- Transferring Target Excellence to Overseas:

Toward A Conceptual Framework of Global Target Cost Management

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Abstract

Target cost management (TCM) has become a significant issue in off-shore bases of Japanese corporations in line with globalization of product development functions in recent years. This article, instead of discussing "whether it is transferable or not", discussions will mainly focus on the perspective "under what system shall the implementation of TCM activities be done effectively in carrying out joint developments and designing. The followings are discussions to review furtherance of global cooperation, the need to consider the shift from "transfer to overseas" to "overseas expansion", overseas development of co-design, and also rules of TCM in categories of philosophy, principles, and implementation rules.

Also, it includes a preparatory trial to establish a conceptual framework by focusing at the person responsible for TCM as a coordinator (a "hinge"). In performing global cooperation of product development between a corporate headquarters in Japan and overseas bases, its success will depend on who takes charge of functions as a coordinator or a "hinge".

A product manager plays a key role as a hinge among local corporations, but a cost engineer also plays an important role. Whereas in European and US corporations, the role of a hinge is assigned to an individual, under whose responsibility and authority the function of coordination is performed.
1. Introduction

The implementation of target cost management (TCM) has become a significant issue in off-shore bases of Japanese corporations in line with globalization of product development functions in recent years. (See Kato [1993][1994], Kajita[1994], Okano[1995a], Kato=Okano[1995], Bhimani=Okano[1995]). It is also true that not a few Western corporations started to review and introduce TCM positively (Horvath[1993], Tani[1996], Ansari[1997]).

This indicates the very tendency that “TCM originated in Japan” has been challenged whether it can become “TCM as global standard” (See Okano[1995c]), and new “relevance” of management accounting is being explored. It means that there is an opportunity to identify what has been embedded in the process of TCM e.g. “hidden logic” or “working wisdom” which has been considered as an implied presumption in various activities of TCM, and also the ways to vitalize inter-organizational relations such as a system to promote a joint development with a supplier, etc. by means of reviewing the transfer process of TCM and activities involved in this in overseas corporations.

However, it is also true that it has only been discussed from perspectives of transferability of TCM to offshore bases by Japanese corporations and/or feasibility of TCM by foreign corporations. (Kato[1993][1996], Inoue[1993], Accounting Frontier Forum[1994], Japan Accounting Association[1994], Okano[1995b], Ito[1995], and Tani[1996]).

In this article, instead of discussing “whether it is transferable or not”, discussions will mainly focus on the perspective “under what system shall the implementation of TCM activities be done effectively in carrying out joint developments and designing”.

The followings are discussions to review furtherance of global cooperation, the need to consider the shift from ‘transfer to overseas” to “overseas expansion”, overseas development of co-design, and also rules of TCM in categories of philosophy, principles, and implementation rules. Further, it includes a preparatory trial to establish a conceptual framework in regards to globalization of TCM.

II. Shift from “Overseas Transfer” to “Overseas Expansion” of TCM

1. Furtherance of Global Cooperation and TCM

In association with overseas transfer of production functions in global corporations, there rises a need to have engineers who evaluate parts and components as well as production engineers for the purposes to have higher efficiency of production preparations and more local procurement of parts.

Many of Japanese corporations who decided to expand their business abroad took such overseas expansion negatively in the beginning. However, in recent years, more corporations have started to take it positively so as to absorb know how’s in excellent product concept and designing of parts and components of overseas corporations including suppliers, rather than taking it as a measure to buffer higher yen.

This change was brought about by further development of global cooperation. Such global cooperation were carried out by function, such as sales, production, production preparation, design, research and development. Now with the expansion of global market, together with global strategy of individual corporations, the need for further global cooperation by function has increased.(See Figure 1.)

