

# Role of SI Vendors for the Optimization of Customer Benefits: Study on Efficient Utilization of Program Management

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**Abstract.** Program management is a useful method to maximize the total benefit of related activities. For an information technology (IT) program, the degree of total benefit depends on the required level of IT environment optimization for the customer's business, which develops with the interaction of related project results. Although program management is not as common for the customer as for the vendor, it remains important to achieve success from the viewpoint of those who benefit from the program. Customers can implement program management for their own activities. However, system integration (SI) vendors provide powerful support with their knowledge, skills, and experience. This paper proposes a model, based on empirical studies, for the implementation of program management for the customer. In this model, the SI vendor provides a project member for positive interaction with the customer's program management office. Implementation of this model maximizes the customer's total benefit and develops the vendor's business opportunities.

**Keywords:** Program Management, Information System, Benefit, System Integration Vendor

## 1. INTRODUCTION

The exact origin of program management is not well known. The Manhattan Project, which created the atomic bomb, first used program management in the 1940s, and the Atlas Program, which created the first intercontinental ballistic missile, used program management in the 1950s (cf. Weaver 2007). However, the first recorded use of program management practices was the development of a launching system for the underwater ballistic missile by the Special Projects Office of the United States Department of the Navy (cf. Ashie 1994). This project was established in 1957. In the following half century, there have been major breakthroughs in program management theory. The guidelines and standard documents concerning program management, published by the Project Management Institute (PMI) and AXELOS, are well known in Japan.

However, the exact definition of a program, specifically the difference between a program and project, is not particularly clear. Therefore, few cases are explicitly managed as "programs" in Japan and other many countries. To define the characteristics of a program, this paper restricts its scope to

programs that include information technology (IT) projects.

The major organizational stakeholders of IT projects are broadly divided into two categories: those who submit orders (customers) and those who receive orders (vendors). From the viewpoint of the customer's strategic goal achievement, the main function of the programs should be established in the customer's organization in order that related projects might also succeed. Although the function of a program may be established in the vendor's organization, it usually aims to achieve the vendor's, and not the customer's, strategic goal. In this case, the vendor implements only service projects for the customer, which are not always included as a program component of the vendor's strategic activity plan.

Figure 1 shows the relationship between the customer's program and the related IT projects implemented by the SI vendor. As shown in the figure, the top event of the company in the example is a portfolio management function that bears the responsibility of supporting the organization's strategic decision making. The programs are developed under the portfolio as a business unit for the achievement of

