Client Satisfaction and New Direction of Architects’ Services

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Abstract
This paper is a report on research that is part of a strategic study for the Japan Institute of Architects (JIA) on the relationship between architects and their clients. In this paper, four research results are presented. The first is a structural modeling of the relationship between the clients’ satisfaction and architects’ services. The second is an analysis of architects classified into two groups; design-oriented architects and management-oriented architects, based on their actual services. The third is a review of the JIA’s services standard, and the fourth is an assessment of their services and strategies based on the Self-Diagnosis Sheet developed in this study.

Keywords: customer satisfaction; architect; design services; client; self-diagnosis

Introduction
This paper reports on research that is part of a strategic study for the Japan Institute of Architects (JIA) regarding architects and their clients. The background is as follows. Because of the variety of clients’ needs, there are gaps between clients' satisfaction and architects’ services. As a result, the number of clients who are not satisfied with their projects is increasing. How architects cope with this situation, is in fact one of our most important problems. The purpose of this study is to grasp the present situation and take measures to improve it. The authors carried out this study from 1995 to 1999 based on the six steps below (Furusaka, 1998a; Furusaka, 1998b; Miisho, 1999a; Miisho, 1999b and Kaneta, 1999).

Step 1: Customer satisfaction (CS) research of long-term clients.
Step 2: CS research of general clients.
Step 3: Classification of architects’ by type according to their actual services and new directions.
Step 4: Investigation measures to match architects’ services to the client’s needs.
Step 5: Proposal concerning the architects’ role in building production systems.
Step 6: Proposal of the Self-Diagnosis Sheet to assess architects’ services and their strategies.

In the American Institute of Architects (AIA) and the Royal Institute of British Architects (RIBA), investigation research to understand what clients need was carried out in order to construct the vision of the architect of the 21st century and the professional group of the future (AIA, 1993; RIBA, 1993). How satisfied the clients are towards the architect is investigated in Japan while the construction industry of Japan has changed along with the diversification of building activity (Mitsubishi, 1990). This research and its results more clearly elucidate the form of this disparity that exists between the architect's services and the clients' satisfaction.

CS of Clients
The difference in social conditions or clients’ knowledge and experience causes a disparity in the clients’ expectations and evaluations of the architects’ services. Adopting the concept of CS, the authors define the architects’ services, with which clients are satisfied or dissatisfied regarding their projects. The degree of CS is defined by the degree of the gap between the client’s expectations and objective evaluations (Fig.1). Services delivered by architects are classified as follows:

- “Expected satisfaction” services: high expectations and high evaluations.
“Unexpected satisfaction” services: low expectations and high evaluations.
“Non-satisfaction” services: low expectations and low evaluations.
“Dissatisfaction” services: high expectations and low evaluations.

Managing “unexpected satisfaction” and “dissatisfaction” services is given high priority.

The research was carried out on clients from June to September 1995, and was carried out based on a questionnaire format. The number of valid answers was 98. (Furusaka 1998a) The services were extracted from JIA’s “Standard Form of Architect’s Services” in 1992 referring to three architects’ suggestions. According to the concept of CS, “unexpected satisfaction” and “dissatisfaction” services were extracted (Fig.2).

The findings are summarized as follows:
- “Unexpected satisfaction” services are “schedule control”, “designing”, “advice for contractor selection”, “variation of design”, “construction adjustment” and “construction supervision”.
- “Dissatisfaction” services are “budget planning”, “team design/instruction”, “cost control”, “preliminary estimate”, “estimate study”, “follow up after construction”, and “maintenance planning”.
- These “dissatisfaction” services exist in cost planning at the early stage of the project, cost control during the project, in follow-up services and in maintainability design.
- These dissatisfactions can be part of what brings about the problematic gap in the relationship between clients and architects.

