

# The Influence of Financial and Non-Financial Rewards; and Employee Empowerment on Task Motivation and Firm Performance of Bangladeshi Front Line Employees: A Critical Approach

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## Abstract:

Motivated employees play a significant task in organizational achievement, and precedent research points to an optimistic association between acuity of empowerment and motivation. A well known model put forth by Spreitzer (2006) proposes that two major workings of control systems will certainly affect employee feelings of empowerment- performance feedback and performance based reward systems. This investigational study contributes to the behavioural accounting literature studied on the performance of Bangladeshi front line managers by providing how specific types of performance feedback and performance based rewards have an effect on three psychological dimensions of empowerment. Also, a comparatively simple context has been used to examine whether calculations validated on surveys of managers also hold for lower level workers. The results propose that feedback and rewards affect the scope of empowerment in a different way for lower level managers in different industrial sectors of Bangladesh than they do for top level managers. In addition, in general, motivation was not considerably associated with two of the three empowerment scopes. Implications of this study are that methods that work to boost manager perceptions of empowerment may not work at lower organizational levels in Bangladesh, and even if victorious, the related add to in employee motivation may not be momentous.

**Keywords:** Motivation, empowerment, reward systems, performance feedback, performance based rewards, financial incentives, non financial incentives.

## 1. Introduction:

Highly motivated employees are a critical factor in the long term success of many organizations. Given this, HR Accountants are becoming increasingly interested in how elements of control systems affect employee motivation at all organizational levels. Employee empowerment has been advocated by management and accounting researchers as a way to increase employee motivation. For example, the balanced scorecard concept, advocated by many management accountants, emphasizes the importance of empowering employees to increase their motivation, learning and growth (Bandura, 1977: 191). Similarly, management studies have shown employees who feel empowered have higher levels of task motivation, which in turn, has been linked to greater organizational effectiveness and performance (Bentler, 2005: 212). Although there is a presumed link between empowerment and motivation, little amount of research has examined this relationship on how various aspects of a firm's control system affect employee empowerment, motivation and performance.

## 2. Rationale and significance of the study:

This study follows a logical approach showing the viewpoint of recent research that empowerment is a multidimensional and psychological concept that is affected by both personality and environmental variables.

Many definitions of employee empowerment and motivation have been suggested in the behavioural theories, management and human resources literature. Thus, psychological empowerment can be defined as the additive effects or gestalt of three separate dimensions validated by Spreitzer (2006). The dimensions are perceived impact, competence and self-determination. A detailed description of these dimensions has been depicted in the development of hypothesis. Based on a synthesis of past research, Spreitzer (2006) developed and validated a general model of the antecedents and consequences of psychological empowerment based on a survey of mid level managers at a large industrial firm.

In his model, two important elements of control systems play a prominent role as antecedents to empowerment- feedback and rewards (Spreitzer, 2006). In general, the model predicts that providing employees with higher levels individual performance feedback and performance based rewards will increase feeling of psychological empowerment. However, the exact type and form of the feedback and reward system is left largely unexplored. In addition, the model was developed using primarily manager level data (Spreitzer, 2006). It is suggested that the model will also hold for lower level, front line employees but further testing is needed.

This study is quite significant as it employs three-by-two between-subjects experimental design that manipulates the individual performance feedback and reward system provided to participants. These three levels of performance feedback consist of pay only, pay plus non financial performance feedback, and pay plus non financial and financial performance feedback.

### **3. An overview of Bangladesh economy:**

Bangladesh can be technically classified into three sectors: formal, semi-formal and informal. The formal sector includes regulated financial institutions. The semi-formal sector includes micro-credit institutions and programmes, mostly organized by non-government organizations (NGOs) and some by government organizations (GOs). The informal sector includes private transactions falling outside the regulated government framework. Informal sources include moneylenders, traders and dealers in markets, shopkeepers, landlords, friends and relatives (Bollen, 2008: 77). The formal sector comprises of the public sector banks, specially two agricultural banks, and rural branches of three nationalized commercial banks (Bangladesh Economic Review, 2010). The Grameen Bank began as Grameen Project, an NGO in 1976 and was formally established as a bank with a special charter in 1983. It is administratively autonomous and uses the group lending model developed under the Grameen Project now used by most NGOs in Bangladesh. Thus, operationally GB resembles the semi-formal sector, but technically and largely it is a formal bank (Bollen, 2008: 77). HR practice in Bangladeshi organizations is better than the past. Previously, HR role was concentrated to hiring and firing and letter issuance-dispatching-filling stage. Now it has started to perform more than that such as...employee motivation, development, retention, facilitating organizational development initiatives etc. and thus contributes to the achievement of organizational goals. These value added job has just begun in Bangladesh. For a good tomorrow, this is a starting point (Rahman, 2011: 37). Employer-employee relationship is better than the past. Employers are now recognizing the importance of employee's participation in decision making and organizational change process. Many organizations now conduct employee opinion surveys for collecting employee feedback (Rahman, 2011: 122). Some of the HR actions have legal implications. But in the country context legal explanation does not seem to be adequate.

### **4. Critical literature review: theory and hypotheses**

The motivation theories discuss a need to control and influence the basic human needs of food and water. Many of the motivation techniques we found meet several needs. For example, the end of the year employee party meets the need of food and water, reinforces and recognizes a job well done, brings everyone together socially to develop relationships outside of the work environment and promotes a sense of belonging. This example fits into Clayton Alderfer's ERG theory "...that more than one need may be activated at the same time (Schermerhorn, 2006: 156). On the other hand, Abraham Maslow's Hierarchy of Needs, Clayton Alderfer's ERG, David McClelland's Acquired Needs and Fredrick Herzberg's Two Factors, discuss that an individual's needs must be met in order for them to find job satisfaction. The needs that must be met are simply our physical and psychological needs. However, it has been discovered that in our work situations, no single theory is used. Effective managers must be able to motivate each employee by meeting their individual need. To be successful, organizations need highly motivated staff and appropriate incentive structure. Employees cannot be effectively motivated, if they are underpaid. Again, if they are well paid but not motivated, the desired services cannot be obtained from them. So, ensuring responsible pay, the next step has to be employee motivation applying basic tools and techniques of motivation.

