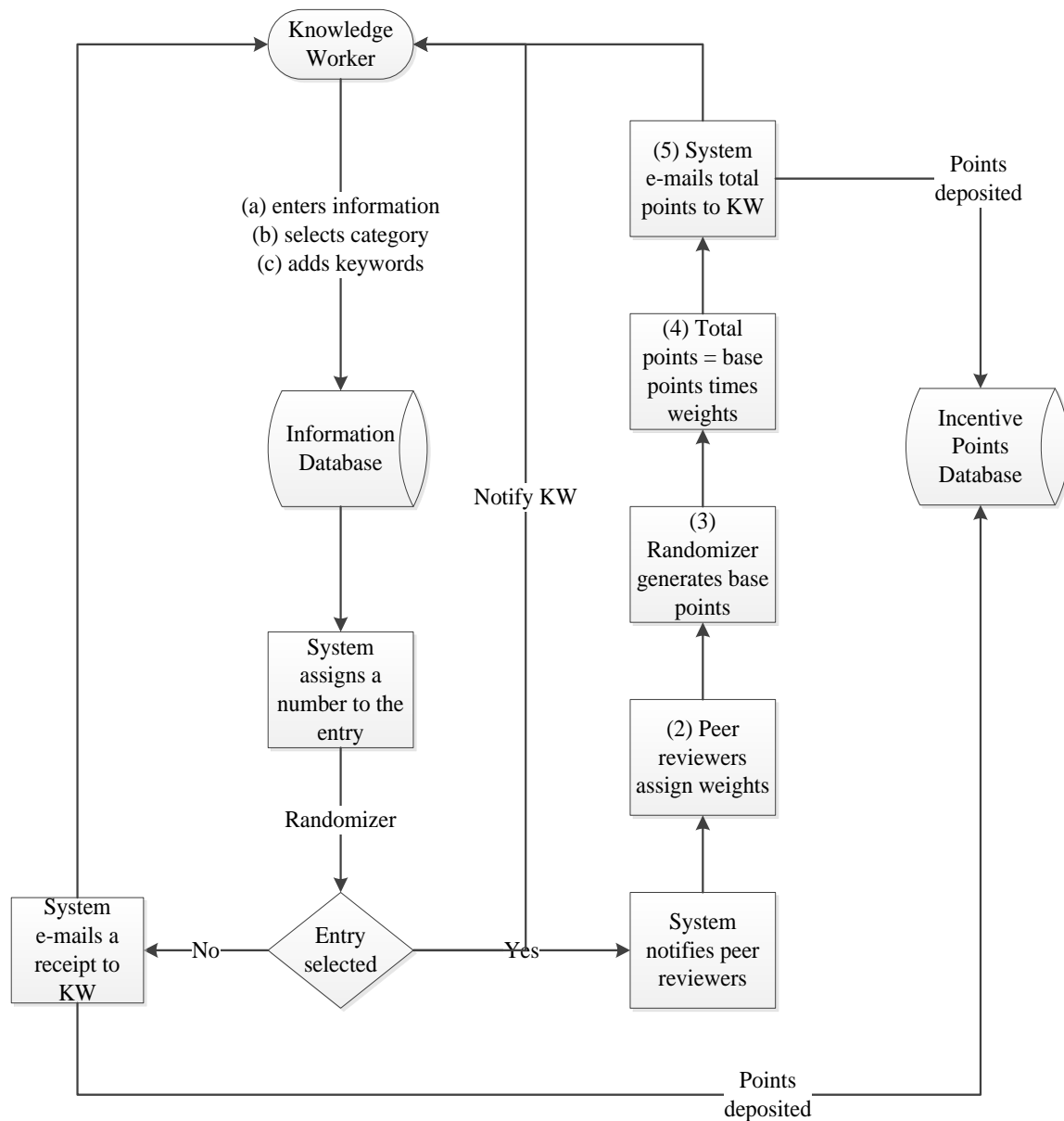


Figure 1. Schematic of a proposed random reward system.

RECOMMENDATIONS FOR FURTHER STUDY

Employees perceive motivators and rewards differently based on their views on values, needs, and situations. There may not be any one-size-fit-all motivator or method to establish a culture of KS in organizations. Employees’ KS behavior is also directly affected by an organization’s culture (Wang & Noe, 2010). Perhaps, assessing an organization’s KS behavior should begin with evaluating the organization’s culture. An area which could be explored is applying game theories (Ho et al., 2009) to study the interactive behaviors among KWs. Random reward has proven to be a powerful behavioral reinforcer. A qualitative research on whether random reward can be an effective means to promote organizational KS is warranted. If there is a correlation between random reward and frequency of organizational KS activity, the follow-up study is to design an IT infrastructure which best support this activity.

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