NEW PROJECT MANAGEMENT OF ENVIRONMENT-FRIENDLY AND CORPORATE REAL ESTATE IN NEW JAPANESE MARKET- ON THE WAY TO 4TH GENERATION PROJECT MANAGEMENT

Koji Ota

Dr. (Eng.) M.SC.(Arch. London) M.SC(Eng.) B.E.
Visiting Professor, Nippon Institute of Technology (Japan)
Director and International Committee Member of BSIJ (Japan)
International Committee Member of PMAJ (Japan)
otako@kajima.com

ABSTRACT

In this 21st century, Construction market in Asia and Pacific region starts embarking on the new era. There are several factors, but remarkable issues are the progress of making borderless economy worldwide and the rise of countries in Asia. Asia region has been focused on the world construction market in the globalisation of world economy. Moreover, the rapid advancement of IT revolution and the engineering innovation are also bringing great changes to the environment of our Asian Pacific construction industry. Current construction projects are likely to be much more complicated than in the past and are required to control by new management skills. On the other hands, babble economy in Japanese construction market has been over, many construction projects have been postponed, which requires new demands by means of value creation, life cycle, technology fusion and built environment management, in practice. In the light of the above, this paper proposes some ideas of 3K P2M, called Kaihatu (Development), Kaizen (Improvement) and Kakushin (Innovation), as "4th Generation Project management" in construction and real estate, based on case studies of environmental-friendly real estate(ERE) and corporate/public real estate called CRE/PRE.

Keywords : P2M (Project & Program management), 3KP2M, ERE (Environment friendly real estate), CRE (Corporate real estate), PRE (Public real estate)

1. INTRODUCTION

Ota (2004) says that, in the twenty one century, Japan seems to one of pioneer countries in the development of project management, in such as building and real estate projects. Prominent Engineers and designers addition to developers, manage large projects to utilize high value design, engineering and building materials in sophisticated project in real estate investment.

This paper introduces some ideas of program and project management from the point of the views of P2M (program and project management) called 4th generation project management in construction and real estate industry in Japan, which seems to be significant to study future aspects of construction and property business; 3K (Kaizen; Improvement, Kaihatsu; Development, Kakushin; Innovation)P2M.

2. P2M (PROJECT AND PROGRAM MANAGEMENT)

Traditional project management seems to be developed in 1980, which is focused to control time, quality, cost in process product. In Japan, Project Management has been studied and issued as "Project and Program management called as "P2M", supported by government sponsorship in 2000.

P2M is designed as a standard form of the Japanese-version project management and is applied to sophisticated and complicated Project. It consists of two management areas; corporate management called "program", and project management. It aims to restructure paradigm shift to generate new values and a system for method of thinking as a basic stance. The standard interpretation of project management is a system of thoughts, wisdoms, procedures and methods to steadily realize values on a specific theme with a team organization during a limited period. P2M probed into a region of program management, which had been hardly described in the world standard. This is because complex problems in today's society could be solved only by consolidating them into a program.

This P2M is involved three areas: Scheme, system and service models and 11 management elements. (Value, Strategic, Relationship, Information, Risk, Resource, Project Goal, Organization, Systems and Finance management) (Figure 1)

Figure 1: Life Cycle management in P2M

2.1 P2M in construction

Ota (2008) advocates that Figure 2 shows some tentative proposal of body of knowledge as follows. It seems to be notable that project value is planned not only by means of traditional project management but also P2M.