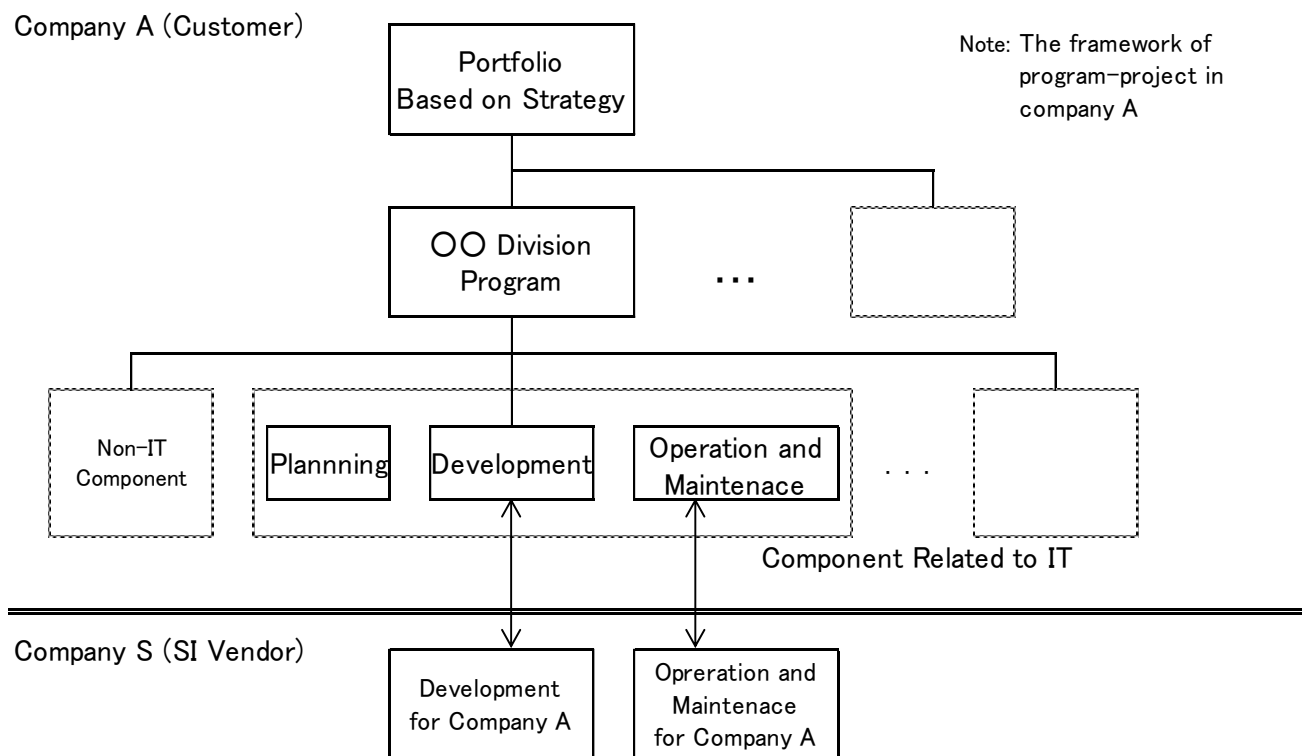


Figure 1: Relationship between the customer program and the IT project SI Vendor in charge

organizational goals. In these activities, benefit maximization for the customer's business is the metric for a program goal achievement. To ensure the target benefit, under the portfolio, the program consists of several components.

If application of IT is required to ensure successful achievement of the project goal, an IT project is established as a program component. In this context, the contribution of the SI vendor is to ensure, by participating as the IT project contractor, that the customer program achieves its goal.

Recently, with the growing role of IT in successful businesses and in the management of organizations, including those in the public domain, IT projects have become increasingly complicated and larger in scale. However, with such expansion in their scope of activities, organizations frequently face unlimited customer requirements: quick delivery time, low cost, and high quality. The project management triangle, whose sides and area represent customer requirements (the two small sides indicate cost and delivery time and the other large side scope, and the area of triangle quality), fails to achieve its goals because of these self-contradictory customer requirements.

Program management for customers is introduced to effectively disentangle this insoluble paradox. In this approach, the customer should fully utilize the vendor's rich experiences in IT and information system (IS) developments. To achieve the planned benefit maximization for the customer

and establish the optimal program plan, effective monitoring and controlling activities are required in program management. In practice, understanding the actual condition of the program and related components is important to achieve good results in change management. Additionally, a basic problem inhibiting successful program management for customers is the lack of knowledge, skill, and experience on their part.

Participation of SI vendor's experts is an effective approach to solve the above problems. With their professional knowledge, skills and experience, they offer different solutions: appropriate program management for the customers, optimal benefit earning plans, optimal change management and additional activities, and maintenance plans. If the SI vendor has a long engagement with the customer, they provide more appropriate proposals based on the knowledge of the customer's IT assets.

Concerning the SI vendor's benefits, positive participation by the vendor's experts in a customer program helps improve the relationship with the customer, which can expand business opportunities for the SI vendor.

Section 2 defines the terms program and program management to set the basis for this study. Section 3 describes the introduction and implementation of program management for the customer's benefit optimization. Finally, Section 4 discusses the SI vendor's benefits from participating in the customer's program.

## 2. FUNDAMENTAL CONSIDERATIONS ON PROGRAMS AND PROGRAM MANAGEMENT

### 2.1 Definition

PMI (2013) and AXELOS (2007) provide independent definitions for the terms program and program management. Despite some differences, the basic premises are the same. The International Organization for Standardization (ISO 2012) gives simple definition to program management. ISO (2015) has also developed guidelines for program management, and provides the draft definition. According to these and other related arguments, the common features of a program are as follows:

- Means for strategic goal achievement of an organization.
- A group of mutually related components.
- Means for realizing benefits that cannot be obtained by the individual components.

Based on this description, this paper defines a program as follows:

A group of mutually correlated components (e.g.,

projects and program activities) introduced as a means for the strategic goal achievement of an organization and implemented for realizing benefits that cannot be obtained by the individual components.

On the basis of the above definition of a program, program management is defined as follows:

Intensive and balanced management activities to achieve program goals and maximize benefits.

