

Managing the Quality of Outsourcing Services for Financial Institutions

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Abstract Outsourcing services have been adopted for mission-critical tasks of financial industry customers, creating a need for very high reliability. This report describes the contents of the Quality Control Guidelines, implemented actions, effectiveness, and the evaluation processes.

1. Preface

Hitachi provides outsourcing services for various industries, and outsourcing service business is growing every year. Of these services, high quality is essential for mission-critical tasks of financial institutions such as banks, insurance companies and stock companies (Figure 1). To ensure the required service quality, our Financial Information Systems Division created comprehensive guidelines that have enabled the division to offer higher-quality services.

This paper describes how the Financial Information Systems Division determined issues, and planned and implemented actions for improving the quality of outsourcing services, and it does the effectiveness of the improvements made. The paper also discusses necessary actions for ensuring higher quality and better services in the future.

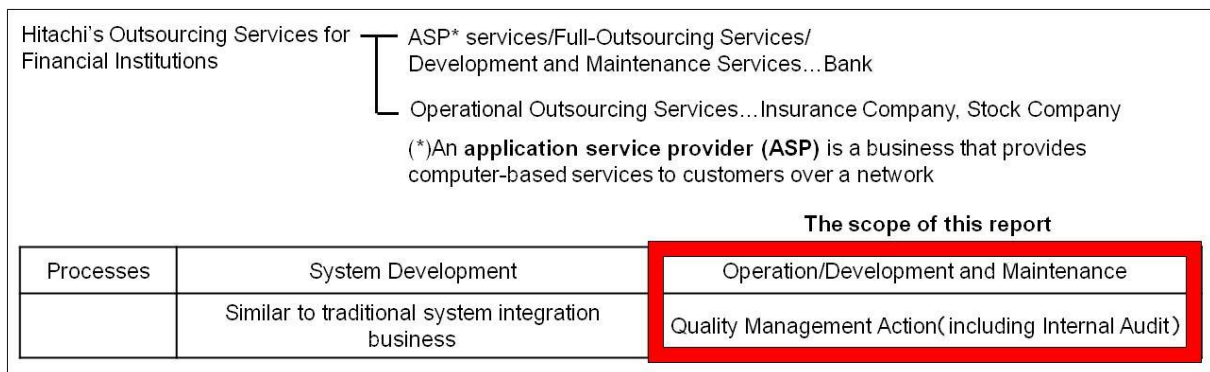


Figure 1 Hitachi's Outsourcing Services for Financial Institutions and Quality Management Actions

2. Issues Regarding Outsourcing Service Quality

High quality is required especially in the outsourcing services for mission-critical tasks of financial institutions. The major issues we faced in ensuring high quality in outsourcing services were operational quality and system quality.

(1) Operational quality

Our division ever set rules for each outsourced system and each system was run in accordance with the rules to ensure operational quality. When we conducted audits and self-checks, we created an appropriate checklist for each system and complied with the standards published by the regulatory authorities. However, because we did not have the explicit internal standards of the financial institutions themselves, the level of maintenance differed among the systems, and improving the operational quality was difficult.

(2) System quality

During the development and maintenance of business systems, information such as know-how and cases of failure was not adequately shared among workers. As a result, applications contained latent failures that allowed similar failures to occur in other systems or led to repeated failures.

3. Actions Taken for Quality Issues

We implemented the following actions to ensure high quality in outsourcing services.

3.1 Improving operational quality

We created in-house *Quality Control Guidelines for Outsourcing* for financial institutions. The guidelines described the standards requiring conformance and the level of quality that needed to be ensured in providing the outsourcing services for financial institutions. These guidelines became the basis for the development, maintenance, and operational systems.

A single checklist with 416 check items was created based on the Quality Control Guidelines for Outsourcing. From then on, only that checklist has been used for internal audits and self-checks. Other checklists were discarded. In addition, the number of audits was reduced, unnecessary audit items were removed, and person-hours for maintaining checklists were reduced. Information such as arising issues was shared among workers, raising the operational level. A Target for reducing detected items of internal audits was set as 10 percent per year.