Actual Services of Architects and Their New Direction in the Future
As mentioned above, “dissatisfaction” services were shown. It is demanded that architects not only deliver without fail the high standard services expected by clients, but also that they deal intensively with services of which there is a low expectation, beforehand. In order to do so, it is important that they show their high quality services, that the clients are able to select architects who can deliver to their expectations, and that selected architects take the responsibility for delivering them. In this chapter, the actual conditions of delivery of services by architects are defined.

Basic Services of Architects
The research was carried out in August 1996 on architectural firms that are members of the JIA. They numbered 140. The authors define less than four member architect firms as smaller firms, and more than 100 as larger firms.

According to the JIA’s Standard, there is a distinction between basic services, which are always delivered, and additional services, which are delivered based on the needs of clients (Table 1). However, there are also basic services which are delivered secondarily. These are “team design”, “budget planning” and “schedule planning” at the early stage of the project; and “guarantee against defects” and “maintenance management” at the late stage of the project (Fig. 3). Regarding the above services, there is often a serious lack of information.

New Direction of Architects
The services in which architects have the possibility to expand their scope in the future could include the following: “study/survey” “budget planning” “outline proposal” “outline planning” “preliminary estimate” in the early stage of the project. This possibility is seen among additional services especially.

Structural Modeling of Architects’ Services and Clients’ Satisfaction
A structural modeling between the architects’ services and the clients’ satisfaction is made based on the following assumptions:
- It is possible for the clients’ satisfaction to represent the characteristics of whole firms from the research data carried out on each client concerning their project.
It is equally possible to define the clients’ direction.
It is possible to evaluate the service quality based on the number of delivering firms.

Structural modeling of the gap between the architects’ services and clients’ satisfaction
“Unexpected satisfaction” services and “dissatisfaction” services are defined in Table 2. A structural modeling of “the ratio of the firms delivering the service” is made. That is, the sum of the ratio of the firms delivering primarily and secondarily with relation to the clients’ satisfaction. The modeling is carried out according to the following hypotheses:
• JIA, as with all architectural firms, do not deliver in the same ratio for each service.
• There is a difference between services delivered primarily and secondarily. For example, if the ratios of the firms delivering two different services are the same, clients place a higher evaluation on the service that firm mainly delivers.

The results of the scatter diagram are shown in Fig. 4. The numbers in Fig. 4 are in accordance with those in Table 2. “Unexpected satisfaction” services (12, 20, 9, and 16) are plotted on a straight line in the upper-left of Fig. 4. By making a single-regression analysis about them and inserting that result, a resulting straight line is gained - the architects’ delivery line. This indicates the direction of service delivery of the JIA.

Architects’ delivery line is defined by the equation as follows:

\[ a_{\text{main}} + b_{\text{sub}} = c \]  

where \( a = 1, b = 1.07, c = 99.34 \).  
\[
0 \leq J_{\text{main}} \leq 99.34, 0 \leq J_{\text{sub}} \leq 92.84
\]

where, \( J_{\text{main}} \): the ratio of the firms delivering primarily, \( J_{\text{sub}} \): the ratio of the firms delivering secondarily.
The regression is carried out under unstable conditions. Therefore the authors give the value of “c” as +/−5 points. “Dissatisfaction” services do not meet the condition of the equation below:

\[ f = a_J\text{main} + b_J\text{sub} \quad (3) \]

where \( f \geq c \), \( a = 1 \), \( b = 1.07 \), \( c = 94.34 \)

The ratios for [23, 7, 24, 2, 1] do not meet the condition of (3). The low the number of delivering firms causes the clients’ “dissatisfaction”. In the services which met the conditions in (3), it is expected that the difference between “unexpected satisfaction” services and “dissatisfaction” services can be connected with the ratio of the firms delivering primarily or secondary. The cutoff point that classifies these services into two is the ratio, 20%. “Unexpected satisfaction” services and “dissatisfaction” services are divided at this cutoff point. To summarize so far:

- The direction of delivery services of the JIA for each firm is defined as the Architects’ delivery line according to the equations (1) and (2).