### 2.2 Idea of Benefit in a Program

The concept of a program is introduced into business mainly for the achievement of an expected benefit that cannot be obtained by the individual components. Generally, the criterion of success in program management is the benefit, although it focuses on the achievement of planned quality, cost, delivery-time, and scope (QCDS). The achievement level of a planned benefit is difficult to confirm, for example, with an improvement in customer satisfaction by contrast with the easily confirmed the achievement of a gross margin rate. For the optimization of a benefit and its metrics in the background of benefit planning, the strategic goal and the objective goal of

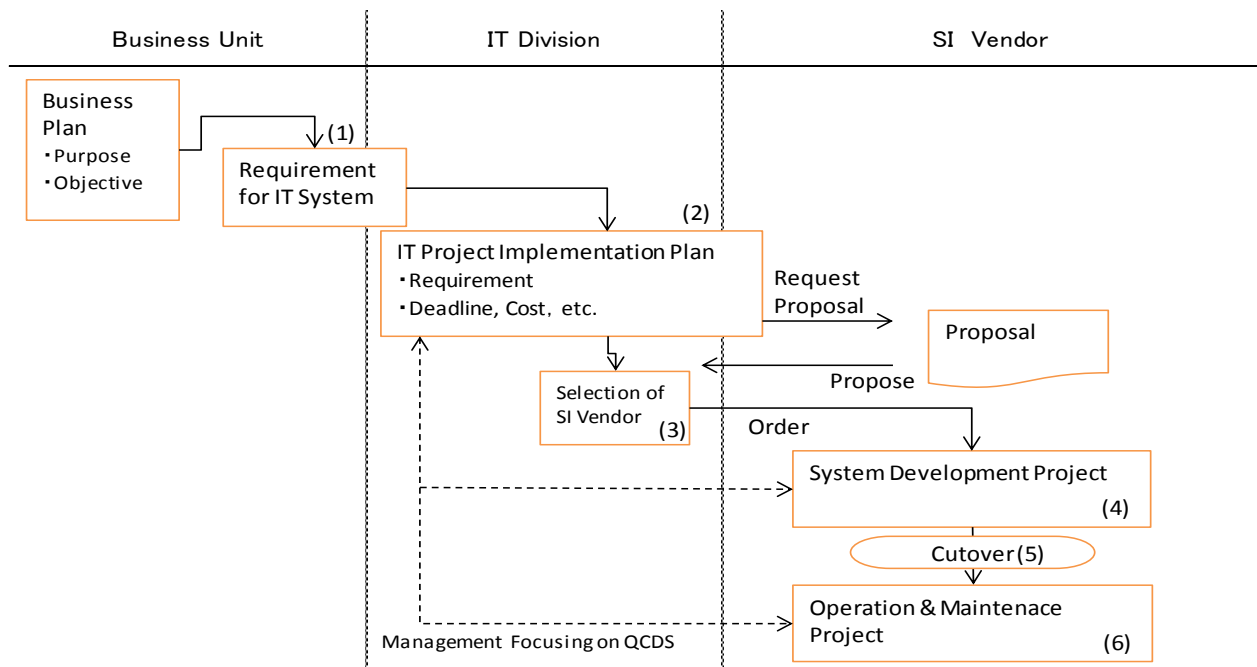


Figure 2: Current state of IT project execution

the program should be identified and analyzed at the initial phase of the program according to the organizational strategies, the internal and external business environment, and the expectation of stakeholders. After such preparations, the planned benefit should be monitored and controlled at the implementation stage to realize its optimization and maximization.

### **3. PROGRAM MANAGEMENT TO OPTIMIZE CUSTOMER BENEFIT**

#### **3.1 Current State of Program Management Utilization**

The factors that adversely affect the optimization and maximization of customer benefits are related to the implementation process of an IT project, summarized in Figure 2. The processes delineated in the figure include customer-side (Business Unit and IT Division) and vendor-side (SI Vendor) functions.

At the new business planning stage, the management staff of the business unit in the customer side identify the strategic and objective goals of the business and arrange the required resources for the new IT system (1).

The IT division takes over the required resources from the business unit and develops the implementation plan of the IT project (2). This plan includes the results of (1) and the preconditions, constraints, and outlines of the IT system functions required to achieve the business goal. This comprises the request for proposal (RFP) for SI vendors, either partly or in fully.