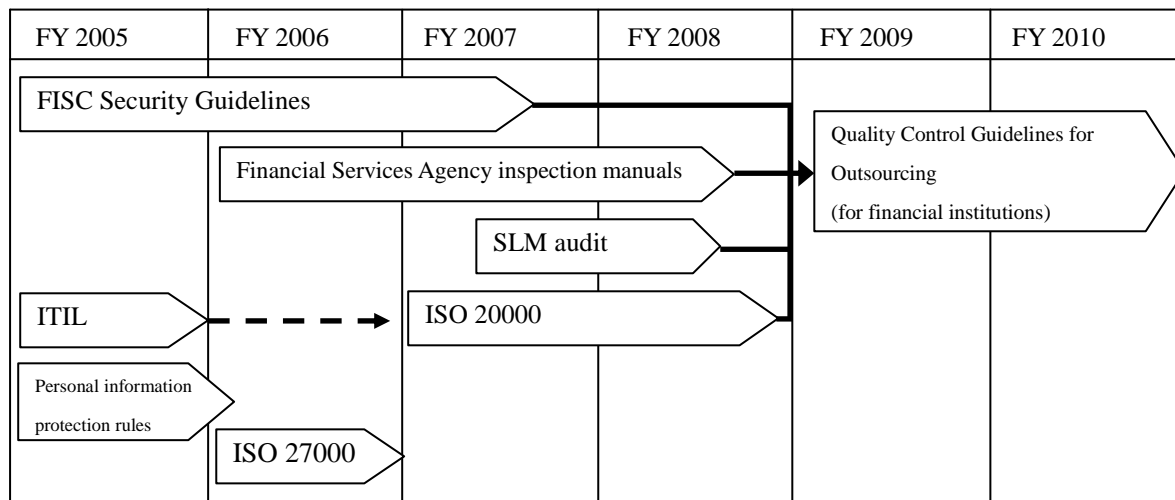


Figure 2 Change in standards used for conducting audits

3.2 Improving system quality

To maintain and improve the quality of outsourcing services in general, we created the Outsourcing Failure Management Standard, which covered development and maintenance that were not part of outsourcing (that is, separate contracts). Actions for eliminating failures were implemented in the PDCA framework. A Target for reducing errors in the operational system was set as 10 percent per year.

4. Details of Actions for Improving Operational Quality

4.1 Overview and features of the Quality Control Guidelines

(1) The Quality Control Guidelines were formed by introducing the three public standards in Figure 3. These standards were regarded as the key points which we should follow when we provided outsourcing services for financial institutions.

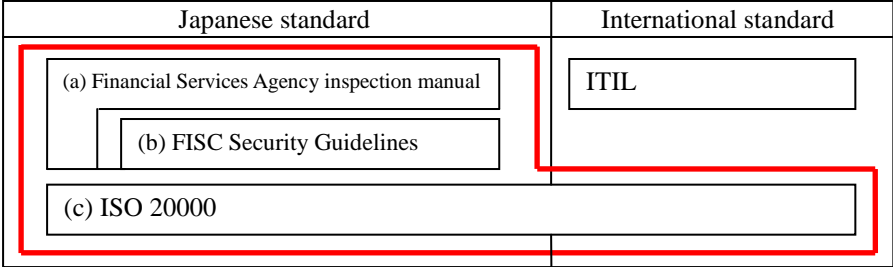


Figure 3 Public standards included in the Quality Control Guidelines

- (a) Financial Services Agency inspection manual (Attachment 2 of the Checklist for Operational Risk Management in Inspection Manual for Deposit-taking Institutions)
- (b) FISC* Security Guidelines (standard actions for security in computer systems of financial institutions)
 - (*)FISC, which is short for The Center for Financial Industry Information Systems, was established to solve any problems related to Financial Industry Information Systems.
- (c) ISO 20000 (international standard regarding IT service management)

(2) To maintain and improve the quality of outsourcing services, we included the concept of IT service management, which uses the PDCA cycle described in ISO 20000 in each process of the outsourcing services.

(3) The resulting guidelines became the company standard (Figure 4) and were posted on our intranet. The departments that provided outsourcing services were given training and were told about the guidelines. Training was provided once each year.



(*)HIPACE:Hitachi’s system development methodology

Figure 4 Position of the company standard

(4) Structure of the Quality Control Guidelines

As shown in Figure 5, the guidelines consist of seven chapters: Service Level Management, Organizations and Systems, Development and Maintenance, Operation, Security, Document Management, and Evaluation.