The services dealt with in the analysis are made into a structural model made up of three groups.

Group 1: (Unexpected satisfaction) Services meeting the conditions of (1) to (3).

Group 2: Dissatisfaction) Services with a high ratio of firms delivering secondary.

Group 3: (Dissatisfaction) Services missing from the number of firms delivering.

Architects Classification According to Their Own Perceptions

Architectural firms can be classified according to the difference in their degree of emphasis on design content. A structural model can then be made between each type of architectural firm and the clients’ satisfaction. Steps of the classification are as follows:

- Arrange 11 design contents characterizing firms in Table 3 from the characteristic content from design factors to management factors, and assign them standardized points.
- Seek architectural firms opinions on comparisons and ask them to assign the content an evaluation degree from 1-5.
- Based on the above data, calculate the degree of emphasis on each content in the design process using the Analytic Hierarchy Process.
- According to the consistency index, evaluate the consistency of architects’ answers. There are 66 firms who gave valid answers.
- Multiply the standard points of each content by the degree of emphasis, and then, sum the total. This value is the score for the index of design/management.
- Divide into three categories between the high scores and the low scores. The three categories are named Design-Oriented Group, Moderate...
Orientated Group, and Management-Oriented Group. Based on the above steps, the 66 firms were classified with 15 firms as Design Oriented Group, and 25 firms as Management Oriented Group. The results of the scatter diagram of the services are shown by group in Fig. 5. The characteristics of each are as follows:

**Design-oriented Group**
- The ratio of the firms delivering “unexpected satisfaction” services is high. This is especially so with nearly all the firms delivering “construction contract” “investigation” and “detail design”.
- The number of the firms delivering services with a low delivery ratio is minimal, but larger than that in the Management-oriented group. These are “team design” “budget planning”, “preliminary estimates” and “guarantee against defects”.

**Management-oriented Group**
- The ratio of the firms delivering “dissatisfaction” services is high compared with the Design-oriented group.
- The number of the additional services that meet the conditions of (2) is larger than that in the Design-oriented group. These are “team design” “budget planning”, “preliminary estimates” and “guarantee against defects”.

To summarize so far:
- In the Design-oriented group, there are differences in the number of firms according to their services. Many firms deliver the services that they have the primary capability of carrying out (good field), but on the other hand there are many services of which the ratio of the firms delivering is extremely low.
- In the Management-oriented group, there are few services of which the ratio of the firms delivering is extremely low.

The Problems of the JIA and its Architects
Analyzing the architects’ services in terms of CS, the results are as follows:
- **Basic Services**
  - All “unexpected satisfaction” services are basic services. This shows that clients’ have low expectations for them. If the JIA continues to maintain them as basic services, it is important that the client understands that the architectural firms primarily deliver the basic services and that clients then have a standard reliance and expectation regarding the firms. For the basic services of which the ratio of delivering firms does not meet the conditions, it is important to classify the architects into the Design-oriented group and the Management-oriented group, and to make the differences of basic services that are applied to each group.
- **Additional Services**
  - There are two strategies regarding the additional services for which clients’ expectations are high. First, with respect to changing the additional services which are expected to be high, to basic services, the JIA can change the perception of architects, thus multiplying the number of firms delivering. Second, the JIA can continue to maintain them as additional services, and each firm can provide a high quality of delivery.
- **New Architectural Services**
  - There is no “unexpected satisfaction” among additional services. It is important to create new additional services in high potential demand areas.
Self-Diagnosis Sheet

The purpose of the Self-Diagnosis Sheet

To ascertain the position of each firm within the firms in the JIA
To confirm the direction of service areas to provide in the future
To ascertain definite goals in specific service areas
To verify definite strategies to be developed

The Composition of the Self-Diagnosis Sheet

As has become already obvious, the service in which the client is dissatisfied is deemed necessary at the beginning of the project process and also that after its completion. This specifically refers to the services regarding cost, management of the project team, and the aftercare launched after completion. As shown above, aiming towards unifying firms design and management goals, and employing different services standards for each aim are seen to be effective.

