

# IDENTIFY THE SIGNIFICANCE OF PERFORMANCE APPRAISALS ON EMPLOYEE WORK IMPROVEMENT IN SOFTWARE DEVELOPMENT ORGANIZATIONS

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## ABSTRACT

Majority of the organizations follow performance appraisal process to evaluate employee performance, and results of performance appraisals are used for a number of purposes such as administrative uses, rewarding, and identifying training needs. Most of the IT professionals perceive performance appraisal as an extra burden, and many questions about the appraisal process and results. IT professionals sometimes believe that performance appraisals have a negative impact on their motivation and work improvement. Therefore, it is imperative to study and understand the true impact of performance appraisals on employee work improvement in software development organizations.

This research attempts to identify the significance of performance appraisals on employee work improvement in software development organizations. The data were collected via an online survey from software engineers working in IT organizations in Sri Lanka. The study analyzed goal setting, self-evaluation, appraisal interview, employee participation for the process, pay for performance, and personal development as independent variables and satisfaction towards the process as mediating variable. It was found that the goal setting in the appraisal process, appraisal interviews, and personal development opportunities and pay for performance have moderate relationship with performance improvement. Meanwhile, Self-evaluation facility in appraisal process and employee participation for the process have weak positive relationship with performance improvement. On the other hand, Satisfaction for appraisal interview and rewarding mechanism act as moderating mediators for performance. It was also identified that for employees who had more than five years of experience, relationship between performance appraisal and work improvement was not significant. These findings can be incorporated to enhance and develop better performance appraisal processes in IT organizations.

Key Words : Performance appraisal, employee performance, work improvement

## 1 Background of the study

Performance appraisal is an important aspect in organizations because individual performance is the building block of organizational success and growth (Aguinis et al., 2013). A properly designed performance appraisal system is expected to provide valuable information to an employee about employees' performance and progress at work (Gupta and Kumar, 2012). Human Resource Management (HRM) defines performance management as an integrated approach to ensure that an employee's performance contributes to the organization's strategic aims. Performance appraisal is a subset of performance management, and includes setting work standards, accessing performance, and providing feedback to motivate, correct, and continue their performance. It is also as a method to discover reasons for performance and the way to perform effectively in future so that employee, organization, and society gain benefits (Human Resource Management, 2010). The major benefits of performance appraisal are Linking organizational objectives with people behavior, Develop people through feedback and trainings, Share information upward, downward and sideways, Salary increments and compensation and reinforce the employees.

Employee performance appraisal results or outputs are quantitative and competencies are qualitative. The overall performance appraisal process includes the following phases (Human Resource Management, 2010):

- Planning performance – Performance objectives are planned and agreed at the beginning of the period.
- Enabling/managing performance – Formally/informally tracking performance during the year and give feedback.
- Reviewing performance – The process of thoroughly appraising the individuals' performance at the end of the year. Identifying training needs, provide feedback and rewarding are the activities in this phase.

## **Motivation**

Software industry has proven its uniqueness in nature, operation, contribution to GDP, and human resource practices (Sanyal and Biswas, 2014). IT companies depend on their talented and skilled workforce. As a result, measurement and management of performance of individual, team and the organization is an essential practice (Sanyal and Biswas, 2014). However, performance management for knowledge workers is difficult because IT professionals are more perceptual than factual as their jobs are more complex (Guhanathan, 2007). Because IT organizations are dependent on skills and performance of its workforce, it is very important to measure employee performance for a given time period. Appraisal methods used in those companies are adopted from other industries such as manufacturing industry. So that it is important to study the impact of performance appraisal on employee work improvement in IT organizations, study whether those organizations achieve the ultimate benefit of performance appraisal, and the relevance and effectiveness of performance appraisal methods used in those organizations. There are number of researches done in performance appraisal area but a small number of them address performance appraisal with relevant to IT industry. The central questions of this research is the significance of performance appraisal on employee work improvement in information technology organizations?

## **Research Question**

Does the appraisal methods affect work improvement of software engineers?

## **Research Objectives**

1. Determine the effect of performance appraisal on employee performance improvement in IT organizations.
2. Contribute to existing research resource pool in the field of performance appraisal in IT organizations and the impact on knowledge worker performance.