The program concept should be utilized to develop a successful business. Business success, in its true sense, refers to the achievement of not only the QCDS of related components (e.g., IT projects) but also the strategic and objective goal of the business defined in (1). However, most Japanese companies unfortunately fall within this group. That is, they rarely introduce the concept of a program. Thus, the goal of an IT project without a business goal is transferred to the SI vendor by the description of RFP. This is a serious problem in establishing a successful business, because the SI vendor misses an opportunity to know what are the metrics and criteria for the customer's success. In this context, it should be noticed that this problem arises inside the customer's organization. Therefore, to ensure that the customer's business succeeds, the program concept, which is a solution to the problem, should be implemented at the customer side. According to the result of (2), the SI vendor is selected and assigned to the IT project (3). After taking an order, the SI vendor plans and implements the IT project (4). As a corollary, the SI vendor concentrates on the management's concern over QCDS.

If the IT project is completed according to the agreement

with the customer, the deliverables of the project (i.e., the IT systems) are handed over (5). The systems are then operated and maintained (6). Usually, in this phase, the work of the project team is limited to responding to end-user requests for improvement and bug fixing. However, in principle, the most important mission of the project team should be to achieve the planned business goal (i.e., to maximize the planned benefit for each program component). Most IT projects lose this point of view at the beginning of their project because the customer, who is part the mission (transferring the business goal from the customer to the vendor) has no understanding of the program concept.

#### **3.2 Advantages of Introducing Program Management**

##### **3.2.1 Relationship between planning-implementation and benefits**

For the reasons described in section 3.1, IT project teams often exclude the mission of achieving the customer's business goal from their main work. Introducing program management addresses this awkward situation by highlighting the achievement of the customer's business goal as the mission of the IT project team.

The deliverables of IT projects generally strengthen the customer's business capabilities by improving their business infrastructure. For example, the renewed information system will prompt renovation of the customer's organization, introducing new business processes into the customer's organization. These strengthen the customer's business capabilities. Such changes in the customer's organization sometimes trigger benefit acquisition activities.

First, a program plan is decided. This document declares the strategic and objective goals of the program. The components required for goal achievement are established. At this time, the benefit plans are also determined, the details of benefits are described, and the period and method for benefit acquisition are specified. The program is established according to the procedure mentioned above and implemented for the realization of the planned benefit.

Figure 3 illustrates the relationship between the run time of an IT project in progress and benefit acquisition, as well as between program initiation and the closing phase. The program plan and benefit plan are established at the program initiation phase, as shown in the figure. According to these plans, five components, i.e., IT projects (1) and (2), the business process improvement projects (1) and (2), and are established, and the organization reform activities are planned and implemented. In the course of these activities, the initial cut-over and the second cut-over of the IT projects trigger some benefit acquisition activities—often in the form of new businesses for the customer. The lower half of Figure 3 shows that the

accumulated value of benefits increases, depending on the deliverables of IT projects (1) and (2) and their implementation in the customer's business. The figure shows that the accumulated value of benefits finally reaches the planned goal.

### **3.2.2 Monitoring and controlling of benefits**

However, in practice, the planned benefits are difficult to achieve due to various formidable reasons, for example, changes in the business environment and requirements and severe cost constraints. Therefore, to ensure that the target benefit is achieved, it is important that the status of benefit acquisition is monitored and controlled. Figure 4 displays a typical program implementation and benefit acquisition case to illustrate the processes leading to the achievement of the planned benefit.

The figure displays a case in which the planned benefit of IT projects (1) and (2) cannot be achieved. To respond to this case, an IT project (3) and a process improvement activity (3) is planned and implemented. After completion of these activities, the program shifts to the maintenance and operation stage. However, in this case, the planned benefit cannot be achieved by these additional activities. Hence, an additional project (4) is planned and implemented to realize the planned benefit.

These additional activities mentioned above are often required to ensure a successful program. Identifying the requirement and providing first-aid treatment based on the appropriate management activity, especially continuous monitoring and controlling the benefit acquisition tasks, are important. Monitoring provides an opportunity to notice risk responses, and controlling allows the team to implement appropriate additional activities.

## **4. SUCCESSFUL PROGRAMS FOR CUSTOMERS THROUGH SI VENDOR SUPPORT**

The above discussion shows that introducing program management to achieve the customer's strategic and objective goal is important and valid for the customer's benefit maximization. In the following paragraphs, the role of the SI vendor, as the organization undertaking the responsibility to complete a successful program for the customer, is discussed.

