

A Study on Design Consulting Modules: Focusing on Commercial Environment Design

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Abstract

Objectives: This paper first defines the concept of commercial environment design consulting and examines spatial design components. **Methods/Statistical Analysis:** Also, this paper reviews general design consulting processes and then analyzes the tasks and processes adopted in relatively advanced Japanese firms specializing in commercial environment design. Based on the review and analysis, this paper develops stepwise design consulting modules and defines module-specific tasks. **Findings:** The commercial environment design consulting significantly differs from the general product-oriented industrial design consulting. The present study proposes the consulting modules that enable customized consulting services, facilitate seamless communication between clients and consultants and improve project outcomes. A total of 22 modules comprise the minimal independent work units and the core process steps derived from the process-compliant approach to design consulting which is currently dealt with in academic and practical research, and from Japanese commercial environment design firms' processes and application projects, given the fact that the commercial environment design has long been developing in Japan in contrast to Korea. **Application/Improvements:** The proposed commercial environment design consulting modules are variably applicable to projects of different scales and attributes and serve as reference data for academic research and practical application.

Keywords: Commercial Environment, Consulting Process, Design Consulting, Design Consulting Module

1. Introduction

Design has been perceived as the core of current and future industrial competitiveness across the board. In the same vein, design consulting has continuously developed. In particular, a range of design components are needed to build a commercial facility. Therefore, multiple specialty companies collaborate with one another in commercial facility development projects. The convergence in design has emerged in commercial facility development projects, which is manifested in a new field called commercial environment design consulting. Likewise, the providers specializing in commercial environment design services

encompass the established MD consulting, architectural design, interior design, display and landscaping, all of which used to be provided separately. Still, the newly emerging service providers fail to define clear-cut business areas or roles of their clients or partners, resulting in frequent losses and conflicts attributable to redundancies or gaps in tasks. Furthermore, in comparison to academic research on general product-related industrial design, research on the processes and frameworks for spatial design is not sufficient. Notably, research focusing on commercial environment design from the perspective of relevant processes and frameworks is hard to find. Thus, the present study intends to develop a knowledge

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system and methodology for consulting to enhance the disciplinary competence at commercial environment design consulting and to address multiple challenges in practice. To that end, this paper first defines the concept of commercial environment design consulting and examines spatial design components. Also, this paper reviews general design consulting processes and then analyzes the tasks and processes adopted in relatively advanced Japanese firms specializing in commercial environment design. Based on the review and analysis, this paper develops stepwise design consulting modules and defines module-specific tasks.

2. What is commercial environment design consulting?

2.1 Commercial Environment Design Consulting: Definition

Commercial environment design consulting combines the concept of academic and practical design consulting with that of spatial commercial environment, which can be defined as the spatial scope addressed in a field of the construction development industry referred to as ‘commercial environment planning’ or ‘commercial environment design.’ Therefore, to define the concept of commercial environment design consulting, both consulting and design consulting need be defined. The International Labor Organization (ILO) defines consulting as ‘an independent specialty advisory service to help management and organizations to cope with management and business issues and to implement changes in the process of achieving

organizational goals.’ In that the ILO’s definition limits consulting to management consulting, a different approach should be taken to establish a comprehensive concept of consulting encompassing multiple fields. In¹ defines consulting as ‘a professional service to create a rational, scientific and systematic methodology of solving problems customers are faced with and creating competitive advantage and new business models and to apply such methodology to project management, and as a professional service provided based on professional competencies and ethical attitudes’¹. This viewpoint can open up possibilities applicable to diverse professional fields through methodological approaches to the concept of consulting. In² stated the competitiveness of consulting is based on the satisfaction of the customer for the service so only their endeavor to continuously identify the customer’s Needs and satisfy them may ensure a competitive edge². Meanwhile, relevant literature defined design consulting as follows. In³ design consulting as ‘decision-making activities of applying profound professional knowledge and techniques to analyze design issues for corporate clients and to derive solutions, and as client-oriented problem-solving activities of offering advice, tips and specific design plans’³. Table 1, by⁴ stated that design consulting requires an extensive interdisciplinary approach encompassing marketing, management and technology as well as the fulfillment of tasks relevant to products’ formative value, interface, image, culture, lifestyle and trend that need be dealt with in design, and divided the typology of design consulting into design performance, design planning and design management⁴. Lately, design consulting tends to be defined as advisory activities at the corporate management level rather than from the perspective of design development.