## **Literature**

Performance appraisals are used in majority of the organizations. It allows an organization to measure and evaluate an employee's behavior and achievements within a given period of time. Initially performan

ce appraisal was used only for administrative purposes. In this era management and trade unions did not take appraisal as serious. In global rates, ratings were consisted with outstanding, satisfactory, and need improvement. In global essay evaluation method, performance related questions were asked. But these methods were not useful as expected because of their extreme subjectivity. Legal considerations on performance appraisal were established in 1960s. 1970 Equal employment opportunity commission guidelines and Civil Rights Act of 1964 and 1966 pointed out the need for improvements in performance appraisal methods. The purpose of performance appraisal process became employee development and feedback. Employees were motivated to seek feedback. There was also evidence that performance feedback can lead to improvements in future performance (Wiese and Buckley, 1998).

The evaluation of performance appraisal resulted with number of different performance appraisal methods. Performance appraisal methods are expected to serve multiple purposes simultaneously. It is important to clarify supervisor's goals, employee's goals and organizational goals (Dobbins, 1994). In late 1990s performance appraisal serves multiple objectives. Because of the changing definitions of jobs and roles in the organization the appraisal criteria should be changed. Researchers are focusing on reducing errors involving in the area of performance appraisal (Boswell and Boudreau, 1997).

Information Technology industry adopted performance appraisal in 1980s from manufacturing industry and adjusted it to fulfill requirements of that industry. Research with specific focus on performance appraisal and employee work improvement in IT organizations are limited (Wiese and Buckley, 1998).

## **Definition of Job Performance**

Harvard University has published a competence dictionary and it has aligned competencies with performance. Competencies are "the things" that an individual must demonstrate to be effective in a job, role, function, task, or duty. These activities include job-relevant behavior (what a person does that results in positive or negative performance), motivation (how a person feels about a job, organization, or geographic location), and technical knowledge or skills (what an employee knows or demonstrates regarding facts, technologies, a profession, procedures, a job, an organization, etc.).

## **Attributes of Performance Appraisal Methods**

Appraisal is one of the most complex and important Human Resource Management (HRM) activities. Employee participation for performance appraisal system is a very important component for fair and ethical evaluation of performance appraisal. Employees accept the appraisal results, if they perceive fair decision making process. Amount and quality of informal feedback, goal setting, performance standards, self-appraisal process, and interview style are the factors which affects employee participation of the system (Roberts, 2003). Research demonstrates that higher level of employee participation affects employee and rater acceptance and it leads to system satisfaction, motivation and productivity. The major concern is to develop standards to measure job duties and responsibilities. It is important to gather employee input in managing and performance scale creating. Self-appraisal provides

an opportunity to an employee to systematically evaluate his/her performance. Self-appraisal increases the level of employee participation and readiness for the process enhance satisfaction, perceived fairness and reduce defensive behavior. Roberts, (2003) focused on the impact of appraisal interview participation and its outcome towards satisfaction about the appraisal process. A quality performance appraisal interview includes preservation of confidentiality and privacy of employees. Focus on employee training needs promotional opportunities and skill development is major attributes that employees expect from entire process. Goal setting is a well-established factor for motivation. It is a proven theory that goal setting is clearly associated with satisfaction and performance. Effective feedback on performance is important, it should be timely and specific to the role. It leads employees to adjust their work performance.

### 3.1 Research Framework

Conceptual/research framework is an integration of researcher’s logical assumptions and published research findings. This considers boundaries and constraints which dominate the situation, and capture the interrelationships between variables. Figure 3.1 illustrates the research framework for this research. Each of the variables and their relationships are discussed next. Hypothesis were developed to check relationships between dependent and independent variables.