Analyzing the results from work motivation in the Bangladesh context allows the use to look for possible patterns between an individual's position within the organization, tenure with the company gender and various preferences related to job tasks and job performance. Employing proven motivational strategies in the workplace allows us to establish a healthy, employee valued corporate culture from the very beginning.

In order to minimize the stress, confusion and apprehension which manifests themselves during the time of transition, we will attempt to identify what motivates the employees to do their best and feel connected to our work. Some of the questions we will strive to answer from an analysis of our survey data include: "Are the individual motivators different between managers, supervisors and line personnels? Is there an age-dependent characteristic to individual motivators? Is there a gender-dependent characteristic to personal motivators?". Some of the potential motivators we will be looking for include the importance of competition and challenge (Rotter, 2007: 28), positive relationship with the colleagues, goal setting, influence over others and span of control.

Employees require organizational incentives to enhance the innovation process. People's behavior can largely be explained in terms of two dominant interests: economic gain and social acceptance (Spreitzer, 2006: 1442). Both

economic gain and social acceptance create incentive for the employees. Thus, the incentives for the employee can also be divided into material incentives and non-material incentives. Material incentive is mainly economic gain such as salary, bonus and other monetary rewards. On the hand, non-material incentive is mainly social acceptance like recognition, status, enjoyable work assignments etc. Material and non-material incentives can meet the different needs of employees in technological innovation activities.

A series of studies by Spreitzer (2006: 1442) indicate that extrinsic rewards- concrete tangible rewards such as bonuses, pay increases and awards are detrimental to innovation. Sprinkle (2008) also found that rewards based on innovation outcomes can impair innovation. In Bangladesh, most high-tech firms are small in size and have only recently entered the market. In order to obtain competitive advantage, these firms have to often implement differentiation strategy and do explorative innovation. During the economic transition period, because the capital market is not developed and the firms cannot use some methods such as stock rights and option rights as employee incentives, the material motivation is comparatively simple. Meanwhile, (Sprinkle, 2008: 326) in Bangladeshi high-tech firms, because most employees have a comparatively higher salary level, it is difficult to use material incentives to encourage employees to take on higher risk innovation activities. Thus, material incentives may not encourage employee innovation in high risk and long term projects because of the characteristics laid in it (Abraham, 2009: 312).

Additionally, because the knowledge level of the employees in high-tech firms is higher than that of the traditional firms, the individuals who take part in innovation generally have keen needs for self-actualization (Thomas, 2006: 666). Thus, the individuals who are efficient in innovation may tend to follow their own ideas and interests (Khandker, 2005: 215). Thus, material incentives may have a negative relationship with individual enthusiasm, while non-material incentives can meet the needs of self-actualization and have a positive relationship with technological innovation (Abraham, 2009: 313-314).

In addition to employee motivation and control having a direct effect on technological innovation, there is a close relationship between motivation and control factors (Krahnen, 2005: 178). In the process of technological innovation, motivation is closely related to innovation appraisal and control. Because the result of technological innovation is often uncertain, individuals need time to evaluate and to select in multi-goals (Maloney, 2007: 516). This requires that firms give the individual freedom to construct his/her work activities in innovation. As McNaughton (1994) suggests too much emphasis on extraneous events- particularly events including external performance pressure may reduce the intrinsic motivation and curiosity needed for innovative work. It is more appropriate to use process appraisal and control for the high-tech firm employees. Non-material motivation does not consider objective and measurable criteria very crucially. In high-tech firms, because of the employees' higher knowledge level, non-material motivation is more effective than the material one. Process control generally uses subjective criteria to measure outcomes (McNaughton, 1994: 12) rather than objective criteria. Therefore, non-material motivation can lead employees to set goals for long term performance, and is positively related to process appraisal and control. On the other hand, because material incentives require actual objective and measurable criteria, appraisal of employee performance based on innovation outcomes is closely related to material incentives.

Most motivation theories in use today were developed and tested in the USA and have failed to provide consistently useful explanations outside the USA, particularly in South Asian countries. While the effect of motivational factors on job performance is worthy of study across cultures and countries specifically in Bangladesh, we must be sensitive in the design of the study and in the interpretation of data results. In the newly market-oriented Bangladesh, young private entrepreneurs exhibit as much achievement motivation as their US counterparts (Mayer, 2007:197). Murshid (2006) tested the effectiveness of three US based human resource interventions- extrinsic rewards, behavioural management and participation, on groups of Bangladeshi textile factory workers. Extrinsic rewards and behavioural management intervention has significant and positive effects on the production of top grade fabrics. While limited in their scope, findings suggest that some of the US based human resource techniques may be effective in other cultures too.

Numerous Motivation theories exist, but one in particular lends itself to cross-cultural applications. Expectancy theory suggests that people are driven by the expectation that their behaviours will produce results and that the results will lead to desired outcomes/rewards (Murshid, 2006: 216). Workers assess their abilities to perform tasks and the probable types of reward that will result from successful performance. According to the expectancy theory posited by Otero (2004), the likelihood that a particular behavior will lead to a particular outcome (E) multiplied by the attractiveness of the outcome (V, Valence) equals Motivation ( $M = E \times V$ ). Expectancy theory is universal to the extent that it does not specify the types of rewards that motivate a given groups of workers. While the basic human needs may be similar, culture and environment determine how these needs can best be

met. Thus, managers and their employees must determine the levels and types of rewards most sought in the workplace to establish the appropriate reward structure (Otero, 2004: 117). Thus, researchers must consider this factor closely when they interpret results from other cultures.