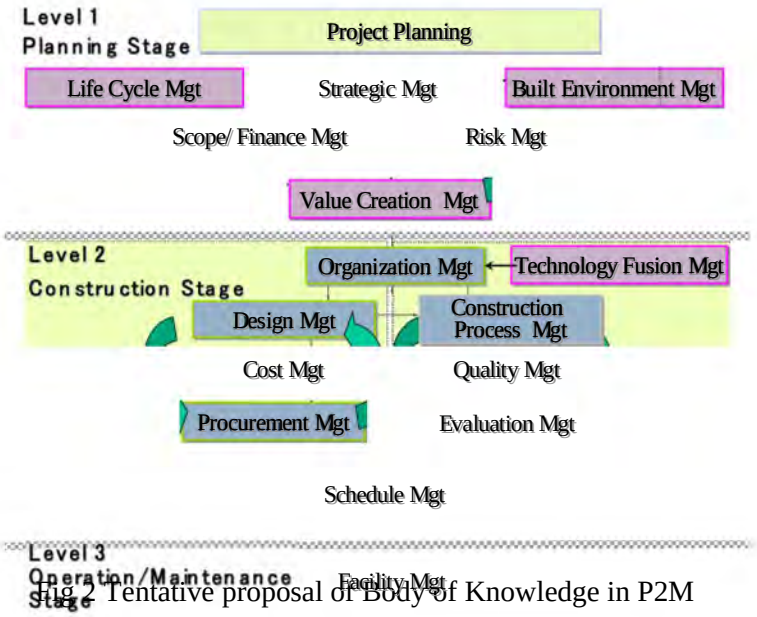

Fig 2 Tentative proposal of Body of Knowledge in P2M

Figure 2: Body of Knowledge

3. P2M IN NEW MARKET OF CONSTRUCTION INDUSTRY

Japanese construction Boom was over in 2008, and buildings and housing demands have been stagnant. In this slumped market, construction and real estate business need to move new markets, such as Environment-friendly Real-Estate(ERE), Corporate Real estate (CRE) and Public Real Estate (PRE).These new markets also need to apply new management methods such; for a example, the segments on 4th generation construction management. Currently, there are some different features of demands in construction and real estate industry:

Buildings and housing in construction industry seems to be required to take care of environment, which decrease carbon emission and control contaminated soils, etc.

Land and building utilization in Public and Private sector are reviewed by total assets value, which fixed assets are evaluated by international accounting standard.

Therefore, construction and real estate industry are integrated by overall management approaches, such as program and project management

3.1 3K P2M in the 4th generation

Professor Ohara (2006) advocates the new version after P2M, is named_Kaikaku (innovative reforms) Project Management. Kaikaku is congruent to the strategy context that enterprises have to create and to sustain changes of organizational capability complying with the external environment.

"They looked for solutions in the kaikaku (innovative reforms) of business management, organizations and technology, whilst struggling to regain their global competitiveness. Successful companies all had one thing in common".

3.2 Three Layers Composition of Kaikaku (innovative reforms)

Kaikaku is defined that it may encompass 3Ks of Kakushin (innovation), Kaihatsu (development) and kaizen (improvement) or more exactly the synergetic unity to be challenged and linked to corporate level strategy.

(1) Kaizen improvement

Kaizen improvement means the incremental and continuing efforts for improvement at work-floor level.

(2) Kaihatsu development

Kaihatsu development means challenges to acquire new knowledge and information. It is intended to take competitive advantage faster and higher than others or less with innovation.

(3) Kakushin innovation

Kakushin innovation means new combinations of knowledge and wisdom.

3.3 Some applications in construction and real estate industry

There are 4 key management elements to promote from points of views of program and project management called "P2M". For examples, this innovation in Environmental-friendly Real Estate (ERE) is adopted by some ideas from P2M, which are 4 key managements of Life cycle, Value creation, Technology fusion and Built environment. (Figure 3)

(1) Life cycle

Life cycle management seems to contribute to save energy and infrastructure expense from the construction to operation in Buildings.

(2) Built environment

Built environment is planned not from the green issues but also from Living comforts, noise, light, odour, temperature and winds, which are value up to spend life daily in living and working spaces. At the same time, Built Environmental study is not only one building devices but also neighbours building and circumstance such as open space, car park, road access, housing in town plan.

(3) Value creation
Design management is normally carried out by architect and consultants in the traditional contract. However, currently, some unique design such as commercial buildings, sometime seems not to be adequate for energy saving, maintenance and operation work to be economical. In other words, value creation management is to integrate total project value from the plan to construction, including maintenance and offer best value of real estate to clients including environmental friendliness.

(4) Technology fusion
Building engineering has been developed well last one decade in Japan and currently, those new technology and devices are combined by methods of technology fusion for the purpose of environmental friendliness, which contributes to value creation.