### **4.1 Role of the SI Vendor in a Program for the Customer**

As mentioned in the previous sections, program management, which is planned and implemented by the customer's business division and IT department, provides some functions for all the phases of the program. The functions are monitoring the progress of each component and the status

of benefit acquisition, and the response behaviors to address the risk of nonattainment of the planned benefit.

The best supporter of the customer's IT policies, assets, and the present status of the IT project is the SI vendor, who has a long-term engagement with the customer. The SI vendor provides state-of-the-art IT and knows the latest trends in the engineering design of IT vendors' products related to the components of the customer's program.

IT vendors who join the program management team inside the customer's organization provide an appropriate plan for change, including the best timing and suitable actions for change, and forecast the impacts on related activities.

Accordingly, SI vendors serve an important role in successful program and program management for customers. It is no exaggeration to say that the presence of IT vendors is an essential condition for the realization of the planned benefit.

### **4.2 Selection Problem of SI Vendor**

To accomplish suitable benefit management in the program for customers, selection of an appropriate SI vendor is important. The main SI vendor is selected from SI vendors who participate in the program. The SI vendors have different characteristics and backgrounds, and show diverse behaviors and performances while responding to the expectations and business environment of the customer.

From the discussion in section 4.1, the most excellent SI vendor, as a partner in program management, is selected by the following criteria: ability to collect information, analyze program performance, and implement change management. These performances and abilities require adequate experience in not only program management but also project management. Furthermore, they require the authority, responsibility, and functions of program and project change management. Consequently, they should be contractors of the IT project in the customer program. In a large and/or complex program consisting of different types of IT projects, multiple IT vendors are sometimes selected as partners in the customer's program management.

At the next step, appropriate persons, with the above requirements, are selected to organize the program management office (PgMO) without communication with their native organization. They are required to not only have adequate and excellent experience in program and project management but also to perform as true members of the customer's PgMO for the customer's benefit maximization.

Figure 5 summarizes the discussion. Figure 2 shows the activities related to program management (i.e., the program management process, benefit management process, and structure of the PgMO) to illustrate the relationship among these functions. As shown in the figure, the persons from the SI vendor(s) assigned to the PgMO are independent of their native organization(s).