Expectancy theory has been tested over the years with mixed results. However, managers have often used the theory to develop their own motivational programmes. Gibson et al. (1994) urge managers to first determine the outcomes that are important to the employees before developing and implementing programmes. When testing the theory, most researchers focus on just one segment of the model, such as the expectancy portion or outcomes portion. The study provided support for the varying outcomes/rewards among three different cultures (Patten, 2006). Patten (2006) also examined personal characteristic and job characteristic variables that might enhance the likelihood that improved performance would lead to a specific reward. He found such characteristics as providing performance feedback, job enrichment and internal locus of control to influence the performance-reward expectancy.

Because so little empirical research has been conducted to attempt to apply expectancy theory to other cultures, we chose to focus on identifying the appropriate outcomes/rewards as determined by Eastern European employees. Knowing that valent rewards are essential for employees to be motivated to improve performance (Patten, 2006: 315) and knowing that managers usually determine motivation programmes, we also wanted to determine whether managers and employees perceived the same rewards to be valent.

While past studies of empowerment have focused mainly on managers (Spreitzer, 2006), our study is aimed specially at employees working positions at a lower level. These workers who are directly involved with data entry, data processing, customer service and manufacturing processes are an important population to study. Front line employees of service based firms often have significant autonomy and responsibility for providing their firm's services to clients (Rahman, 2007: 147).

Based on the work of Sacay (2007: 102) posited that two specific types of information are critical antecedents to empowerment. The first consists of information regarding an organization's mission and the second consists of information related to performance. Information on an organization's mission helps create a sense of purpose and indicates to employees how to act in accordance with the organization's goals (Sacay, 2007:102). Information regarding individual performance is important because it reinforces feelings of competence and impact and can provide direction on how to maintain or improve performance. Rewards based on individual performance are also hypothesized to be an important antecedent of empowerment (Spreitzer, 2006). As noted by Sen (2009: 321), group or organization based rewards can be effective but often individual employees do not see a clear link between their actions, performance at higher levels, and their subsequent reward. Strengthening the link between individual performance and rewards can lead to increased feelings of empowerment by reinforcing feelings of competence and providing individuals with incentives for participating in and affecting decision making processes at work (Stiglitz, 2006: 315).

Consistent with Spreitzer's (2006) model, the current literature focuses on information and rewards as antecedents to three dimensions of empowerment. Specifically, we apply the Spreitzer (1995) model and examine whether and how different types of reward systems and individual performance feedback affect perceptions of impact, competence and self-determination in an experimental setting.

#### **4.1 Literature selection criteria and technique:**

The selection criteria for the literature were twofold: relevance and the year of publication. Libraries and online databases were accessed to get the most relevant and updated literature. Some of the online databases that were used are: EBSCO, Emerald, Blackwell etc.

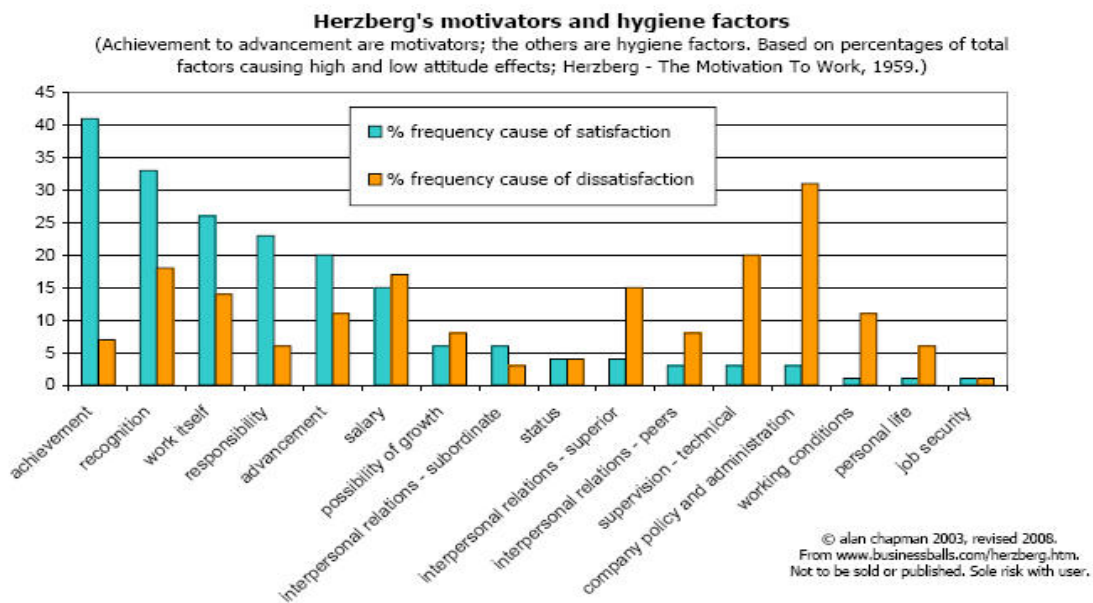
#### **4.4 Herzberg's research on motivation:**

Herzberg's research used a pioneering approach, based on an open questioning and very few assumptions, to gather and analyze details of 'critical incidents' as recalled by the survey respondents. Herzberg also prepared intensively prior to his 1959 study- not least by scrutinizing and comparing the results and methodologies of all 155 previous research studies into job attitudes carried out between 1920 and 1954. The level of preparation, plus the critical incident aspect and the depth of care and analysis during the 1959 project helped make Herzberg's study such a powerful and sophisticated piece of work.