Table 1. Interdisciplinary field of design consulting

Design Consulting			
Design	Marketing	Management	Technology
► Formative value of products	► Identifying market success opportunity factors	► Corporate vision/mission	► Functional/physical value of products
► User interface	► Consumer survey	► Management resources/asset/organization	► Implementation of product functionality
► Corporate/product image	► Competitive benchmarking	► Corporate image/management philosophy	► Ergonomics
► Living culture/lifestyle	► User needs & wants	► Business goal/budget/strategy	► Tool design & molding
► Trend	► Brand/price/distribution/promotion strategies	► Project management technique	► Materials/processing technology/production

Yet, in this paper, it is necessary to take an approach from the perspective of design development prior to the extended design consulting in order to apply design consulting to the spatial concept of 'commercial environment'. Thus, 'commercial environment design consulting' may be defined as an area of design consulting, where they analyze the challenges in commercial facility development and suggest alternative options based on advanced professional expertise and knowledgeability, involving creative supportive activities intended to help clients to achieve their design goals through advice, tips and specific design plans.

2.2 Commercial Environment Design Consulting: Components

In⁵ defined 4 spatial design marketing strategic factors in complex commercial facilities as follows: (1) convenience and accessibility, (2) experience, (3) place, and (4) psychology⁵. In⁶ summarized and divided the contents for attraction in complex commercial facilities into hardware and software components. Hardware component is the visual and physical building space given regardless of user involvement. Software component refers to non-visual and non-physical components such as events and acts formed by using hardware components not by occupying certain space of a building⁶. In⁷ analyzed previous studies on interior design components of commercial space focusing on food and beverage space, divided interior design components into structural components (floors, walls, ceilings, windows, structures and forms), furnishing components, decorative components (materials, ornaments/props, paintings and sculptures, floor treatment and landscaping), lighting components and color components, and applied the AIDMA (Attention, Interest, Desire, Memory) law of advertisement strategies to conceptualize the scope of space in each stage⁷. In fashion retail stores that require a spatial configuration differentiated from the food and beverage space, design components are examined based on VMD, which refers to Visual Merchandising and was referred to by⁸ as a total representation strategy embodied via visual product composition⁸. Regarding the representation components of VMD,⁹ explored five retail environment ambience factors affecting store images, i.e. exterior, general interior, layout and design, decoration and human factors⁹. In¹⁰ did not limit VMD representation components to VP, PP and IP¹ but divided those components into space composition

including floors, walls, ceilings and pillars and exterior design, flow plans, colors, lighting, fixtures, properties, and POP¹⁰. Representation components of VMD vary with business categories in commercial facilities and narrower or broader perspectives. Yet, the VMD components corresponding to the spatial scope of commercial environment design consulting should maximally embrace the spatial design marketing strategic factors of commercial facilities while minimizing the overlay between architectural design and pure interior design.

3. Design Consulting and Commercial Environment Design Process

3.1 Design Consulting Process

Figure 1,¹¹ analyzed 6 essential steps of design process adopted by overseas leading design consulting firms: Start Plan → Diagnosis & Analysis → Strategy Making → Concept Plan → Design Development & Evaluation → Termination & Management¹¹.

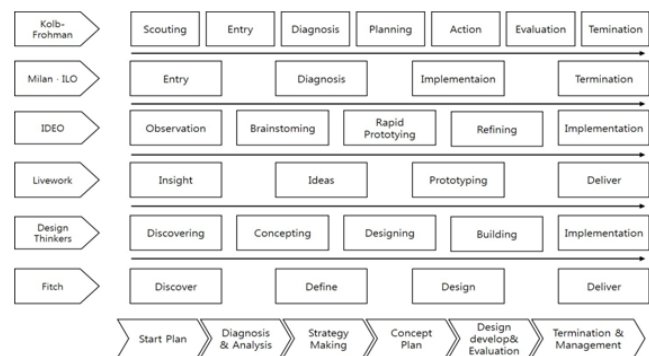


Figure 1. Essential process of a typical consulting model.

In¹² observed that global design firms dropped a simple service-based vertical problem-solving process to adopt the design consulting process of integrating methodologies needed for design development in diverse fields including market research, design strategy development and marketing and to provide strategic design services¹². Meanwhile, research on design consulting framework development by the Korea Institute of Design Promotion (KIDP) (2011) extensively analyzed the design consulting process of leading overseas design firms and proposed an integrated model of Design Innovation Consulting (DIC) process comprised of planning, diagnosis and analysis,

strategy making, concept plan, design development and evaluation and termination and management¹³.

3.2 Commercial Environment Design Firms' Work Process

As commercial environment design firms are not full-fledged in Korea, Japanese commercial environment design firms' work processes are compared here, given the similarity of corporate culture and geographical proximity between two countries. Any unique spatial and substantial framework of commercial environment design has not been established in Japan either. Yet, a few large firms that have provided overall services for developing complex commercial facilities for a long period of time are selected as below to compare their work processes.