Because many financial institutions applied Financial Services Agency inspection manuals and the FISC Safety Guidelines, we incorporated standard items from these sources.

For example, the chapter on organizations and systems covers topics such as establishing a management system, managing personnel education and training, and managing contractors, and management items were set for each topic. Similar management items were also established in the other chapters.

We exercised ingenuity to prepare these guidelines in the following two points.

- To accommodate the company standard to the standard presented by control authorities
- To make it essential to define SLA , execute SLM, and apply PDCA cycle certainly through quality meetings*

(*).Refer to Chapter 6 about details of quality meetings

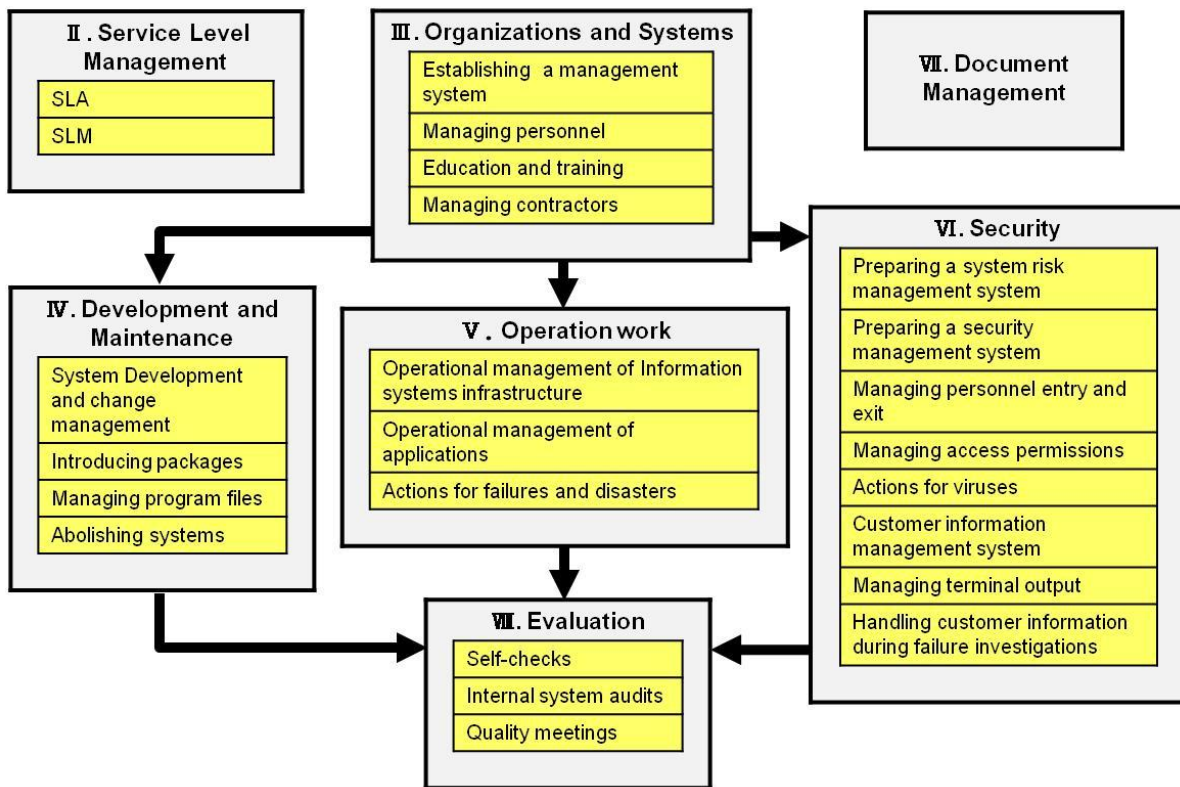


Figure 5 Structure of the Quality Control Guidelines

4.2 Conducting internal audits and self-checks

As the vendor entrusted with outsourcing business, we decided to conduct internal audit by Quality Assurance & Inspection Department as an internal third-party and self-checks by the department which provided outsourcing services (the Financial Information Systems Division, etc).