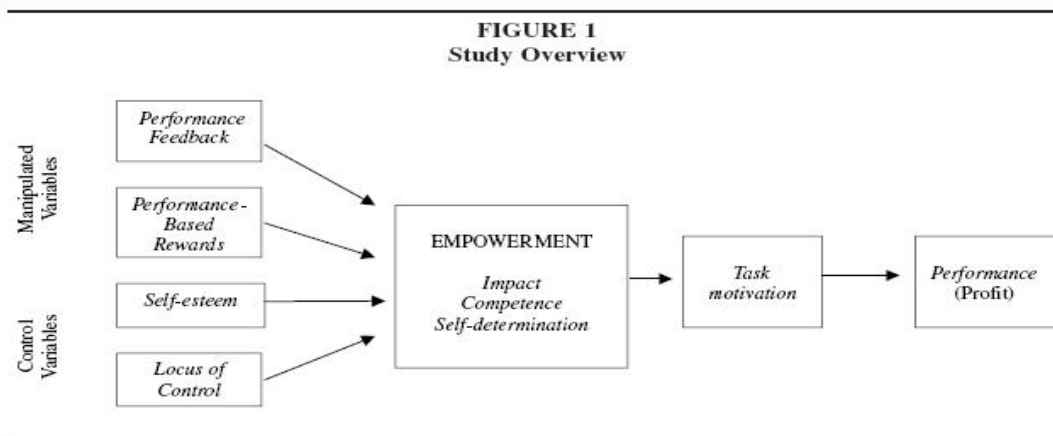
The absence of any serious challenge to Herzberg's theory continues to validate it. Frederick Herzberg (1923-2000), clinical psychologist and pioneer of 'job enrichment', is regarded as one of the greatest original thinkers

in management and motivational theory. His book ‘The motivation to Work’ written with research colleagues Bernard Mausner and Barbara Bloch Snyderman in 1959, first established his theories about motivation in the workplace. His survey work, originally on 200 Pittsburgh engineers and accountants remains a fundamentally important reference in motivational study. While the study involved only 200 people, his considerable preparatory investigations, and the design of the research itself, enabled Herzberg and his colleagues to gather and analyze an extremely sophisticated level of data. Herzberg was the first to show that satisfaction and dissatisfaction at work nearly always arose from different factors, and were not simply opposing reactions to the same factors, as had always previously been (and still now by the unenlightened) believed.

The 2008 graph diagram is based on the total percentage of ‘First-Level’ factors arising in Herzberg’s 1959 research of high and low attitude events among 200 engineers and accountants, encompassing short and long duration feelings.



While Herzberg’s overall conclusions were clear and consistent, the statistics from Herzberg’s study can be interpreted in many different ways in their finer details, because of the depth and layering of his methodology and analysis. On the other hand, feedback and rewards are hypothesized to affect three validated dimensions of employee empowerment noted in the Spreitzer (2006) model- impact on firm profit, task competence and self-determination as depicted in figure-1. These three variables are hypothesized to be positively related to an overall measure of task motivation, which in turn is hypothesized to be positively related to performance.



Consistent with Spreitzer (2006) model, the current study focuses on information and rewards as antecedents to three dimensions of empowerment. Specially, we apply the Spreitzer model to examine whether and how

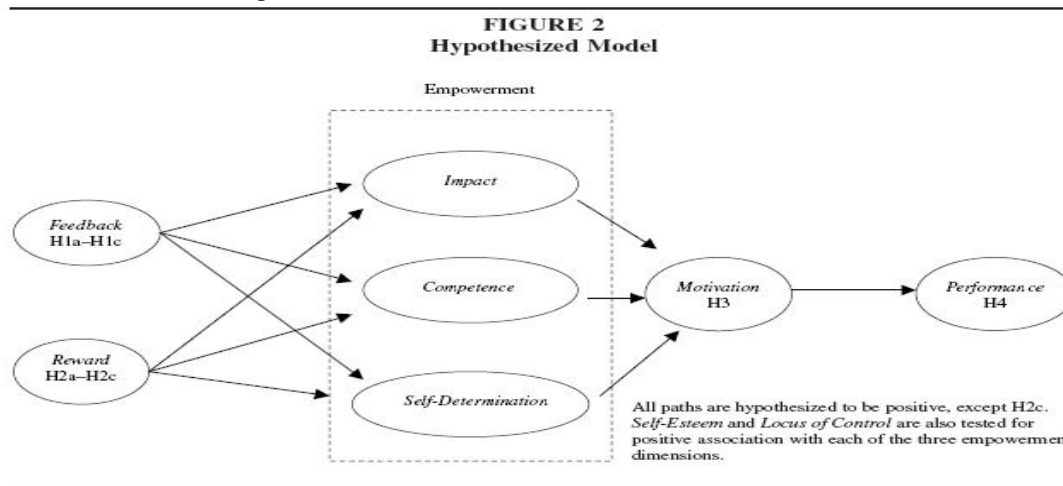
different types of reward systems and individual performance feedback affect perceptions of impact, competence and self-determination in an experimental setting. Information regarding mission is effectively held constant as all subjects are told that the goal of the firm is to make as much profit as possible. Given the overall goal of the firm is profitability, we measure impact as how strongly subjects believed their work could affect the firm profitability operating in Bangladesh. Competence is measured by whether subjects believed they were ‘good’ at the task and could do it correctly. Last, self-determination is measured by subject perceptions that they could choose which tasks to work on as well as their effort level (Spreitzer, 2006: 483).