3.2.1 Geo Akamatsu

Founded in 1968, Geo Akamatsu has now grown into a company capitalized at 2.43 million Yen, hiring 135 employees (as of April, 2015). The company has focused on urban and suburban shopping centers as well as commercial building development and operation, fulfilling more than 600 research, analysis, market research and SC evaluation projects. Geo Akamatsu's shopping center development projects consist of: 1. shopping center development 2. tenant development 3. regeneration and renewal works, and 4. tenant solution. The¹⁴ shopping center development process involving commercial environment follows the steps of Figure 2.

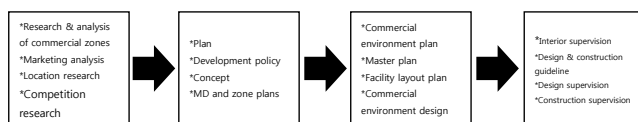


Figure 2. Shopping center development project process of GEO AKMATSU

To be specific, the commercial environment design is described in the Design & Creation following the Marketing and Planning and involves: 1. designing in the planning stage (i.e. a facility plan is set up to make images of development concepts such as a facility layout and master plan), 2. Designing communal environment of commercial facilities (i.e. an environment concept is set up from a commercial perspective between a developer and architectural design office), and 3. Designing individual stores (i.e. tenant design that enhances each tenant's

individuality and attractiveness). Here, it should be noted that the commercial environment design consulting is positioned between a developer and an architectural design office and that the communal space of commercial facilities is defined as an environment design work.

3.2.2 Tanseisha

Founded in December 1959, Tanseisha is a large enterprise capitalized at over 4 billion Yen and hiring as many as 1,118 employees. Its core business items include research, planning, design, production, construction and operation of commercial space (e.g. large commercial facilities, retail stores, food & beverage stores, multi-store development, local brand facilities, entertainment facilities etc.), public space (e.g. airports, service areas, schools, smoking space etc.), hospitality space (e.g. hotels, wedding facilities, healthcare service facilities etc.), cultural space (e.g. museums, data centers, science halls, galleries, corporate museums, environment/disaster control/children's experience facilities, eco museums etc.), business space (e.g. showrooms, offices etc.), and event space (e.g. exhibitions, PR events, expos, cultural events etc.). The commercial environment design is included in the research/planning and design. Tanseisha divides the business activities associated with the use of large commercial facilities, entertainment facilities, cultural space, office, public space, and expos and cultural events into five steps: 1. basic plan, 2. schematic design, 3. design development/construction document, 4. producing/construction, and 5. after opening. Figure 3 presents that commercial environment design may be taking place in 2 and 3 stages¹⁵.

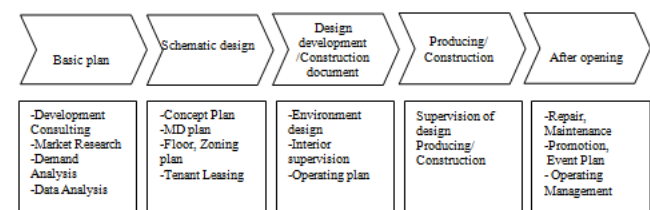


Figure 3. Tanseisha's business activities for large commercial facilities

3.2.3 Semba

Founded in 1962, SEMBA is a company capitalized at 96 million Yen, hiring 381 employees. The company engages in planning, designing, supervising and constructing commercial facilities as well as managing, operating and

promoting commercial facilities and interiors. SEMBA supports the whole process from marketing research to opening. Figure 4 displays that the commercial environment design is directly related to the Planning Design. SEMBA states that a range of design components need be comprehensively directed based on concept plans or master plans so as to design and effectively operate a commercial space¹⁶.



Figure 4. Planning design process of SEMBA.

3.3 Commercial Environment Design Work Plan : Case Analysis

This section examines the work scope and process proposed or implemented by commercial environment design consulting firms in real projects to build viable consulting modules. A Japanese commercial environment design firm abovementioned has the following internal work scope. Initial works of Table 2 can be viewed as the general MD consulting process for commercial facilities. The commercial environment design work is defined in the order of Concept Design, Schematic Design and Design Development in the field of design. The supervision of Design Development should be noted. That is, the commercial environment design consulting company produces drawings or 3D pictures up to the Schematic Design step, whereas local architectural design companies are in charge of the design development/construction documents whilst the commercial environment design company is responsible for consulting, i.e. advising and supervising the implementation of design concepts.

A work scope proposal about a Korean high-way service area by a Japanese commercial environment design firm is described as Table 3. The proposal involves extensive works and specifies the caveat that architectural drawings and facilities should be separately prepared.