In addition, when the firm carries out a Self-Diagnosis, it is appropriate to do so from the perspective of both the projects process in business areas provided, (Early stage, Middle stage, Latter stage), and the type of services (design services/ management services). Thus, 50 areas of service, including new services, which the client could see as worrying, have been organized into the Self-Diagnosis Sheet from 1-10 in each of the major categories of 1-5. (Table 4.)

1. Design services at the early stage (the creation of Requirement For Proposal (RFP)/ business plan/ future facility plan).

Table 4. The Structure of the Self-Diagnosis Sheet

| 1. Design services at the Early stage | 1. Requirement for proposal |
|--------------------------------------|----------------------------|
| 1. Checklist to ascertain user needs |
| 2. Strengthening of briefing/programming |
| 3. Checklist to understand laws and regulations |
| 4. Checklist to ascertain other environmental and social conditions |
| 5. An manual for the creation of Requirement For Proposal |

| 2. Business plan Future facility plan |
|--------------------------------------|
| 1. Business plan consultation |
| 2. Finance plan consultation |
| 3. Facility management consultation, including future facility plans |
| 4. Procedure book for setting building grades |
| 5. Creation of planning proposal report |

| 3. Design and draft |
|---------------------|
| 1. Documented consensus of design content with client |
| 2. Presentation technique towards client |
| 3. Documented consensus with contractor on design concept |
| 4. Strengthening of CAD in creation of drawings |
| 5. Strengthening of database of design information |

| 4. Design quality assurance |
|-----------------------------|
| 1. Enforcement within range of supervising contract |
| 2. Preserving this companies quality assurance system |
| 3. Obtain ISO9000s certification |
| 4. Take out liability insurance |
| 5. Preserve performance evaluation and report system |

| 5. Management of project team |
|--------------------------------|
| 1. Effective organization of all members necessary to a project |
| 2. Selection of other partners in design team (structure, equipment, etc.) |
| 3. Selection of contractor |
| 4. Organization and participation in design-build contract |
| 5. Providing to client an alternative project organization plan |
| 6. Preserving a general operations budget estimation system |
| 7. Draw up an operations revenue and expenditure plan |
| 8. Project finance consulting |
| 9. Presentation of cash flow incurred in project work |
| 10. Guarantee maximum price of construction to client |

| 6. Planning and control of project budgets |
|-----------------------------------------------|
| 1. Draw up a plan for cost allocation |
| 2. Ascertain a detailed construction cost of each specialist trade |
| 3. An evaluating system of the contractor's bid |
| 4. Management of cost and duration under cost-on contract |
| 5. Proposal and implementation of Value Engineering (VE) |
| 6. Providing general management on project based on the CM contract |
| 7. Standard forms of CM contracts providing diverse CM services |

| 4. Management services at the Middle stage |
|---------------------------------------------|
| 1. System for cost estimation at the conceptual design stage |
| 2. System for cost estimation at the schematic design stage |
| 3. Draw up a plan for cost allocation |
| 4. Ascertain a detailed construction cost of each specialist trade |
| 5. An evaluating system of the contractor's bid |
| 6. Contract management including separate contract representing client |
| 7. Management of cost and duration under cost-on contract |
| 8. Proposal and implementation of Value Engineering (VE) |
| 9. Providing general management on project based on the CM contract |
| 10. Standard forms of CM contracts providing diverse CM services |

| 5. Design and management services at the Latter stage |
|----------------------------------------------------------|
| 1. A preserving design manual |
| 2. Design considering Life Cycle Cost |
| 3. Maintenance consulting |
| 4. Gathering maintenance data |
| 5. Creating a maintenance plan report |
| 6. An explanation manual on operation at the delivery period |
| 7. Carry out a warranty investigation in the first or second year |
| 8. Confirming the maintenance situation after the second year |
| 9. Plan for long-term inspection of the building |
| 10. Proposal for renovations/ renewals |
2. Design services at the middle stage (design and draft/ quality assurance of design).
3. Management services at the early stage (management of project team/ planning and control of project budgets)
4. Management services at the middle stage (cost engineering, construction management)
5. Design and management services at the latter stage (maintenance/ inspection and renewals)