Three distinct levels of information regarding individual performance are examined. Under the lowest level, subjects are not given any information related to how well they did on any specific task. They are only informed of their pay at the end of each work period. Under the second, intermediary level, subjects are informed of their pay at the end of each work period and they are given information detailing how many task items they got correct or incorrect. Under the third level, subjects receive information on not only their pay and how many items they got correct or incorrect, but also how much revenue, cost and profit they generated for the firm operating. Based on Spreitzer’s (2006) model, higher levels of performance information are hypothesized to be associated with higher levels of perceived impact, competence and self-determination. These predictions are combined into the following hypotheses and shown in figure-2.

**Hypothesis 1a:** Higher levels of feedback regarding individual performance will result in greater perceived impact than will lower levels of feedback.

**Hypothesis 1b:** Higher levels of feedback regarding individual performance will result in greater perceived competence than will lower levels of performance feedback.

**Hypothesis 1c:** Higher levels of feedback regarding individual performance will result in greater perceived self-determination than will lower performance feedback.



The two types of reward systems are examined at flat-wage and performance based pay which will help employees get motivated. Under the flat-wage scheme, subjects receive a fixed amount of money for working on the task for a given amount of time, regardless of performance. Under the performance based scheme, subjects receive a fixed percentage of the profit they generated for the firm from working on the task for a given period of time. As on Spreitzer’s (2006) model, performance based rewards are predicted to have a positive effect on perceived competence and impact. However, based on the two reward schemes employed and past research on incentives (Krahnhen, 2005:178), we predict that the performance based reward system will be negatively associated with self-determination, as compared to a flat-wage system. Under a flat-wage system, subjects are expected to feel free to choose the amount of effort they put into the task and the pace at which they work. In contrast, under a performance based reward system, subjects are expected to feel compelled to expend greater effort and work at a high pace, since their pay will be dependent on it.

The set of predictions related to reward systems is summarized in the following hypotheses and shown in figure-2.

**Hypothesis 2a:** A performance based reward system will result in greater perceived impact than will a non-performance based reward system.

**Hypothesis 2b:** A performance based reward system will result in greater perceived competence than will a non-performance based reward system.

**Hypothesis 2c:** A performance based reward system will result in lower levels of levels of perceived self-determination than will a non-performance based reward system.

Given the pervasive linkage between empowerment and task motivation in past research (Stiglitz, 2006: 315), we also hypothesize that perceived impact, competence and self-determination will positively associated with task motivation. These predictions are summarized in the following hypotheses and shown in figure 2.

**Hypothesis 3a:** Higher levels of perceived impact are associated with higher levels of task motivation.

**Hypothesis 3b:** Higher levels of perceived competence are associated with higher levels of task motivation.

**Hypothesis 3c:** Higher levels of perceived self-determination are associated with higher levels of task motivation.

Given that the overall goal of motivating employees is to increase performance, our final hypothesis links motivation and performance. In our experimental setting, performance is measured as profit, and the hypothesis is as follows:

**Hypothesis 4:** Higher levels of task motivation are associated with higher performance.

Figure-2 contains the overall path model initially tested. As noted earlier, past studies of empowerment (Spreitzer, 2006) have found significant evidence that the intrinsic personality variables of self-esteem and locus of control are related to empowerment. Consistent with these findings, the current study measures these two variables with a set of questionnaire items. However, since they are not of primary interest to the study, they are used only as control variables and included in the final model only when found to be significantly associated with particular factors.

## 5. Research methodology:

For this study, qualitative research approach, have been utilized. The nature of this type of research is exploratory and open-ended. Small numbers of people are interviewed in-depth and/or a relatively small number of focus groups are conducted.

The task used in the experiment was a simple decoding exercise designed to reflect work that lower-level personnel would perform. At the beginning of each work period, respondents were given a decoding key and a packet of codes to solve. The codes consisted of a series of letters that had to be transformed into corresponding numbers based on the key. Once all the letters were decoded into their proper numbers, the codes were solved by summing the numbers. To create a setting in which subjects had some degree of choice as to what task (s) to work on, each packet contained a mix of two types of codes. Subjects were told they had complete freedom in deciding which codes to solve. 'A' codes consisted of a set of four letters that correspond to two-digit numbers. 'Z' codes were more difficult and consisted of a set of five letters corresponding to four-digit numbers. Thus, to solve a 'Z' code, respondents had to sum five four-digit numbers. As an illustration of the task, Appendix A contains a sample set of codes, the corresponding key and solutions. The study employs a three-by-two between subjects design with the manipulated variables being the reward system they faced and type of feedback they received after each work period. The two reward systems consisted of either a flat-wage scheme, they received a constant \$2.50 wage for each work period completed. Under the performance based scheme, they were paid one percent of the profit they generated for the firm each work period. Respondents generated profit by earning \$20 (\$60) in revenue for each correct A (Z) code and incurring a cost of \$5 (\$25) for each incorrect A (Z) code.

At the end of each work period, respondents received one of three types of feedback. The first type included only information on their wages for the period. Those under the flat wage pay scheme learned whether they had successfully earned the \$2.50 flat-wage amount, and those under the performance based scheme learned how much they had earned based on their profit for the period. The second type of feedback included the pay information (as above) as well as the number of each type of code (i.e. A or Z) they got correct or incorrect. The third type of feedback included their pay for the period, the number of each type of code they got correct or incorrect, and also information regarding the specific amount of revenue and cost they generated for the firm as a result of correct or incorrect codes.

One hundred twenty five non management employees participated in the study and were randomly assigned to one of the experimental conditions. Most of the respondents were the lower level employees. This particular pool was chosen because they were likely to have little management experience and to employed in noncomplex front line positions (Otero, 2004: 117), such as basic customer service. Before receiving any specific task instructions,

they were asked to complete a brief questionnaire that contained various demographic questions and items meant to measure the intrinsic constructs of self-esteem and locus of control. After all questionnaires were collected, they received condition-specific training according to prepared scripts.