Past:
Figure 1. Global Corporation of R&D

For example, there is a case where the basic design of an automobile (chassis and engine) is carried out in Japan and its upper body for the automobile sold in Japan is designed by Design department in Japan and the ones for local sale are designed by overseas local bases separately. This is a typical example of globalization of multi-project system (Nobeoka [1996]), indicating the shift of product development in global level from a consecutive type to a concurrent type. In such a case, the demarcation in sharing functions between Corporate Development department and development departments in overseas subsidiaries becomes an important factor for effectiveness of TCM.

As seen in a home electrical appliance product, the more products to the Japanese market made in overseas increases, where its basic design is carried out in overseas is increasing, and it results in more cases where all the steps of TCM are undertaken by overseas development bases.

Under above mentioned circumstances, instead of various knowledge and information in relation to leading edge technology, parts, and/or productions systems is unilaterally transferred from Japanese corporation headquarters to overseas
subsidiaries, the return flows of various know how's of overseas subsidiaries become available. Thus it results in the bilateral circulation of knowledge and information between them, and thereby, it promotes the expansion of TCM on the basis of global concurrent engineering of TCM\textsuperscript{6).} (See Fig. 2.)

**Past**  
Headquarter in Japan  →  Local Production Site

**Transfer of Product & Process engineering**

**Partial Transfer of TCM**

**Present:**  
Headquarter in Japan  →  Local Organizations

R&D Center  →  R&D site

(Product Manager, Cost Engineer)

Sales  →  Sales

Accounting  →  Accounting (Controller)

Process Engineering  →  Process Engineering

Purchasing  →  Purchasing

**Global Expansion of TCM**

**Figure 2: Global Concurrent Engineering**
2. Globalization of Co-design

Co-design (development procurement) with suppliers/ a supplier is an important factor in globalization of product development. However, it is even more difficult to take suppliers into proposing value engineering (VE) before closing a purchase contract.

In cases of dealing among Japanese corporations, there is an implied agreement that the order for a next model is to be placed if there is no special problem in the quality and the supply system of parts regardless whether it is a KEIRETSU supplier who belongs to the same business group or an independent supplier. (Of course, it cannot be denied that there is some difference between the two.)

Guest engineering system (resident engineering system) draws attention as a management system to achieve sharing information. It is a system of having an engineer of a supplier at the development site of an assembler, which can also serve as an effective system to quickly obtain information on such as the progress of development activities, design changes, and development of competitor’s products.

The issue here is whether the VE (value engineering) proposal raised by a local supplier can be evaluated promptly. It would take too much time to evaluate it in the engineering department at the corporate headquarters. Therefore, experimental facilities may need to be available in a local site. Though the experiment of unit parts are to be performed in the supplier owned facilities, the assembler side needs to have experimental facilities and a test run field for actual vehicle test.

Reward system for proposals is one of which promotes co-design. This system has not been provided clearly under the Japanese system. It is an issue which has not been visible in the long term traditional practice of business where “suppliers are
rewarded by winning orders”. However, the introduction of this system would allow to specify the contributions by suppliers and thus to promote co-design.

III. Establishment of Conceptual Framework for Global TCM

1. Three systems in TCM

Two aspects of TCM were introduced in my earlier paper (Okano[1995]); namely “calculation system” and “management system”. I would like to add one more aspect as the third aspect; “social system”. This would particularly be important to form a theory of the globalization of TCM. (See Fig. 3.)

![Three Dimensions of TCM](image)

Calculation System

Management System

Social System

**Figure 3: Three Dimensions of TCM**

In order to promote the above mentioned co-design activities with local suppliers, there are many issues needed to be addressed such as adjustment in practices of corporate relations in the local industry, labor issues and the like. One should not miss the impact of environmental and products liability issues on life-cycle cost. These things are encompassed in “social system”. This perspective should not be neglected. It would have significant impact on both the calculation system and the management system. Consequently, the social system would also have a profound impact on significance of “supporting module” (Kato [1993] page 29) which supports TCM.
Different social systems may lead to change the existing calculation system and management system, inversely a new calculation system and management system may create a new social system. What causes such changes are the differences in responsibilities and authorities given between the members of a product development team and the staffs promoting TCM, gaps in recognition (difference of episteme), difference in recognition in regards to relevance between the management through figures and the actual management.

