

Effect of engineer's trust on research result and job commitment

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Abstract

The organization hires engineers in order to achieve the goals of the organization and provides compensation for the efforts of the engineers. In addition, the engineers are affiliated with the organization to secure economic, social and psychological stability, and thereby they are realizing their desires and goals. In order for the social and contractual relationship between the organization and its engineers to be maintained, efforts to implement mutual economic and psychological contracts must be preceded. In particular, from the standpoint of the organization's engineer, the organization's compensation should be maintained to meet the engineers' expectations and the degree of trust of the engineers for the organization is also important.

In this study, we divide the trust relations in the organization into organizational trust, supervisor trust and peer trust, and analyze the effect of trust on research results and job commitment. We analyze the relationship between those concepts.

Keywords: Job commitment, Organization commitment, Research engineer, Trust, Loyalty

THEORETICAL BACKGROUND

A. Concept of trust

Trust is a concept that has been studied continuously through psychology, sociology, economics, and other social science literature. It is generally used as a concept similar to confidence, expectation, and willing. However, it is difficult to make clear definition. [1]

Previous researchers have also argued that trust is an essential element in understanding the relationship between people, groups, behavior, and economic or social exchange. [2]

The trust was defined as a psychological state that contains intent to accommodate vulnerabilities based on positive expectations of other people's intentions or behaviors. [3]

Also, the trust was defined as an intention to take a vulnerability of other's behavior based on an expectation that the others will do something important to us even though we cannot monitor or control them. [4]

Therefore, the trust is not a risk perception, but a voluntary attempt to take risks, and a distinction must be made between the psychological state of trust and behavior as a result of trust.

Trust was divided into vertical trust and horizontal trust. [5]

The horizontal trust is for peers working in a similar working environment. The vertical trust is for an individual and a direct supervisor, or top management or organization.

Trust was also divided into cognition-based trust and emotion-based trust. [6]

Trust based on cognition is based on a competence or belief of others, and trust based on emotions is based on emotional bonds of people.

In addition, the trust can be divided according to organizational hierarchy such as a vertical trust formed in vertical relationship in accordance with the subject of confidence, a horizontal trust formed in peer relationships, and the institutional trust that is formed in the relationship between the organization members and the CEO or organization. [7]

Levering, the founder of trust management, categorized trust in his book as superior, executive, business, organizational, and peer trust. [8]

In addition, organizational trust can be divided into horizontal trust among colleagues, vertical trust between the subordinate and superior, and between the members and the organization. [9]

Three types of trust, organizational trust, supervisor trust, and peer trust can be treated as different concepts, because peers can trust but not superior or superior, and trust in supervisors and organizations can vary in degree.

B. Concept of commitment

The most commonly recognized types of organizational commitment are classified into three concepts: emotional commitment, retention commitment, and normative commitment. [10]

These three types of organizational commitment are based on different psychological states, and the emotional commitment is a form of commitment that wants to remain in the organization because the values are consistent with the organization. The persistent commitment is a form of commitment that wishes to remain in the organization due to the rewards from the organization. Normative commitment is influenced by personal experience before or after entering the organization. It is an element of organizational commitment

that remains in the organization because of the sense of duty of individuals. The emotional commitment can be equated as an attachment to the organization, and the process of formation of it can be explained by exchange principles. [11]

The organization provides rewards for the contributions of its members, and the members make efforts with affection and concern for the rewards. The normative commitment can also be explained through the exchange principle. [10]

Various rewards from the organization lead to a kind of moral sense of duty, and the principle of exchange that a member tries to fulfill that sense of duty through commitment and attachment to the organization is a mechanism that explains the formation process of normative commitment.