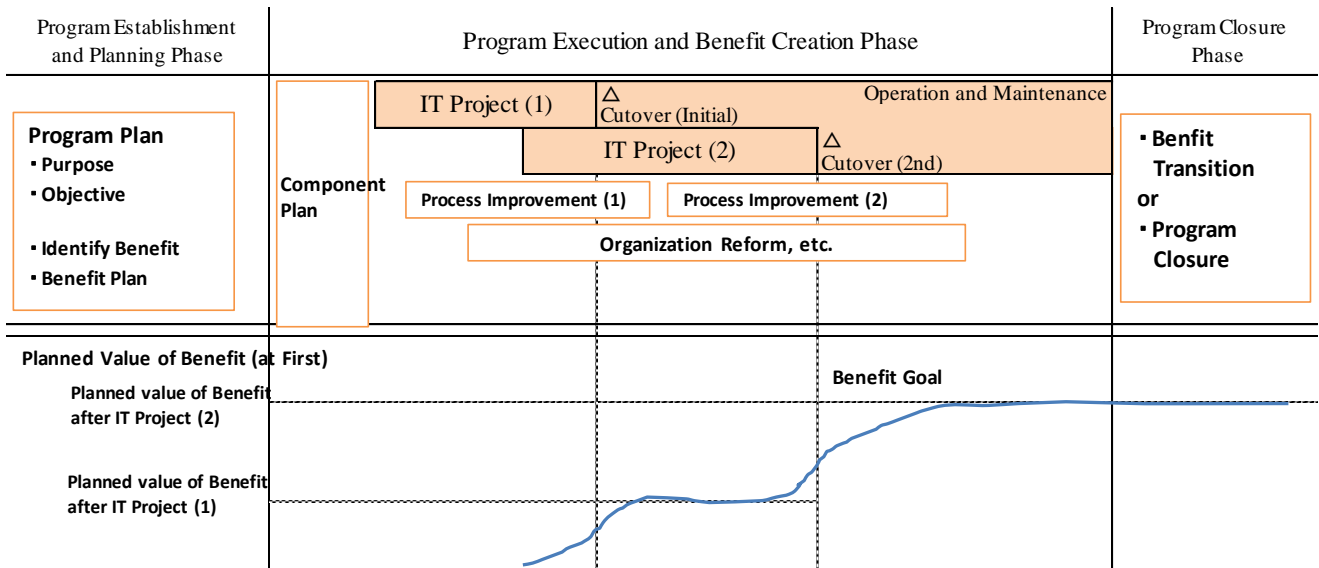


Figure 3: The relationship between IT projects and benefit acquisition

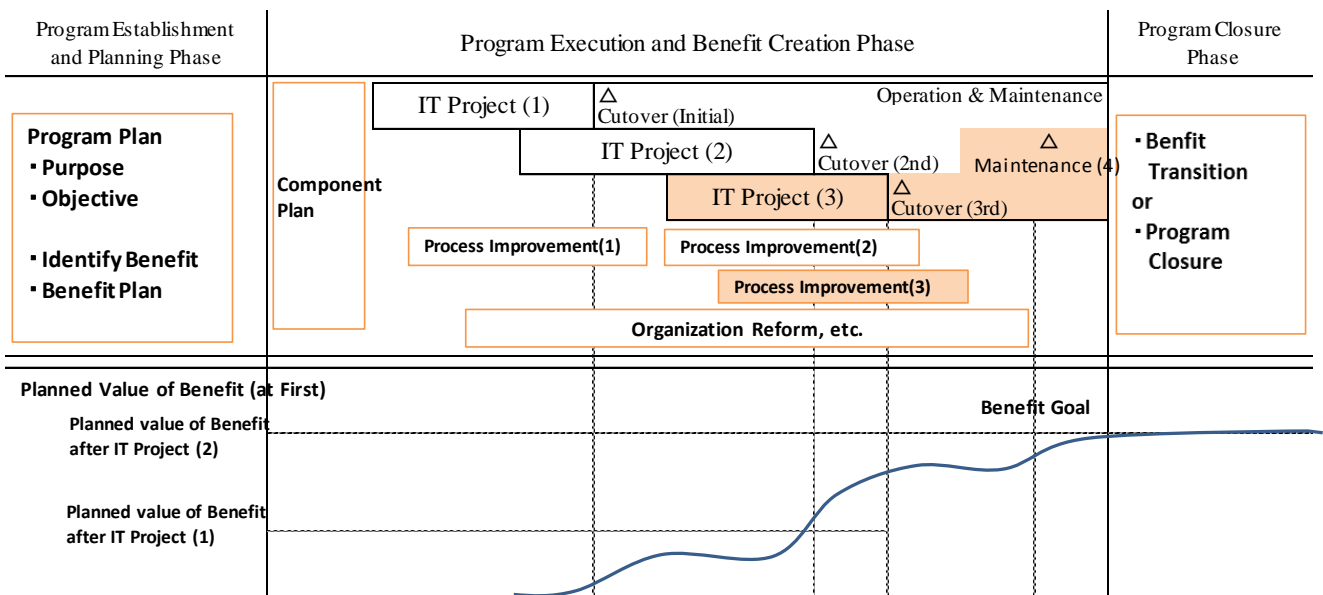


Figure 4: An example of monitoring and control for benefit maximization

### 4.3 Benefit of SI Vendor

The proposal mentioned above, i.e., providing PgMO members from the SI vendor, naturally should be regarded as an action against the benefit of the SI vendor. This is because the customer's benefit does not always contribute to the profit

of the SI Vendor. Sometimes, their decision for change based on the benefit maximization for the customer inflicts a serious loss on the SI vendor. However, according to the proposal, they work as if they are true members of the customer organization to realize and maximize the planned benefit of the customer. This idea differs from the concept of customer orientation,

according to which persons who work for the customer regard themselves as members of the SI vendor.

On the other hand, it is easy to understand that the approach in this study leads to new advantages for the SI vendor. For example,

- The SI vendor will build a relationship of trust with the customer's IT department staff through the customer PgMO members selected from the SI vendor, by their success in the customer's PgMO. This good relationship will create and maintain solid ties between customer and the SI vendor.
  - Strong ties with the customer will allow the SI vendor to easily access latest detailed reports on the customer's business promotion. It is important to know the challenges of the customer's business activities.
  - The SI vendor will build a good relationship with PgMO members selected from another SI vendor. They will provide the project status and technologies required to grasp the problem and propose changes in the project/program plans.
  - These good relationships will provide an opportunity to propose an appropriate system improvement plan for maximization of the customer's benefit. This will directly provide a business extension opportunity to the SI vendor.
- As mentioned above, providing PgMO members from

the SI vendor creates a new business opportunity, directly and/or indirectly. Good communications and a relationship of trust with the customer, as a business partner and competitor, is the most important benefit to SI vendors for their present and future business.