(1) Internal audits

For major outsourced systems, the Quality Assurance & Inspection Department conducted

internal audits as an internal third-party (Figure 6).

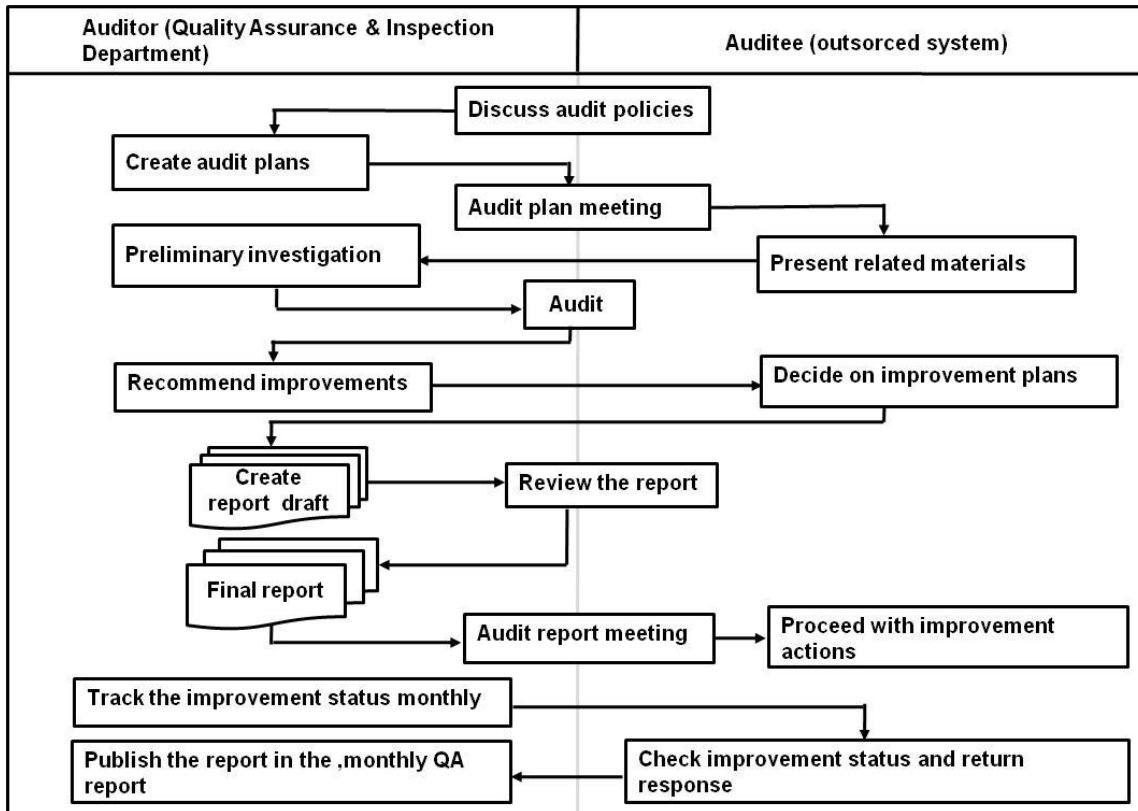


Figure 6 Flowchart of an internal audit

(2) Self-checks

For the outsourced financial systems that were not checked in internal audits, each department that provided outsourcing services conducted self-checks periodically. The Quality Assurance & Inspection Department checked whether the systems conformed to the guideline (Figure 7).