Further, the nature of TCM system itself may change in accordance with overseas expansion of TCM. In many cases where numbers of product lines are limited in overseas bases of Japanese corporations, it takes long time to recover the cost and investment made to expand bases such as development facilities for the purpose of preparing co-design with their suppliers. This is a turn from traditional cost control (product cost management) per one unit of product mainly based on design cost and process cost, to TCM (including development cost control and production preparation cost control) as a business strategy. In other words, it is a shift from “cost engineering model” to “profit engineering model”(Okano[1995c][1996]).

Moreover, it is necessary to establish TCM system as a new “business system” (Itami and Kagono[1993]). There are many invisible (intra-organizational or inter-organizational) variables among which we should take note that one cannot control every variable.

2. Philosophy, Principles and Execution Rules as Rules for TCM

The basic logic of TCM is clear and there would not be any objection against what is stated in the following;” For the efficiency of TCM, it is necessary to start TCM activities at the stage of deciding the target cost rather than at the stage of the accrual of
cost.” However, many problems shall be emerging when it comes to specific methods and where it is a mean to form an organizational cooperative structure and promote such activities effectively. The key issue is how to solve these problems systematically.

Kajita[1994], clearly presenting the expansion process of TCM in Nissan, UK, explains the necessity to specify persuasive rules which can be accepted by anybody. Unless they are identified clearly, it may results in not only demotivating the incentive to carry out TCM systematically by the organization as one, but also increasing possible conflicts among organizations and/or with suppliers. This issue of specifying clear rules is especially important in the cases where much of part design are depended on suppliers’ manpower.

A supplier convention is an occasion for an assembling manufacturer to explain policy in purchasing parts to the executives of suppliers, it is also an opportunity to imprint rules regarding TCM on the suppliers. (Rave Wiener[1993])

In this article, rules of TCM are classified as philosophy, principles and execution rules. First of all, “philosophy” is defined as basic and universal ideas of TCM for that corporation, which includes approach of cost management for the corporation as assumptions of TCM, relevance of individual sub-systems(such as budget, cost improvement, capital investment planning, etc.) which include TCM, also objectives of TCM itself and its final goal and the like.

“Principles” refer such matters which vary depending on corporate strategy, as scope of subjects for TCM, specific tools to achieve objectives e.g. organizational structure, departments in charge and their relationships, assumptions for target costing and rules to change such assumptions. The issue of duties and responsibilities is identified on the basis of these principles.
"Execution Rules" mean what are used to address various problems occurring in the process of operating a specific project, e.g. calculations rules for target cost and target profit, specific agreements in design process. It would make it difficult to have compatibility between concurrent designing system and cost planning without having clearly identified rules.

Above mentioned rules are not always clear at the time of introducing them, they are often tacitly (or invisibly) embedded in each organization in the process of repeating trials and errors. There are cases when rules only remain under the law of inertia even after the change of competition paradigm with which philosophy, principles, and detail rules are inclined to change as well.

In case of performing TCM in interactions between overseas bases and Japanese corporate headquarters, it is necessary to specify what changes are needed to these rules, and what impedes such changes to be made.

3. Person Responsible for TCM as a Coordinator (a “Hinge”)

In performing global cooperation of product development between a corporate headquarters in Japan and overseas bases, its success will depend on who takes charge of functions as a coordinator (or a “hinge”7). It is often the case that a person in charge of procurement in a local manufacturing department acts as a hinge with local suppliers on ad hoc bases. (Okano[1995c]) This is due to the requirement to maximize a local procurement rate as much as possible. But sometimes it gives a problem as to what organization this major player of TCM should belong to in carrying out such tasks, because automobile manufacturers in overseas adopt independent corporate organizational structure by function.
For example, in the case of European base of Nissan, it was reported that the department responsible for TCM was not neutral because it belonged to a design company, instead of a manufacturing company,

"Finally the purchasing department of NMUK (Nissan Motor Manufacturing UK) proposed to take charge of TCM for the parts they purchased. They proposed their intention to control design, but it would not be accepted by the design department. . . . They insisted that they at least wanted to take charge of parts which they were responsible for" (Kajita[1994] p.37).