## 5. CONCLUSION

This study proposes a model for the implementation program management for a customer based on empirical studies. In this model, the SI vendor provides a project member to the customer's program management office. In general, this is not always beneficial to the SI vendor. Changes proposed to the project/program plan to maximize the customer's benefit sometimes inflicts serious loss on the SI vendor. This study shows a model that ensures a successful business for the customer through program management characterized by a positive concern by the SI vendors, and empirically discusses the reasons behind the validity of the model. The discussion indicates opportunities for SI vendors to create and extend their present and future businesses.

As mentioned above, the discussion in this study is based on project and program experiences in information system development. This paper omits case studies and suggestive examples to provide the validity of proposal. These will be provided in Sekiguchi and Seki (2016).

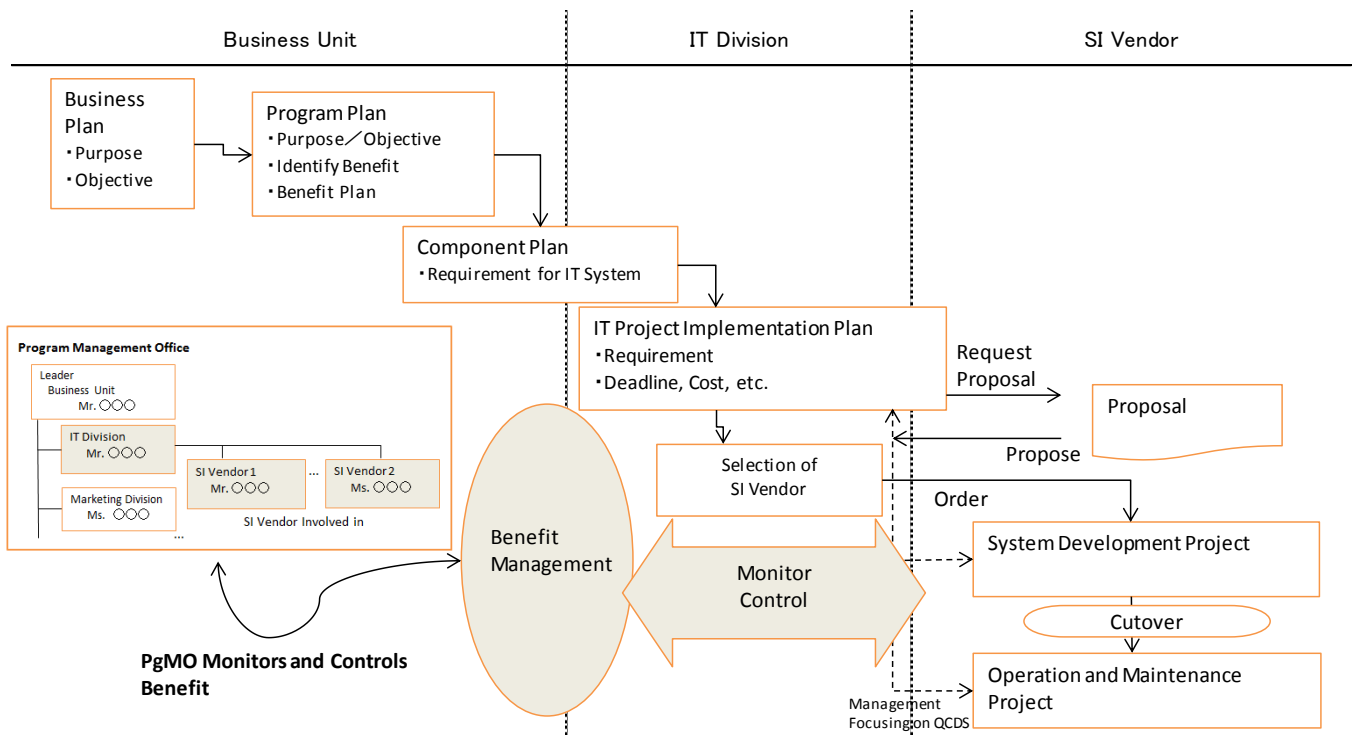


Figure 5: Support of SI Vendor when program management is introduced

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