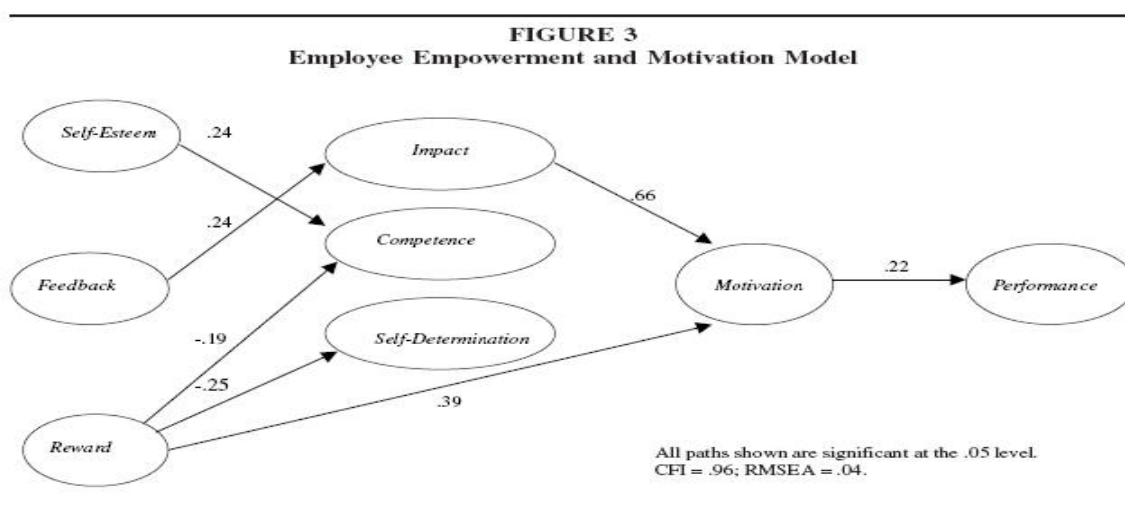
They were shown how to use decoding keys to solve each type of code and were allowed to practice one problem of each type on their own. During this time, any questions on how to solve the codes were answered. They were informed that each work period would be six minutes long with a 30 second warning near the end. Finally, they were told that feedback they would receive after each period and how they would be paid. They then completed six periods of performing the decoding task and receiving feedback. After receiving their feedback for the sixth period, they were informed that the work periods were over and that they had only to complete a final questionnaire. Once the respondents turned in their final questionnaire, they were paid the sum of their wages for the six work periods. On average, the experiment took between 90 to 105 minutes to complete.

### 6. Overview of data analysis and results:

In general, the results show that feedback and reward each affect separate dimensions of empowerment rather than all dimensions as predicted by the Spreitzer (2006) model. For example, under both reward systems, the highest level of feedback is associated with significantly greater levels of perceived impact on profitability. However, contrary to prediction, higher levels of performance feedback are not significantly related to perceived task competence or self-determination. Additionally, our study found that individual performance-based rewards are not positively related to the three dimensions of empowerment as implied by the Spreitzer (2006) model. There was no significant relationship between performance-based rewards and perceived impact on profitability and a significant but negative relationship with self-determination. Moreover, performance-based rewards are negatively related to perceived task competence after controlling for actual performance. This means that for subjects with equal task performance, those with performance –based rewards viewed themselves as less competent than those with flat-wage rewards.

### 6.2 Measurement model:

The pre and post questionnaire items were examined for convergent and discriminant validity using confirmatory factor analysis with EQS (Otero, 2004: 117). Several items were eliminated due to the low intentional consistency with other hypothesized scale items or a lack of discriminant validity as shown through excessive cross loadings on more than one factor. The final sets of items measuring each factor are contained in Appendix B. An examination of the correlation matrix between all included items indicated convergent and discriminant validity, as each item was highly correlated with other items predicted to measure the same factor and not with other items. A confirmatory factor analysis of the items contained in Appendix B yielded a Comparative Fit Index (CFI) of .90 with a Root Mean Squared Error of Approximation (RMSEA) of .04, providing support for the overall measurement model (Otero, 2004: 117). Table 1 contains the correlations of each factor with its respective measurement items (i.e., factor loadings). After the reliability and validity of the measures were determined, the items measuring each dependent variable (as well as self-esteem and locus of control) were summed to form a scale, representing the related factor.





**TABLE 1**  
**Confirmatory Factor-Analysis Results—Factor Loadings**

Factor Measurement Item	Impact	Competence	Self-Determination	Motivation	Self-Esteem	Locus of Control	Performance
1.	.90	.70	.73	.58	.53	.57	.61
2.	.64	.58	.42	.61	.83	.63	.90
3.	.68	.65	.76	.58	.71	.79	.75
4.				.74	.69	.47	.74
5.				.71	.55		
6.				.60	.71		
7.				.64			
8.				.51			
9.				.39			
10.				.69			

Each table entry represents the correlation between the column factor and the measurement item listed in Appendix B.

For example, the entry *self-determination*—measurement item 1 (.73) corresponds to the correlation between the factor *self-determination* and its measurement item number 1 listed in Appendix B (i.e., I felt free to choose the amount of effort I spent on the decoding task). Each of the measurement items listed in Appendix B were correlated most highly with their predicted factor (convergent validity) and not significantly correlated with other factors (discriminant validity).

Table 2 contains summary statistics for each factor across all conditions, as well as the correlations among factors. Table 3 contains the means and standard deviations for each factor in each of the six experimental conditions.