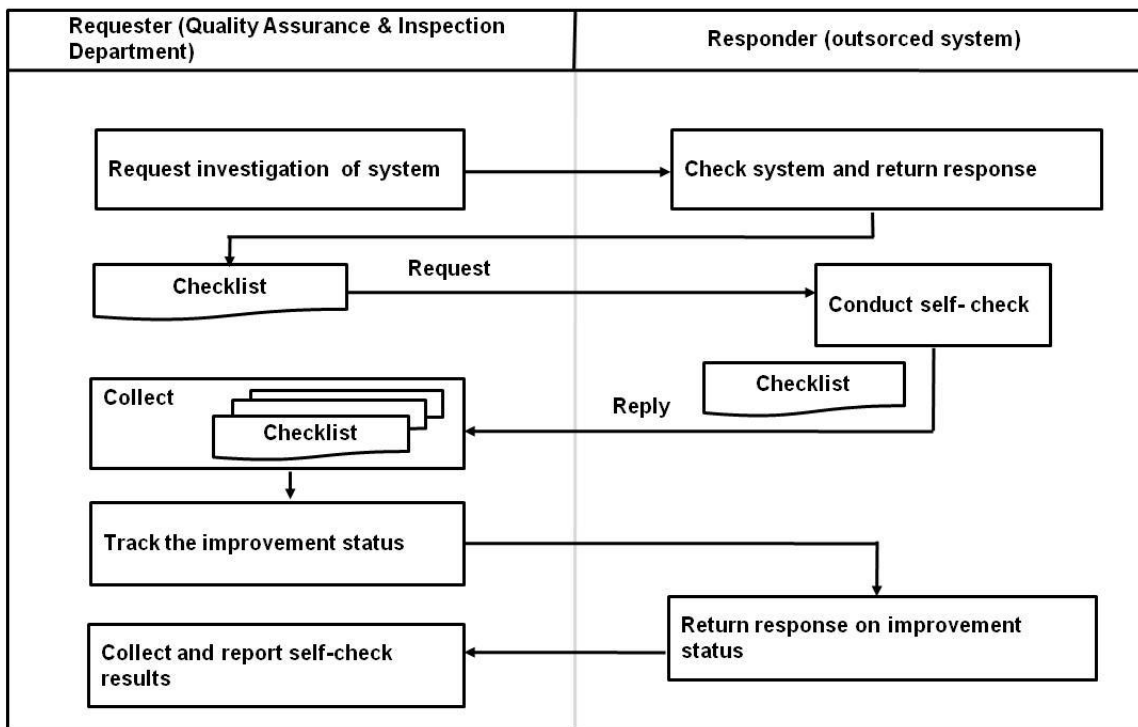


Figure 7 Flowchart of a self-check

(3) Implementing actions for common issues

The results of internal audits and self-checks were analyzed and evaluated, then issues were determined and improvements implemented.

Any common issues throughout the entire Financial Information Systems Division were checked and remedied division-wide. Issues of this type were addressed during preparation of the Quality Control Guidelines.

5. Details of Actions for Improving System Quality

(1) Whenever a failure occurred, we examined why an incorrect instruction was written in the program, why an incorrect definition was set, why it was not detected during testing, and the thinking of those who participated in the system that led to the failure. The examination, which consisted of five stages, continued until the root cause was found. Finally, a preventive action was implemented. Failures of this type were shared at “outsourced system coordination meetings” and “outsourced system quality meetings”.

(2) For development and maintenance, strict quality management was mandated for the definition of requirement specifications, basic design, detailed design, manufacturing, and test processes.