3.4 P2M (Program and project management) in the new market

In the new market, projects seem to be divided into four areas, where are asset evaluation and client support areas in program management group, and design and construction in project management group, although asset management is normally located after construction management (Figure 4)

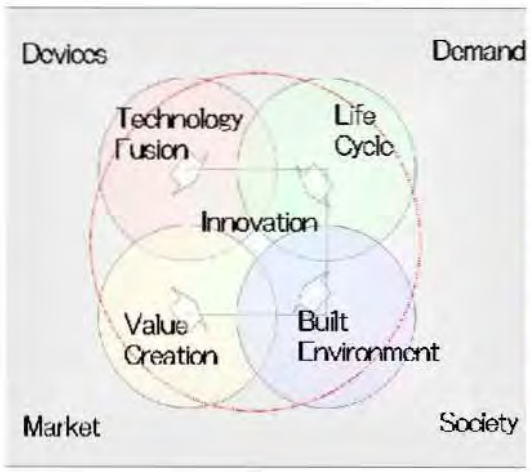

Figure 3: Four elements in 3K P2M

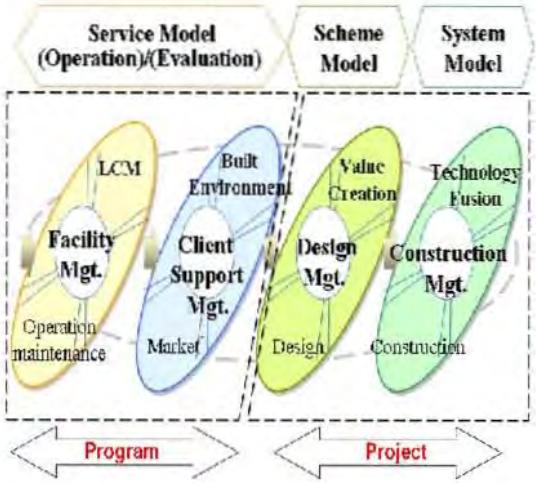

Figure 4: Three Models in P2M

3.5 A tentative proposal of 3K P2M activities

3K P2M activities are proposed at corporate management in Program management, shows in Figure 5, based on some case studies in new construction market.

(1) Development
Learning development is contributed by experience through a project by means of 5 project activities; review, plan, design, construction and operation.

(2) Improvement
A company develops several projects through work loop, which results into corporate improvement.

(3) Innovation
Innovation has been preformed successfully in construction projects reformed project values, influenced by 4 activities; life cycle, built environment, value creation and technology fusion.

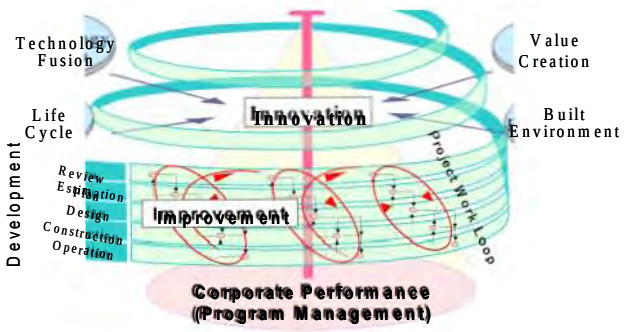

Figure 5 Innovation activities by 3K P2M

4. Environmental-friendly Real Estate (ERE)

In Japan, Japanese real estates are 2,300 trillion yen, which occupies 24% of total assets, 8,428trillion yen in 2007. Construction investment is 28 trillion yen, which seems to be one of largest stock of real estate in the world. In property market, financial crisis has been affected to real estate business and developers and contractors.

Moreover, globally, environmental issues are important in construction industry and, new and old buildings are required to adapt environment-friendly devices. In correspondence to this requirement in built environment, Japanese government promotes to more environment-friendly buildings. It is intended to promote sustainability in the built environment among developers, designers and builders when they start project conceptualisation and design, as well as during construction.

4.1 A case study in Singapore

The Green Mark Scheme of Building and Construction Authority in Singapore (BCA) was launched in January 2005 as an initiative to move Singapore's construction industry towards more environment-friendly buildings. It is intended to promote sustainability in the built environment and raise environmental awareness among developers, designers and builders when they start project conceptualisation and design, as well as during construction.

4.2. Criteria and scoring system (BCA home page)

BCA Green Mark is a green building rating system to evaluate a building for its environmental impact and performance. It is endorsed and supported by the National Environment Agency. It provides a comprehensive framework for assessing building performance and environmental friendliness. Buildings are awarded the BCA Green Mark based on five key criteria:

- Energy Efficiency
- Water Efficiency
- Site/Project Development & Management
  (Building Management & Operation for existing buildings)
- Good Indoor Environmental Quality & Environmental Protection
- Innovation

Under the Green Mark assessment system, points are awarded for incorporating environment-friendly features which are better than normal practice. The assessment identifies designs where specific targets are met. Meeting one or more indicates that the building is likely to be more environmental friendliness than buildings, where the issues have not been addressed. The total number of points obtained provides an indication of the environmental friendliness of the building design.