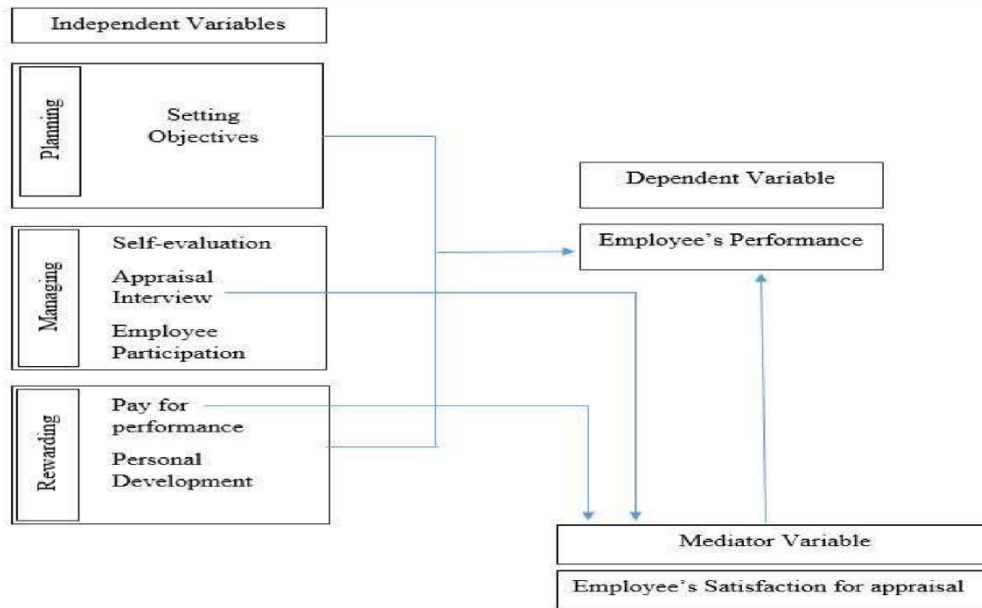


Figure 3.1 Conceptual framework.

#### Hypothesis 01

H1<sub>A</sub>: There is a positive relationship between effective goal setting in the appraisal system and employee performance.  
H1<sub>0</sub>: Effective goal setting in the appraisal system has no impact on employee performance.

#### Hypothesis 02

H2<sub>A</sub>: There is a positive relationship between self-evaluation criteria in appraisal system and employee performance.  
H2<sub>0</sub>: A self-evaluation criterion in appraisal system has no impact on employee performance.

### 3.2 Questionnaire Instrument Development

Table 3.4 presents the mapping between independent variables and questionnaire items. Table 3.5 presents dependent variables and questionnaire item count while Table 3.6 refers mediator variable and questionnaire item count. Independent variables and questionnaire item mapping is listed in Table 3.7. Table 3.8 refers to dependent variable and questionnaire item mapping and Table 3.9 shows the mediator variable and questionnaire item mapping. Table 3.10 show the demographic questions mapping.

#### Method of Data Collection

The “target population for the study is software engineers working in IT organizations.” Because the population is large and aim is to analyze the impact of performance appraisal on employee work improvement, most appropriate approach is quantitative methods. Present study is conducted for “selected sample of software engineers”. “Questionnaires are the most suitable method for data collection”. Face to face interviews are not a suitable method to study the impact of performance appraisal on employee work improvement in IT organizations because performance appraisal results are confidential and employees might not give an honest answer. Previous work in this area were also used questionnaires and responds were anonymous. Informal discussions were conducted to identify suitable variables and to get an idea about widely used performance appraisal methods in Sri Lankan IT organizations.

#### Reliability Test

Before conducting the survey for a large sample it is important to check the reliability of the questionnaire instrument. Main objective of this step was to check the understandability of questions and internal consistency for the variables. In reliability study it is suggested to check whether the questions asked under each area supported each other.

**Descriptive Analysis**

The population of interest include software engineers working in software developing organizations and organizations which are having small development teams. The other requirement in selecting companies was that the companies need to practice a performance appraisal process. The survey was conducted electronically using an online questionnaire. Facebook, LinkedIn, email, and phone call campaigns were conducted to reach the sample. While the calculated sample size was 376, the researcher was able to collect only 255 responses due to low response. From those 255 samples, only 223 responses were considered as valid. Questionnaire was sent to approximately 800 software professionals. However, only 255 were returned. Hence, the effective response rate is 27.9%. It can be seen that 80% of responders belong to the software engineer and senior software engineer category. 8% were quality assurance engineers and 3% were tech leads. Rest includes project managers, system administrators, web developers, associate software engineers, business application consultants, business analysts, and technical writers. Because the research focus was on software/web/mobile application developers, responses from quality assurance engineers, system administrators, business analysts technical writers, and IT officers were eliminated. After this valid 223 survey responses were considered for further processing.