**TABLE 2**  
**Factor Descriptive Statistics and Correlations**

Factor <sup>a</sup>	Mean	S.D.	al-pha	1	2	3	4	5	6	7	8	9
1. <i>Self-Determination</i>	18.6	2.9	.65	1.00								
2. <i>Competence</i>	17.0	3.4	.66	.27*	1.00							
3. <i>Impact</i>	13.7	4.8	.77	.04	.25*	1.00						
4. <i>Task Motivation</i>	47.1	11.3	.81	.06	.09	.23*	1.00					
5. <i>Performance</i>	1,149	311	.83	.12	.23*	.15	.23*	1.00				
6. <i>Self-Esteem</i>	36.4	4.5	.86	.17	.29*	.12	-.02	-.04	1.00			
7. <i>Locus of Control</i>	17.6	4.0	.71	-.05	.03	.03	-.01	.00	.10	1.00		
<b>Manipulated Variables</b>												
8. <i>Feedback</i>	NA	NA	NA	-.04	.04	.26*	.15	.10	-.01	-.01	1.00	
9. <i>Reward Scheme</i>	NA	NA	NA	-.25*	-.19*	.11	.41*	.15	-.15	-.06	.02	1.00

\* Significant at the .05 level.

<sup>a</sup> Please see Appendix B for a list of items that make up each factor.  
 alpha = Cronbach's reliability coefficient alpha.

**TABLE 3**  
**Descriptive Statistics by Experimental Condition<sup>a</sup>**

	<i>Flat-Wage Reward System<sup>b</sup></i>			<i>Performance-Based Reward System</i>		
	<i>Pay only</i>	<i>Nonfinancial</i>	<i>Financial</i>	<i>Pay only</i>	<i>Nonfinancial</i>	<i>Financial</i>
<i>Perceived Impact<sup>c</sup></i>	12.0 (6.4) n = 21	12.0 (4.9) n = 21	15.6 (3.8) n = 21	13.9 (2.8) n = 19	12.6 (5.1) n = 22	16.4 (3.6) n = 20
<i>Perceived Competence</i>	16.6 (4.2) n = 21	18.0 (2.7) n = 21	18.1 (2.8) n = 21	16.4 (3.2) n = 19	17.1 (3.0) n = 22	15.5 (3.8) n = 20
<i>Perceived Self-Determination</i>	19.7 (1.7) n = 21	19.4 (1.8) n = 21	19.0 (3.0) n = 21	17.4 (3.2) n = 19	18.5 (3.1) n = 22	17.7 (3.9) n = 20
<i>Task Motivation</i>	37.2 (11.1) n = 21	44.8 (9.4) n = 21	45.8 (10.7) n = 21	50.9 (11.7) n = 19	53.9 (6.8) n = 22	50.4 (10.5) n = 20
<i>Performance</i>	1,021 (281) n = 21	1,056 (333) n = 21	1,236 (327) n = 21	1,220 (314) n = 19	1,214 (293) n = 22	1,150 (282) n = 20

<sup>a</sup> Cells contain Mean (Standard Deviation) and number of subjects; n = 124.

<sup>b</sup> *Flat-Wage* reward system subjects were paid a fixed amount for each work period. *Performance-based* reward system subjects were paid based on the profit they generated each work period. *Pay-Only* subjects received information on only their pay for the work period. *Nonfinancial* subjects received information regarding how many of each type of code they got correct and incorrect (plus their pay information). *Financial* subjects received information on how many codes they got correct and incorrect translated into revenues and costs, respectively, for the firm (plus their pay information).

<sup>c</sup> Please see Appendix B for the items that make up perceived *impact*, perceived *competence*, perceived *self-determination*, *motivation*, and *performance*.

### 6.3 Hypotheses 1a-1c:

Hypotheses 1a-1c predicted that higher levels of feedback would be associated with greater perceived impact, competence and self-determination. Table 2 shows that feedback level is significantly correlated with only impact ( $r = .26$ ). There is no significant correlation between feedback level and competence ( $r = .04$ ) or feedback level and self-determination ( $r = -.04$ ). An examination of the results of testing the path model in figure 2 indicated that the path from feedback to impact was significant (standardized path coefficient = .24;  $p < .05$ ), providing support for H1a. However, contrary to H1b to H1c, the paths between feedback and both competence and self-determination were insignificant. Wald tests revealed that these two links could be eliminated without significantly affecting model fit. Thus, given the overall lack of support for these links, they were removed from the model as shown in Figure 3. However, consistent with prior literature (Stiglitz, 2006: 315), a significant correlation and path coefficient were found between competence and the control variable, self-esteem ( $r = .29$ ; path coefficient = .24  $p < .05$ ). Thus, this link remains in the final model. Regarding H1a, an examination of the means contained in Table 3 show a substantially higher level of perceived impact on profits under the highest level of feedback (financial). Under flat-wage, there is equally low perceived impact under both the pay only information and non-financial information conditions. Under profit based pay, there is an insignificant decrease in perceived impact between the pay only condition and the non-financial information conditions (13.9 versus 12.6;  $t = 1.0$ ). A significant increase in perceived impact occurs only under the financial information condition, as compared to the non-financial information condition, for both the flat-wage (12.0 versus 15.6;  $t = 2.6$ ) and profit based pay (12.6 versus 16.4;  $t = 2.8$ ). Thus, although there is support for H1a, the results should be interpreted carefully. Specially, a significant increase in perceived impact on profitability occurs only when financial information is added that ties task performance to profits. Simply basing rewards on profitability without providing this type of feedback was not enough to induce an increase in perceived impact on profits, relative to a flat-wage. Regarding H1b, perceived competence was found to be significantly correlated with the control variable, self-esteem ( $r = .29$ ), but not with feedback ( $r = .04$ ). The high correlation between competence and self-esteem is consistent with prior literature (Stiglitz, 2006: 315).