To address this issue, Nissan has explained the similar Japanese case in the past, and persuaded that it is inconvenient to share responsibilities in controlling the cost targeted of the same part by either designed, purchased, or in-house fabricated parts separately. In order to alleviate such distrust, a product manager was appointed at the Nissan Europe, which is a supervising company all over Europe, and took charge of NETC (Nissan European Technical Centre) concurrently (ibid. p.38).

A product manager plays a key role as a hinge among local corporations, but a cost engineer also plays an important role. In the above mentioned Nissan case, it would be preferable to have a cost department in Nissan Europe in terms of neutrality.

In Japanese cases, though it varies by company, an accounting department carries out TCM, and/or a product planning unit of research and development department acts as a hinge. This is due to accounting functions are distributed among related departments to significant degree. (Okano[1995c]). It is a very interesting issue to consider the economic reasoning, when variety of forms of TCM activities exist with overseas bases involved.

In Japan, it is a significant tendency that the function as a hinge is embedded in the related organizations, and it is general that a person in charge of playing the part of a
hinge shifts from a cost engineer to a person responsible for purchasing and to a person handling accounting as the development process proceeds.

Whereas in European and US corporations, the role of a hinge is assigned to an individual, under whose responsibility and authority the function of coordination is performed.

IV. Conclusion

As discussed above, there are many problems to be solved to carry out functions of TCM effectively under such globalization of product development. The concept expressed by the term of “TCM” varies and one cannot deny there are many pending issues to be addressed.

Here the significant issues are especially how to share common recognition among members of an organization why TCM has to be done at the up-stream of process and how to recognize specific target cost as an individual objective. Unless these recognition are felt in depth in the organizational members, there is high possibility of causing adverse effect or malfunction of TCM.8)

Moreover, the interaction among three aspects of TCM, namely the calculation system, the management system, and the social system, above all, how to keep compatibility with the social system is an significant point of issue.
Notes

1) One may take note on the development and expansion of product development function in Asia especially by home electrical appliance industry. Refer to "NIKKEI MECHANICAL [1996]" on this subject. For details on globalization of research and development, refer to Takahashi [1996] and Nagao=Shigegaki[1996].

2) Ansari et al [1997] is noted as a result of the consortium among manufacturing industries such as Boeing, Chrysler, Eastman Kodak, and Texas Instruments, a consulting firm, Arthur Andersen, and individual researchers.

3) The adjustment mechanism such as to dissolve conflict among members of organizations involved in product development, namely designers can be listed as one example.

4) Ito[1995]; The author is with the view that unintended conflicts can not be avoided if one neglects to prepare to resolve issues expected upon transfer of TCM to overseas, based on the awareness expressed as in the following statement "Even a system is reasonable for Japanese but one cannot say that is always acceptable by the local people who do not share the same culture as Japanese. There is no universal philosophy or Management principle applicable all over the world." Ito[1995] at page 94

5) Refer to Okano=Shimizu[1997] for the review in this perspective.

6) It is not always true to say that corporate designated department had actual leadership in transferring TCM activities in most corporations even though it may be called "corporate oriented" transfer. See Okano[1995c].

7) Euske et al (1993) reviews the role of a hinge (a coordinator) based on the result of the field survey of ten US corporations.

8) See Kobayashi(1996) for the relation between invisibility of accounting and organizational force of habit. Refer to Okano(1995c) for TCM and accounting invisibility. For details of the importance in awareness of the gap between determining and accrual of cost in Activity Based Costing(ABC), refer to Okano [1996].
References


Zeimu Keiri Kyokai.