**Reliability Test for Sample**

In the research survey there were 42 items, 6 independent variables, one moderating variable and one dependent variable. Table 4.3, 4.4. and 4.5 list Cronbach’s Alpha Coefficients for independent, moderating, and dependent variables, respectively.

**Pearson’s Correlation Analysis**

Statistics generated with Pearson Correlation Matrix, is used to test the Hypothesis. Analysis based on demography also carried out for level of industry experience, number of appraisal cycles, age and type of organization. As illustrated in Table 4.7, goal setting in appraisal process and employee performance improvement has a low inter-relationship. Therefore, null hypothesis (H10) is rejected and alternate hypothesis (H1A) is substantiated. Hence, there is a positive relationship between effective goal setting in the appraisal system and employee performance.

**Table 4.7** Pearson’s correlation for hypothesis 1.

**Correlations**

		Goal_Setting	Performance
Goal_Setting	Pearson Correlation	1	.487**
	Sig. (2-tailed)		.000
	N		
Performance	Pearson Correlation	.487**	1
	Sig. (2-tailed)	.000	
	N	223	223

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**4.4 Discussion on Results**

According to research findings, performance appraisals and software engineers’ work improvement in IT organizations has a moderate relationship. According to Pearson’s correlations calculated for each variable, goal setting in the appraisal process, appraisal interviews, personal development opportunities and pay for performance had weak relationship with performance improvement. Self-evaluation facility in appraisal process, employee participation for the process had no positive relationships with performance improvement in software engineers. Satisfaction for appraisal interview and rewarding mechanism acted as a moderate mediator for performance.

Analysis was done for level of industry experience as well. Self-evaluation, participation for the appraisal process, appraisal interview, and pay for performance, personal development opportunities and satisfaction did not show any significance relationship with performance improvement in the category that has more than five years of industry experience. Goal setting, appraisal interview, pay for performance, personal development opportunities indicated moderate correlation with performance improvement in the category of employees who have three to five years of industry experience. For that category satisfaction

towards appraisal interview and rewarding acted as a moderate mediator factor for performance. Self-evaluation and participation for appraisal process showed weak relationships with performance in the groups of employees who have three to five years of experience and two years of experience, there was no impact in the group of who have less than two years of experience. Goal setting showed a strong relationship with performance improvement in the group of two years of experience.

Pearson's correlation analysis done for type of the organization showed similar results. Goal setting, self-evaluation, participation for the appraisal process, appraisal interview, pay for performance and personal development opportunities showed moderate correlation to performance improvement in all three groups. Satisfaction acted as a moderate mediator factor for performance improvement in this analysis.

Related work in other industries have shown strong relationships in goal setting, self-evaluation, participation for the appraisal process, appraisal interview, pay for performance with respective to performance improvement. The impact of those factors was differing to software developing field. As cited in literature review software engineering field has its unique features and software engineers are knowledge workers. So the impact of performance appraisals on employee work improvement in that field indicated different results and it can be expected. A research by Guhanathan (2008) in this area considering software professionals, concluded that the appraisal methods used by Sri Lankan IT organizations are consist with three major components, employee participation in the process, goal setting and feedback. Moreover, it concluded that acceptance for appraisal process leads to satisfaction and satisfaction leads to more favorable outcomes such as performance enhancement and motivation. Present study was conducted with the consideration of major components in performance appraisal process and their impact to employee work improvement. Satisfaction with appraisal interview and rewards acted as a moderate mediator factor for performance improvement.

### 5.3 Conclusion for Future Work

Future research can be conducted by enhancing the method used to analyze the impact of performance appraisal on employee work improvement in IT organizations. It can be extended for various performance appraisal methods e.g., 360 degree performance appraisal, etc. If the researcher can access performance measuring tools and surveys which are used by Sri Lankan IT organizations, it will be more efficient to critically evaluate each process and identify the most effective method.

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