

# ENTERPRISE INFORMATION SYSTEMS BASES ON THE THEORY OF QUALITY FUNCTION DEPLOYMENT

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**Keywords:** The enterprise information management, Quality management, Information quality, QFD.

**Abstract:** At present, information has increasingly become a critical resource in all organizations. And the information quality is one of the key factors which may influence the quality of leaders' decisions and organizations' actions. In the complex and changeable environment, the one who can accurately grasp market information can succeed. So enterprise information quality management comes into being. In a word, this is a kind of enterprise information management which based on the quality management. This paper is aimed at telling a way that how to carry out the enterprise information quality management in enterprise through the theory of quality function deployment.

SCIENCE AND TECHNOLOGY PUBLICATIONS

## 1 INTRODUCTION

The enterprise information management faces two problems. One is how to avoid heavy loss if the information quality is so poorly. Another is how to choose the valuable information to help the enterprise to make the correct strategic decision.

This study introduces a reliable and feasible method to help enterprises to manage information effective when they are facing information quality problems. This method bases on QFD theory. It helps us to construct an information management model which uses to plan, control and improve enterprise's information management activities.

- ◆ Most of the research is aimed at a particular type enterprise, which is lack of general significance;
- ◆ Information quality assessment doesn't pay enough attention to the detail information quality of each step;
- ◆ Most methods are afterwards evaluation, the research about how to evaluate information quality and discover information quality problems early in the research are also insufficient;
- ◆ Information quality improvement method research should be further studied.

## 2 THE ENTERPRISE INFORMATION QUALITY MANAGEMENT RESEARCH STATUS

At present many researchers have fully realized the importance of improving the information quality. In recent years, many researchers have done much research and made some achievements, but there are also many problems to be solved because of the particularity and complexity of the information.

- ◆ Many information quality management methods stay in theoretical level;

## 3 THE THEORY OF QFD

Quality function deployment (QFD) is a kind of systematic decision-making techniques. In the design phase, it can change the customer requirements into the product definition exactly. In the phase of production preparation, it will ensure that the product definitions which reflect customer demands can change into the products manufacturing process requirements correctly. In production processing phase, it will ensure that the products fully meet the requirements of customers.

Obviously, QFD is a product development method which customers play an important role. Its purpose is that enterprises can make the product with

the fastest speed, the lowest cost and optimal quality.

House of quality (HOQ) is an effective way to link the customer requirements and the performance of production. It plays a core role in QFD. And it is made of seven different matrixes.

- ◆ The customer requirements;
- ◆ Product characteristics;
- ◆ The importance of customer requirements;
- ◆ Planning matrix;
- ◆ The relationship between the product characteristics and customer demand;
- ◆ The relationship between characteristics;
- ◆ The target.

## 4 ENTERPRISE INFORMATION QUALITY FUNCTION DEPLOYMENT

### 4.1 The Feasibility of Enterprise Information Quality Function Deployment

- ◆ QFD theory is a kind of management thoughts and there is no fixed mode to follow.
- ◆ The objects of enterprise information management are information and information activities.
- ◆ The quality management thoughts are built on the basis of process. Therefore, if the information is seen as a product, it will be possible to research the information quality by using QFD.

### 4.2 The Model of Enterprise Information Quality Function Deployment

According to the characteristics of enterprise information management, the model that we will set up is divided into two parts: the first part is the needs of information users, quality elements and the factors affecting the quality. The second part is the process about changing the information users' needs into information quality elements and changing information quality elements into the factors influencing quality by HOQ, and then we can find out the key point in enterprise information quality management. The model is shown in figure 1 (Fig. 1).

### 4.3 The Steps of Enterprise Information Quality Function Deployment

- ◆ Determine the needs of information users. The enterprises should have an investigation about the needs of information users.
- ◆ Make an important sequence about the needs. The AHP method can be used in this step.
- ◆ Determine the quality of information factors.
- ◆ Construct information users' needs - quality factors relation matrix. There are two things need to be done. One is constructing information users' needs - quality factors relation matrix. Another is judging the relevance.
- ◆ Determine the factors which influence the information quality.
- ◆ Construct information quality factors - factors influencing information quality relation matrix. The method uses in this stage is similar to the fourth step uses.
- ◆ The output result analysis. Obtaining the information above, the enterprise can recognize the key point and take measures to ensure the information quality. So they are very useful.