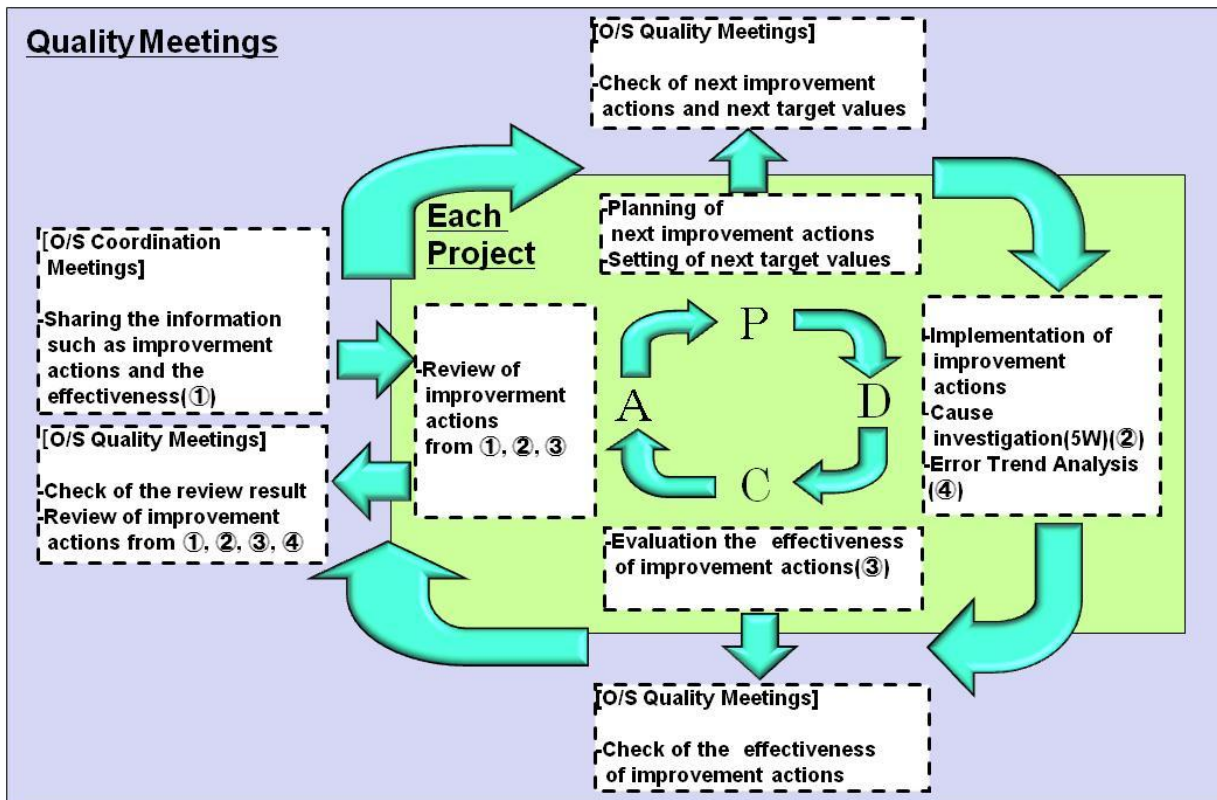


Figure 8 PDCA cycle for managing failures in outsourced systems

6. Evaluating the Effectiveness of Actions (at Quality Meetings)

The effectiveness of the actions for quality issues was examined at “outsourced system coordination meetings” and “outsourced system quality meetings”. Table 1 provides details about these meetings.

6.1 Outsourced system coordination meeting

In the meetings, information, including know-how and failure cases, was shared as a means of improving operational quality or system quality. We improved quality and motivation of work by introducing cases and taking discussion.

6.2 Outsourced system quality meeting

At outsourced system quality meetings, the effectiveness evaluation of targets ,which were set at the beginning of a period, actions for improving quality and the result of internal audit were reported. We also recognized common issues and considered actions for issues which were difficult to address in the individual system.

Table 1 Meeting details

	Outsourced system coordination meeting	Outsourced system quality meeting
Frequency	Once each term (during the term)	Once each term (at the end of the term)
Participants	Department managers, Senior engineers, Persons with specific responsibilities	President (Financial Information division), General managers, Department managers, Senior engineers, Persons with specific responsibilities
Purpose	Promote sharing of information among centers to prevent failures and improve quality.	Report to management on the status of IT service quality improvement actions for management review.
Details	<ul style="list-style-type: none"> - Reports and discussions are conducted on a particular theme (problem). - The actions taken for major failures are reported and the experience of other centers that deal with similar problems is shared. - Current improvement actions and their effectiveness are discussed. The improvement actions implemented by other centers are also discussed. 	<ul style="list-style-type: none"> - Targets for reducing and eliminating failures are set, and necessary corrective and preventive actions are decided on. - The extent to which targets are met is reported, and the effectiveness of the corrective and preventive actions is evaluated. - Targets and actions for the next term are determined based on the evaluation. - The results of internal audits are reported.

7. Effectiveness of Actions

7.1 Failure reduction

Figure 9 shows the effectiveness of applying the actions contained in the Quality Control Guidelines and the Outsourcing Failure Management Standard through strict application of the PDCA cycle. Figure 9 compares effectiveness before and after the Quality Control Guidelines and the Outsourcing Failure Management Standard were applied.

As shown in the Figure 9, the number of failures in maintaining systems decreased. For example, as shown in the system A graph, the number of failures four years later was reduced by more than 40%, showing a gradual decrease every year. The target for reducing failures (10 percent per year), which had been set at first, was almost achieved.

This demonstrates that the quality of the outsourcing services improved.