4.3 Benefits of Breen Mark (BCA home page)

BCA Green Mark provides a meaningful differentiation of buildings in the real estate market. It is a benchmarking scheme which incorporates internationally recognized best practices in environmental design and performance. This can have positive effect on corporate image, leasing and resale value of buildings. Benefits of BCA Green Mark include:

- Facilitate reduction in water and energy bills,
- Reduce potential environmental impact,
- Improve indoor environmental quality for a healthy and productive workplace,
- Provide clear direction for continual improvement

The total number of points obtained, provides an indication of the environmental friendliness of the building design.

4.4 A case study of building project in Singapore

This is a case study of green building, which is under construction in Singapore and has been applied for BCA green Mark. Innovation in this green building has be performed from the point of views of 4 key management elements, life cycle, built environment, value creation and technology fusion in P2M.(Figure 6)

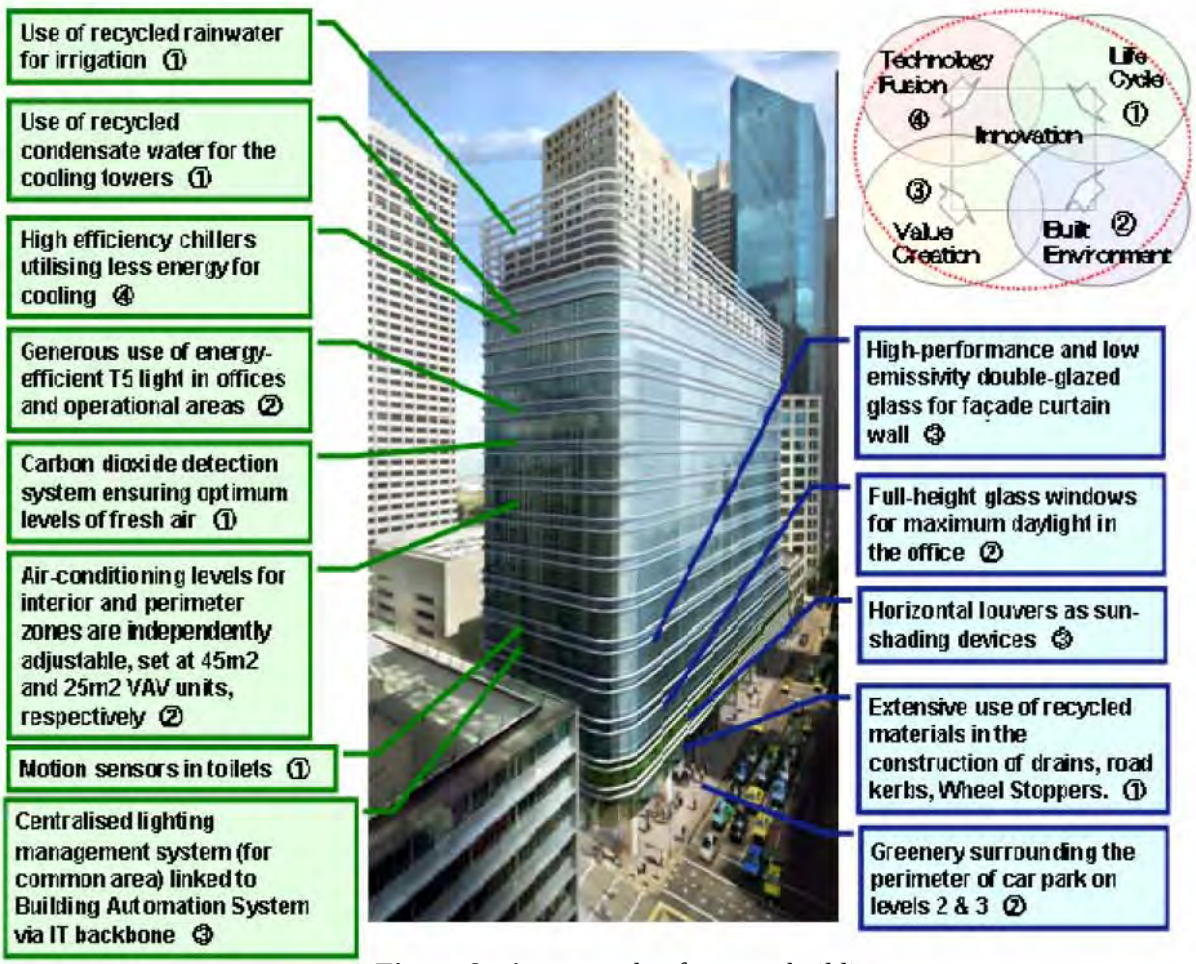

Figure 6: A case study of a green building

5. P2M IN CRE (CORPORATE REAL ESTATE) AND PRE (PUBLIC REAL ESTATE)

CRE (Corporate real estate) and PRE (Public real estate) has been promoted by Japanese Ministry of Construction. CRE is real estate owned or leased by a corporation for purpose of conducting business activities and PRE is real estate owned or leased by public sector. Japanese Ministry of Construction has been released Guidebook of CRE/CREE and encourages to expand land and building utilization. Figure7 shows CRE accounts 490 Trillion yen (US $4.9 Trillion :US 1$=100yen) and PRE estimates 454 Trillion yen (4.9 Trillion :US 1$=100yen) in Rea Estate in Japan.(2006)