The selection of the 50 areas of services were carried out in cooperation with professionals following the trends of the AIA and RIBA (AIA 1993, RIBA 1993), and by referring to the author’s research (Furusaka 1998b, Miisho 1999a), and was produced so that it could be used as a guide for the firms to expand their provided areas. Also, as services at the latter stage are difficult to separate into design and management, they have been grouped as one.

The Self-Diagnosis Sheet questions the service situation in the above main categories. Each question requires an answer of “1- always providing”, “2- sometimes providing”, or “3- not providing”. For those that answered either 1 or 2, a specific comment regarding the situation is required for each. The data gathered from these five categories will be plotted on a radar-chart (Fig. 6).

Ascertaining the current situation and confirming effectiveness through the Self-Diagnosis Sheet.

Surveys using the Self-Diagnosis Sheet were carried out in 1998 and 1999 on members of the JIA. Returned sheets numbered 74, and the results were as follows:
- There is a tendency for the degree of services provided to be low in both design and management at the early stage.
- The degree of services provided was especially low in business plan/future facility plan, and the carrying out of CM services.
- Areas with a high degree of services provided were design services, and management services at the middle stage.
- This was particularly high in the area of the creation of a planning proposal report, with most firms providing them.
- There is a tendency for larger firms to provide to a wider service area (Fig. 6).
- In contrast, there is also a tendency for smaller firms to provide more to a smaller concentrated area.
- There was a tendency for smaller firms to place a particularly high weight on design and draft in design services in the middle stage. Also, firms specializing in design services at the early stage in business plan/future facility plan, design and management services at the late stage, and in inspection and renewals were also noted.
- Each firm can recognize its strategy among the JIA members. The services and categories to be enhanced in future practice can be focused on. So the effectiveness of the Self-Diagnosis Sheet therefore can be confirmed, as these tendencies appear to conform to the above.

Conclusions

In this paper, the relationship between the architects' services and the clients' satisfaction was analyzed. Then, the difference of the services among each group of the architectural firms was clarified at present. Finally, the method of self diagnosis regarding the services was proposed and the behavior of the JIA members were analyzed. The findings obtained in this analysis are as follows:
- Services found unsatisfactory by the client are those deemed necessary at the beginning of the project process and after its completion, and cost-related services.
- The direction of service delivery of the JIA and the clients' satisfaction are clarified. It is possible to classify the services, which are regarded as those of "Unexpected satisfaction" and "Dissatisfaction" by the clients, into three groups to express the characteristic of each.
- A gap is found among the expectation of the client, the JIA's standard form of architects' services and the actual delivery of the services.
- The direction of service delivery by each group of architects is obtained from the analysis of their policy. The difference among their direction is found by analyzing their vision regarding the future.
- Based on the results of the structural analysis, the review of the JIA's standard is presented including the creation of new services.
- With these results, in order for the firm to create a future strategy plan a “Sheet” was created for firms to carry out a Self-Diagnosis.
- By employing this Sheet, not only could the authors ascertain trends in services provided to JIA members, but its effectiveness was also confirmed.

Acknowledgement

This research was carried out with the help of the “Customer Satisfaction Working Group” (Chief:  

JAABE vol.1 no.1 March 2002 Shuzo Furusaka 219
Hashimoto Takayuki) established within the JIA Working Commission. The authors would like to express deepest thanks to all companies and all WG members for their cooperation in this research.

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