### 4.4 The Existent Problems

- ◆ The principal of enterprise information management may ignore some demands of information users. This may cause some information system users cannot find the information which they need.
- ◆ The choice of Enterprise information quality factor. At present, there is no consistent conclusion about how to select the information quality factors. So the enterprise should choose the right factors according their own situation.
- ◆ When we carry on the analysis that the importance of factors and judge the relevance of the two relation matrixes, there are some faults. For example, the method we use may not quantitative.

### 4.5 The Output Result Analysis

Obtaining the information above, the enterprise can recognize the key point and take measures to ensure the information quality. So they are very useful.

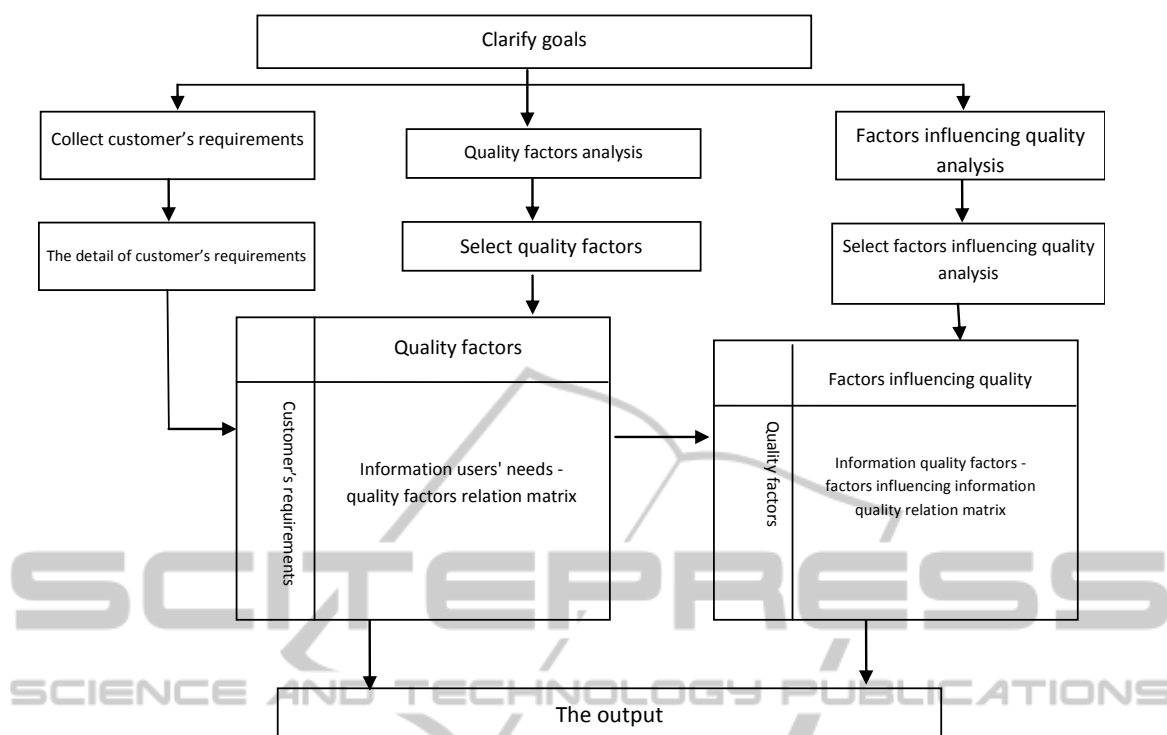


Figure 1: Enterprise information quality function deployment model.

## 5 COMPLIMENTARY

This paper tells a way which bases on the QFD theory and it is about how to carry out the enterprise information quality management. It may be an effective way and helpful for enterprises. However, there are also many problems worth to study.

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