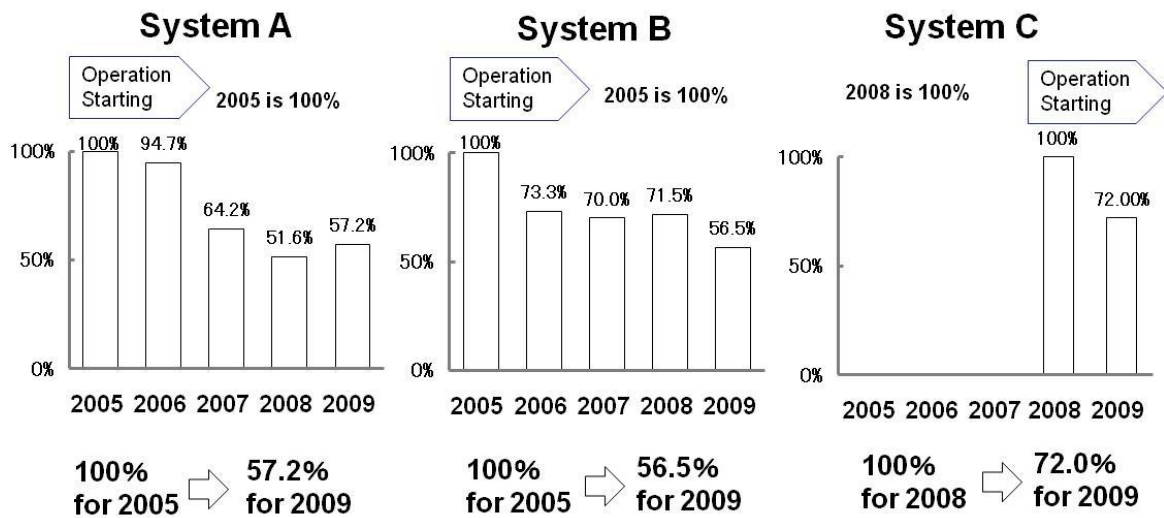


Figure 9 Change in number of failures

7.2 Reduction in the number of detected items in internal audits

As shown in Figure 10, the number of detected items in internal audits decreased over the years, and almost no major items were detected due to the continued performance of the internal audits and follow-up of detected items. The target for reducing detected items of internal audits(10 percent per year), which had been set at first, was almost achieved.

Average of six systems

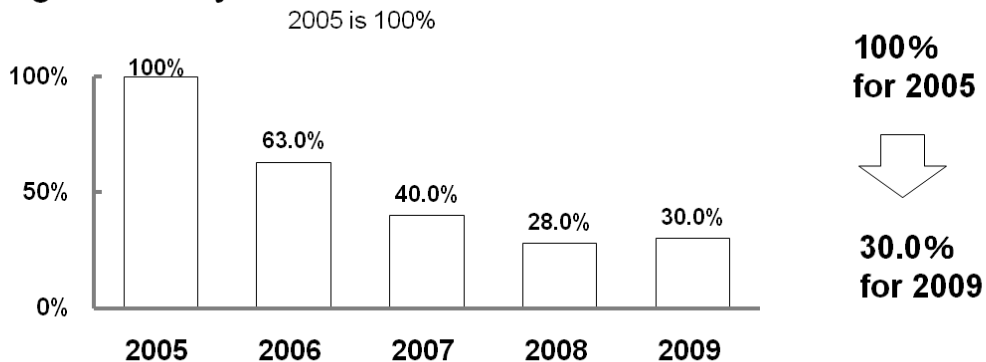


Figure 10 Change in number of failures

7.3 Qualitative effects

(1) Sharing information and strengthening motivation

At outsourced system coordination meetings and outsourced system quality meetings, information was shared regarding each system’s issues and problems, the corrective actions taken for failures, and effective improvement actions. This process strengthened the motivation for improving quality and reliability.

(2) Training in the Quality Control Guidelines for Outsourcing was provided each year for the people who conducted internal audits and self-checks. With the training, the guidelines took root, and awareness for improving the quality of outsourcing services increased.

8. Future Actions

8.1 Applying the guidelines to other industries and turning them into a standard

The Quality Control Guidelines for Outsourcing were designed only for outsourcing services for financial institutions, including ASP services.