C. Concept of loyalty

In the industrialization era, it is said that the loyalty to the organization occurs when job stability is maintained as a lifetime job and a job ethics is obtained. However, in the modern society where restructuring takes place frequently, the concept of lifelong work is disappearing and loyalty to the organization is weakening. In this way, when the economy is in recession, if senior managers maintain their positions and they restructure only for the lower employees, then there is no loyalty to the organization. Therefore, in the recession period, when we spread the atmosphere of helping each other through management innovation rather than the restructuring of the employees, employees get a loyalty to their own work and this leads to loyalty. This loyalty, in a literal sense, means 'emotional attachment or commitment to a particular object'. Here, a specific object can be a person or an organization, can be an ideology or can be a goal for an organization. The emotional attachment means affection for a specific object, and the commitment can mean self-sacrifice for a specific object. In a broad sense, it defines loyalty as a sincere commitment to the object and the object of loyalty can be people, groups, organizations, and nations. [12]

Loyalty reflects the belief in the vision of the leader, and additional efforts should be made for the leader and organization by encouraging people to get self-motivated. [13]

Loyalty is a kind of enthusiasm, and as it develops, the object of loyalty is no longer external, but connected to self-identity. [14]

Therefore, an individual defines himself through his own loyalty. He also argues that this is important when analyzing loyalty to an individual and loyalty to an organization. And he also argues that the core between loyalty subject and object is a relationship.

RESEARCH MODELS AND RESEARCH METHODS

A. Research Models

In this study, we tried to set up a hypothesis by designing a research model with trust as a leading variable and organizational commitment and loyalty as a dependent variable based on the theoretical considerations as mentioned

previous sections. The purpose of this study is to test the effect of engineers' trust on research results and on organizational commitment and loyalty through empirical analysis. The research model is shown in the Figure 1.

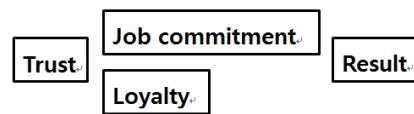


Figure 1. Research model

B. Hypothesis

Based on the research model, the hypothesis is established to clarify the relationship between trust and organizational commitment and the relationship between trust and loyalty.

1) The Relationship between Trust and Organizational Commitment

There are basically four main areas that affect trust. The first is the behavioral characteristics and the abilities of opponent. Trust is basically a kind of exchanging asset that occurs bilaterally. [1]

So trust in your opponent depends, among other things, on how your opponent behaves to us. Some scholars define this as the trust value of the other. The second is the similarity between exchange parties. The trust formation is greatly influenced by the similarity of the inner and societal background characteristics of the exchanging. The third is the effect of the nature of the exchanging itself, including the duration, frequency and expected future relationship. Fourth is the self-reliance propensity. As for individual differences, there are people with a higher tendency to trust others and people with a lower tendency.

2) Relationship between trust and loyalty

Loyalty is used in the same sense as benevolence motivation or intention. Loyalty or goodwill is a concept that means the trustee does not have motivation by own profit, but rather he or she truly believes in wanting to do something beneficial to the other. It means that the trustee has special attachment or intimacy to the other. Many studies have focused on the specific relationship between trustee and other, and are using trustworthiness or goodwill to analyze the trust.

ANALYSIS

A. Reliability verification

Reliability means that the results are similar when measuring comparable and independent objects. The significance of reliability is that certain findings may not be found incidentally, but may provide confidence. Cronbach's alpha is used as a reliability measure. When the value of cronbachal alpha is 0.75 or more, it is recognized that the reliability is high. The chroma bar alpha value of this study is 0.9168 and it can be said that the reliability is secured.

B. Factor analysis result

In this study, factor analysis was performed on 47 variables to classify factors for trust, organizational commitment, and loyalty. Three factors were extracted from the factor analysis.

C. Identifying relationships between trust, organizational commitment and loyalty

The relationship between trust and organizational commitment, trust, and loyalty was tested statistically. Pearson Correlation Analysis was used to test the above hypotheses.

<Table 1> Analysis of the relationship between trust and loyalty and organizational commitment

Variable	Trust	Loyalty	Job Commitment
Trust	1		
Loyalty	0.3460 p=0.0138	1	
Job Commitment	0.3231 p=0.0221	0.2408 p=0.0921	1

Based on the above analysis, there is a positive correlation between trust and loyalty set as a lead variable, and there is a statistical significance ($p = 0.0138$). There is also a positive correlation between trust and organizational commitment. However, there was no correlation between loyalty and organizational commitment ($p = 0.0921$).

CONCLUSION

In this study, we examined the influence of trust level on organizational commitment and loyalty by factor analysis and correlation analysis. The results of the analysis are summarized as follows.

According to the questionnaire analysis, three main factors were estimated as trust, loyalty, and organizational commitment. The relationship between trust, loyalty, and organizational commitment was positively correlated with loyalty and organizational commitment.

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