5.1 CRE/PRE Strategies

CRE/PRE proceeding is as follows:

- Evaluate appropriate land prices and facilities (building and housing)
- Encourage effective use of land
- Settlement of bubble construction and land market

There seem to be three issues from the point of CRE/PRE strategy as follows:

(1) Corporate Management Issues

CRE/PRE is required to improve maximum corporate value in fixed asset.

- International Corporate accounting systems are applied, which affects domestic traditional land and property value.
- Properties need to be accounted in corporate property value, such as building earthquake solution and asbestos removal cost in buildings and contaminated soil removal cost.

(2)New land Public policy

- Land evaluation needs to be included risk
- Corporate real-estate investment needs to be controlled
- Under value and unutilized lands in corporate property, need to be properly transacted.

(3) Public Sector Issues

- Financial deficits in local authorities need to be improved
- New public accounting systems have been adopted into Local Government
- Third sector management needs to be restructured

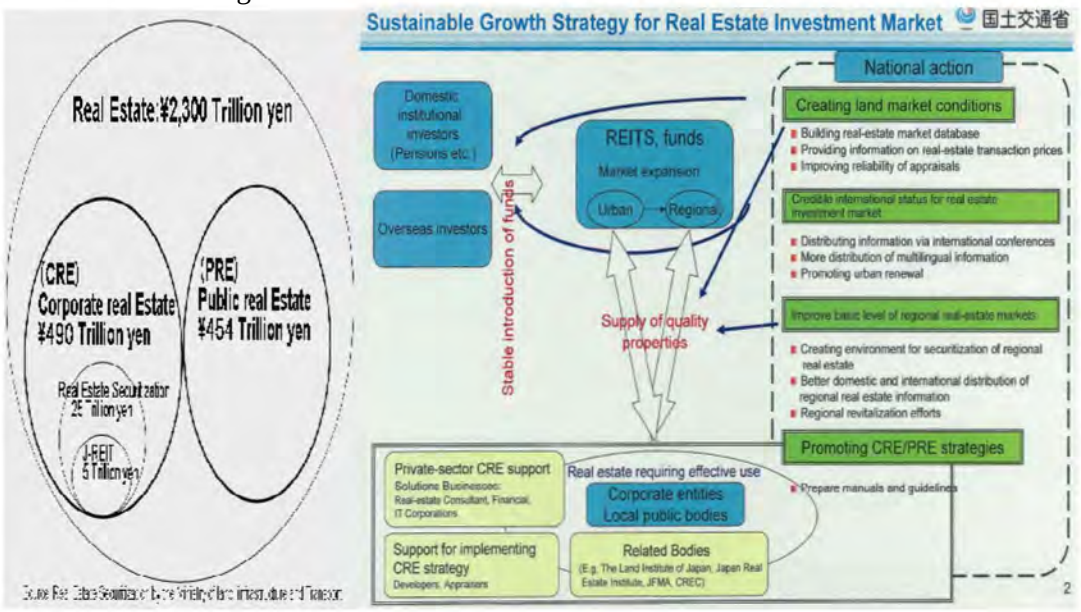

Figure 7: Asset Value and Strategy of CRE/ PRE in Investment Market of Japanese Real Estate

5.1 A case study of Public real estate management in tourist town regeneration

The current methodology of the project management, in building construction and urban development, is not likely to be sufficient for local renovation project, which requires sophisticated management and diverse business development proposals.