### 6.4 Hypotheses 2a-2c:

Hypotheses 2a-2b predicted that a performance based reward system would be associated with greater perceived impact and competence. Contrary to these predictions, Table 2 shows that there is no significant correlation between performance based rewards and competence ( $r = -.19$ ). Hypothesis 2c predicted that a performance based reward system would be associated with lower perceived self-determination, and Table 2 shows a significant and negative correlation between these factors ( $r = -.25$ ). Analyzing the path model in Figure 2 provided results consistent with the correlation analysis. Significant negative paths between performance based

rewards and both competence (path coefficient =  $-.19$   $p < .05$ ) and self-determination (path coefficient =  $-.25$ ;  $p < .05$ ) were retained, while the link to impact was removed. Given the finding of a negative relationship between competence and performance based rewards, further analysis on competence was conducted. A limitation of the study is that although perceived competence is modeled as affecting performance, it is likely that performance affected perceived competence. Data limitations do not allow for a test of this reciprocal relationship. However, an ANCOVA was run using both performance and self-esteem as covariates. Even after controlling for these two variables, the negative relationship between performance based pay and competence is significant ( $F = 5.01$ ;  $P = .03$ ). This finding indicates that respondents of equal self-esteem and performance, a performance based reward system resulted in lower overall levels of perceived competence than did a flat-wage system. A potential explanation for this finding is that respondents focused more on the negative aspects of their performance (i.e. number of items incorrect, costs of incorrect items) under a performance based reward scheme than under the flat-wage scheme. The penalty in terms of decreased pay for incorrect items may have been more salient than the gains for correct items. These results would be consistent with findings in Stiglitz (2006), but further research is needed.

### 6.5 Hypotheses 3a-3c:

Hypotheses 3a-3c predicted that the perceived impact, competence and self-determination would be positively related to overall task motivation. An examination of the correlations shown in Table 2 indicate only a significant correlation between motivation and perceived impact ( $r = .23$ ). Similarly, an analysis of the path model in Figure 2 indicates a significant link between these two factors (path coefficient =  $.66$ ;  $p < .05$ ). Insignificant paths between motivation and competence and self-determination, as well as the results of Wald tests, prompted the removal of these links from the final model shown in Figure 3. In addition, LM tests strongly suggested that a direct link between performance based rewards and motivation was needed. Given the well documented effect of performance based rewards on overall task motivation (i.e., Bonner et al, 2000 for review), this link was added to the final model. The resultant path coefficient of  $.39$  was significant ( $p < .05$ ).

### 6.6 Hypothesis 4:

Hypothesis 4 predicts a positive link between overall task motivation and performance. Consistent with this prediction, Table 2 shows a positive and significant correlation between these two factors ( $r = .23$ ). Additionally, the path coefficient in overall model shown in Figures 2 and 3 was significant (path coefficient =  $.22$ ;  $p < .05$ ). Thus, there is support for H4.

## 7. Conclusions:

Relatively little behavioral accounting research has focused on the psychological construct of empowerment despite hypothesized links to accounting related variables such as performance feedback. The majority of research to date has occurred within the fields of management and human resources. The results of this past research suggest that two key aspects of a firm's control system, namely performance feedback and reward systems can have a significant impact on perceived employee empowerment, task motivation and performance. The current study contributes to this literature by examining how three specific types of feedback and two alternative reward schemes affect the various dimensions of empowerment. The study also contributes to the breadth of this literature by focusing on lower level workers that have received relatively little research attention. Overall, the study contributes to both the accounting and management literatures. First, to the accounting, we expand on and explore in greater detail the accounting related elements contained in the Spreitzer (2006) model. Second, to the management, we examine how feedback and rewards affect perceptions of empowerment, a relatively little researched area of the balanced scorecard approach.

However, the results show that feedback and rewards affect different dimensions of empowerment. Namely, financial feedback has a significant and positive effect on perceived impact, while performance based rewards have little significant and negative effects on self-determination and perceived competence. Additionally, only greater levels of perceived impact were associated with greater motivation. The implication is that firms should consider carefully the techniques they employ to try to increase feelings of empowerment among non-management employees.

## 8 Limitations and future research:

The study is limited in that only a subset of possible feedback and reward conditions were examined. For example, the performance feedback given to the respondents was limited to their own outcomes. The results may not generalize to situations where employees are given feedback regarding the performance of other employees or to general performance feedback that relates to larger workgroup rather than their own individual performance. Similarly, alternative reward scheme, such as bonuses based on group outcomes or goal based

compensation may affect the dimensions of empowerment differently than the reward schemes used in this study. In addition, the task employed was relatively simple. The results may not generalize to tasks that are more inherently interesting or complex. Future research could examine the effects of other control systems or manufacturing practices that may affect employee perceptions of empowerment in a firm. For example, as noted by Hooks and Higgs (2002), the process of participative budgeting could be considered empowering in that it involves employees in the setting of goals and budget targets. Similarly, manufacturing practices that increase the involvement of employees, such as the use of manufacturing cells and total quality management, may affect the various dimensions of empowerment and performance.

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Appendix A  
 Sample Experimental Task

**Key**

Key to Codes Beginning with the Letter "A"		Key to Codes Beginning with the Letter "Z"	
Letter	Number	Letter	Number
A	46	A	5461
B	12	B	6125
C	31	C	8312
D	98	D	3985
E	24	E	8245
F	87	F	9875
G	96	G	1963
H	25	H	4258
I	12	I	5126
J	95	J	7958
K	48	K	3487
L	21	L	8210
M	69	M	9698
N	57	N	2578
O	98	O	2986
P	58	P	8581
Q	36	Q	9369
R	45	R	3458
S	36	S	8365
T	34	T	9345
U	11	U	5114
V	89	V	5897
W	86	W	1864
X	32	X	6325
Y	95	Y	3954
Z	53	Z	1532