Hitachi is now providing more and more outsourcing services to public utilities and industries, in addition to financial institutions, and consciousness of the importance of security and personal information protection is higher than ever before.

We plan to standardize the Quality Control Guidelines for IT Services in order to be able to manage the quality of outsourcing services for both financial institutions and other industries.

Specifically, we plan to incorporate the system management standards that are used in general system audits, the FISC Information System Audit Guidelines, ISO 27001 (Information Security Management System), and personal information protection rules so that the Quality Control Guidelines for IT Services can be used for many industries (Figure 11).

The Quality Control Guidelines for IT Services contain a large number of check items that enable the guidelines to be applied to outsourcing services for various industries. Applicable check items must be selected for each outsourcing service in each industry.

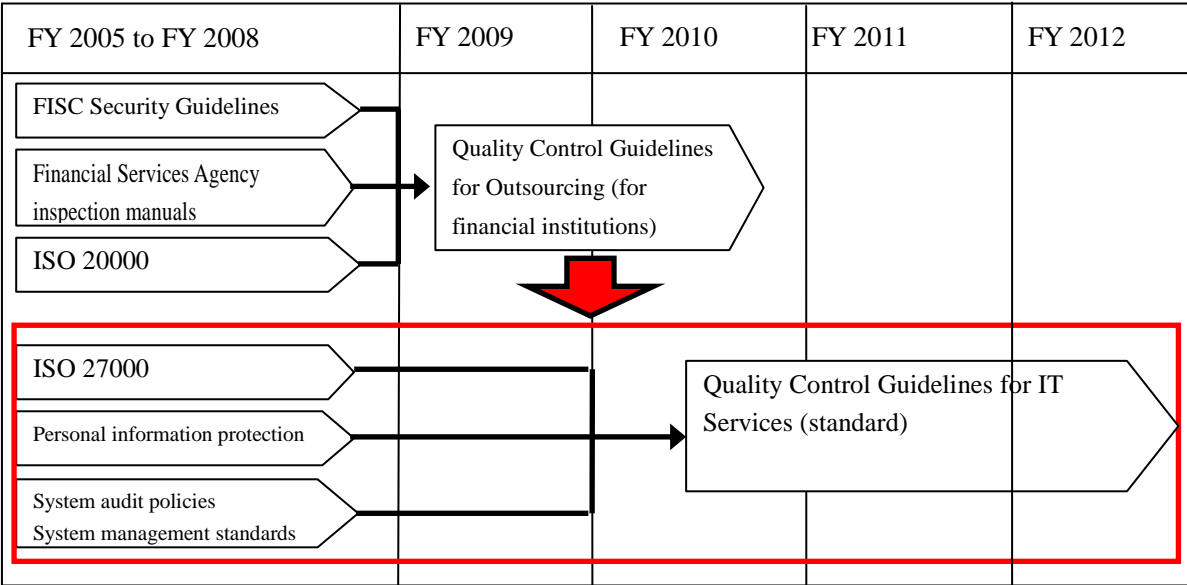


Figure 11 Plan for standardizing the Quality Control Guidelines

The current Outsourcing Failure Management Standard can be applied to many industries. However, because each division handles a particular industry, it is difficult for several divisions jointly to hold outsourced system coordination meetings and outsourced system quality meetings. Each division is therefore encouraged to apply the Outsourcing Failure Management Standard.

8.2 Dealing with diverse services

IT services no longer simply mean outsourcing services or ASP services. IT services are becoming increasingly complex as cloud computing services such as SaaS*, PaaS*, and IaaS* take hold. The Quality Control Guidelines and the Outsourcing Failure Management Standard will be improved so that they can be applied to these diverse services.

- (*) Cloud application services or **Software as a Service (SaaS)** deliver software as a service over the Internet, eliminating the need to install and run the application on the customer's own computers and simplifying maintenance and support.
- (*) Cloud platform services, also known as **Platform as a Service (PaaS)**, deliver a computing platform and/or solution stack as a service, often consuming cloud infrastructure and sustaining cloud applications.
- (*) Cloud infrastructure services, also known as **Infrastructure as a Service (IaaS)**, deliver computer infrastructure – typically a platform virtualization environment – as a service, along with raw (block) storage and networking.