This case study looks at the possibility of the town regeneration by means of three perspectives, improvement, development and innovation, and proposes harmonious solution of the multipurpose problems and some ideas of the value-creation in next-generation (the forth generation) project management

PRE strategy is applied to a Hot spring town near Tokyo in Japan. This hotel guests has been decreasing about 40% last 10years and the town regeneration needs to survive the local town prospect activities. Based on some surveys, fig 8 shows that PRE strategies are established by portfolio analysis. New program and project management called "3K P2M" is adapted to three major areas as Figure 9 shown, which takes three actions, kaizen, Kaihatsu and Kakushin.

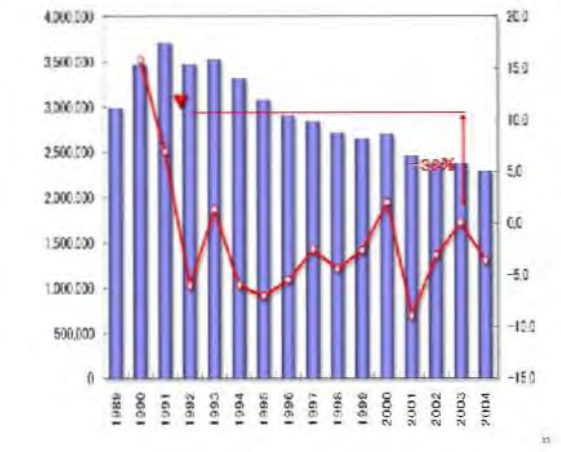

Figure 8: Transition of tourists

Figure 9: Strategy elements to be improved

5.1.1 3K P2M proposals

(1) Kaizen (Improvement): Competitive advantage faster and higher than others (Figure 10)

Japanese traditional services and old fashion hospitalities are useful to invite overseas tourists and young people as memorial experience, which are managed by value creation, life cycle and technology fusion etc.

(2) Kaihatsu (Development): The incremental and continuing efforts for improvement at work floor level. (Figure 11)

Some investments to use renovation at built environment are useful to increase visitors and tourists from overseas. In particular, renovated town and well established infrastructure are preferable for all kinds of tourists: Public Hot Spring, Relaxation open space and old houses etc.

(3) Kakushin (Innovation): A new combination of knowledge and wisdom. (Figure12)

Large investment contributes improvement and development and results into new tourist town, which expects dramatically to increase tourist and town income: Express Transportation and Traditional Facilities for creative activities etc.

5.1.2 Evaluation in the case study

Figure 13 shows expected results of town regeneration innovated by 3KP2M, which are analysed by 14 management elements. In particular, this chart shows the large effective elements which are strategic, value, organization and design management.

Figure 10: Kaizen (Improvement) Plan

Figure 11: Kaihatsu (Development) Plan

Figure 12: Kakushin (Innovation) Plan

Figure 13: A case study evaluation

6. CONCLUSION

Japanese construction and real estate industries have seemed to be matured already and new businesses in these fields require new types of professionals.

This paper suggests that "Japanese Quantity Surveyor" deepens their knowledge of new market subjects such as environment, investment and real estate. At the same time, Japanese quantity surveyor is expected to expand business areas and work with other professionals such as valuers, through cost management skills. In this aspect, P2M (Program and Project Management) seems to be helpful to manage project as one of body of knowledge. (Figure 14)

Figure 14: New P2M areas

REFERENCES

PMCC, 2001, *A Guidebook of Project & Program management,*

Ohara S, 2003, *Program & Project Management, PHP*

Ohara S, 2006, *Kaikaku P2M, Association for International P2M*

Ota K, 1990, *Appraisals of management Contractors in the British Construction Industry,* MSc Dissertation in Building Economic and Management, UCL London

Ota K 1991, *Management and evaluation system for complex redevelopment projects in large cities,* Essay, University of Cambridge.

Ota K 2006, *Construction arts in complicated commercial building,* in house research paper, Kajima

Ota K 2006, *Innovation by P2M in Construction management,* International Association of program and project management

Ota K 2007, *Value Improvement (Kaizen) of commercial building Construction in Japan,* the 11th PAQS Congress, New Zealand

Ota K 2008, *on the way to 4th Generation Construction Project management,* International Project & Program management symposium