Study of the causation of the Quantity of trust existence between stakeholders on Trust Management

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1. Introduction

The stakeholders who have really different background socially and economically take part in the requirements definition that belongs to the upper process in the information technology system construction (ITSC), the interests exist between the stakeholders, individual requirements of the stakeholders intertwine with their acknowledgement and thoughts on the project, and the requirement definition finishes without enabling the stakeholders to hold those in common. This is a great cause of ITSC failure.[1][2]

In order to make the requirements definition effective, Kiritani.K has already advocated a model of trust management that is optimized through the trust relationship between the stakeholders [3]. The purpose of this study is to understand the results of the requirements definition process in an actual information system development and the trend in the quantity of trust existence between the stakeholders, prove a causal relation between the success or failure in the requirements definition and the relationship of mutual trusts among the stakeholders and discuss the effectiveness of trust management in the requirements definition.

2. Method

From the viewpoint of social capital and social uncertainty, the trust relationship between the stakeholders in the requirements definition process is supposed as follows:[4][5][6]

(1). Strategic trust (principle of reciprocity)
(2). When the other person has the motive for his/her treacheries, my expectation is that he/she will not betray my trust. (Trust for the other person’s intention)
(3). Trust based on zeal or good intentions for buckling down to a task (Trust as expectation for the other person’s capacity)
(4). Trust for the other person’s capacity in a specified field (Trust as expectation for the other person’s capacity)
(5). Moralistic trust

In the assessment of the trust relationship between the stakeholders, we carry out the said five-item inquiring survey to the stakeholders in the three information system construction projects who are conducting the requirements definition process in order to measure the trust level and confirm the trend in the quantity of trust existence between the stakeholders. Furthermore, we check the external conditions of project from the viewpoint of QCD and discuss the success or failure in the project and the trust relationship.

3. Results

We used the diffusion index method to analyze the results of inquiring survey. In addition, we applied “the value of trust existence in project = the geometric mean of member-added trust”. Table 1 shows the results of relationship between the external conditions of requirements definition process to be measured and the quantity of trust existence.
Table 1. Results of projects conducted and inquiring survey in projects

<table>
<thead>
<tr>
<th>Measurement project</th>
<th>Results of projects conducted (QCD SCORE*1)</th>
<th>Results of inquiring survey in projects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q (Quality)</td>
<td>C (Cost)</td>
</tr>
<tr>
<td>Project A</td>
<td>4 claims</td>
<td>4 Over 8%</td>
</tr>
<tr>
<td>Project B</td>
<td>8 claims</td>
<td>4 Under the estimated cost 5</td>
</tr>
<tr>
<td>Project C</td>
<td>32 claims</td>
<td>2 Over 18%</td>
</tr>
</tbody>
</table>

*1: QCD SCORE Each 5-point scale, 5 points is GOOD.

4. Discussion

After analyzing the results of inquiring survey, we considered that the occurrence of a requirements gap that affects directly the actual result of QCD in the requirements definition project for the information technology system construction is related to the communication between stakeholders and their negotiation load and also made a model of projects as shown below.

![Figure 1. The relation Model between the success or failure in the requirements definition and the Quantity of trust between the stakeholders.]

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References