4. Commercial Environment Design Consulting: Modules

Unit modules can be built by crossing the processes adopted by previous studies and global design consulting firms, i.e. Start plan → Diagnose & Analysis → Strategy development → Concept design → Design development/Evaluation → Termination & Management, with the components of the space and content scope of commercial environment design consulting, i.e. MD plan → Concept design → Schematic design → Design development. Given that the term 'Design Development' is commonly used in both the design consulting process and the commercial environment design, the 'design development' in the latter is marked as 'DD' to avoid any confusion. In the same vein, the commercial environment design process is denoted as MD → CD → SD → DD. Although the architectural design process underlying the commercial environment design process includes the Construction Document (CD), which corresponds to preparing construction drawings, the CD is done by a local design firm in practice or included in the architectural design. Therefore, it is not appropriate to include the CD as part of the roles specific to a commercial environment design consulting firm. Still, given even Construction Document is included within the scope of contract in some local cases through the cooperation with third-party design firms in local commercial environment design consulting projects, the developed consulting modules have CD placed at the inter-section between DD and termination & management.

Table 4 presents that (1) The proposed module consists of proposal preparation and presentation for winning order contracts mostly by competition between more than two firms. (2) The contract module determines the scope of a task, schedule and submission of outcomes. (3) The environment analysis module analyzes the conditions of a project site and the commercial status. (4) The demand analysis module uses a quantitative and qualitative analysis tool to analyze the market potential or scale that can be supplied. (5) The mass/flow analysis module reviews the planned commercial facility's location, form, access flow and circulation flow and proposes an improvement plan. (6) The MD concept module is the master concept of the commercial facility and defines development strategies, target customers, and positioning of status in view of business conditions or competitors. (7) The MD zoning

Table 2. Japanese G's work scope and process

Market review	Location environment analysis and evaluation	Geographical requirement Relevance to neighboring areas (location of planned site) Analysis of conditions surrounding competitive stores and existing commercial zones Development trends in neighboring commercial zones Population volume Evaluation of local/regional commercial zones
Development concept	Setting up development direction and overall concepts	Setting up commercial zones (strategic commercial zones) Setting up targets Setting up development strategies Overall concept
MD plan	Facility (business status) composition	MD zoning Setting up the scale of facilities Vertical MD composition Public zoning Floor-specific MD zoning Circulation-flow concept planning
	Setting up MD concept	Setting up MD concept Setting up MD story Setting up main MD components MD image of each zone Main zone MD image collage
Facility layout plan		Facility layout Circulation flow planning Sub-flow location configuration VOID setting Store layout plan
Commercial environment design	Concept design	Theming Design concept Design development direction Image sketch of main zones Design detail image collage Image CG of main zones
	Schematic design	Unit floor planning Ceiling plan Lighting(Base, Corner, Point) Wall design plan Shop façade plan Sign plan Communal fixture design plan Material plan
	Supervision of design development	Preparation & supervision of design development /construction document Supervision of coordination Coordination with main building construction and facility design Coordination with other construction works

Table 3. Japanese S' proposal about work scope of a Korean project

Market analysis & strategy development	Analysis of positioning of the planned site	Overview of location Analysis of commercial characteristics Analysis of consumer characteristics in neighboring areas Characterizing the location Analysis of superordinate plans
	Analysis of market volume	Analysis of commercial zone environment Analysis of commercial zone volume
	Setting up development direction and strategy	Basic direction Basic development strategy Development concept Facility concept Market strategy Positioning strategy Differentiation strategy
MD Plan	Merchandising plan Reviewing functions to be adopted	Concepts of business types/status Functional composition strategy Functional composition image MD concept Concepts of business types/status Individual concept Zoning plan per business type/status Business type/status composition image in the layout MD zoning of magnet store and specialty store
	Tenant lease plan	Write a list of matching candidates Tenant placement plan Suggest contents for public hearing Write & evaluate selection criteria
Environment design	Concept design	Suggest changes of exiting building plans Floor plan Sectional plan Access flow plan Vertical flow plan Environment design concept Direction for environment image Color management plan Environment image synthesis Image perspective (outdoor store space, main indoor space etc.)
	Schematic design	Basic building design plan Exterior plan Façade plan Environment plan Sign plan Layout plan Basic plan for main sign design Others Basic plan for street furniture Lighting plan Tenant design regulation
	Design development	Detailed environment design for main parts Basic plan for sign Layout plan Individual sign plan Graphic plan Others Street furniture selection Lighting design Adjustment with architectural design firm & construction firm

module involves vertical business-type brand composition, floor-specific zoning of business types and illustration of zoning-specific tenant brands. (8) The lay-out module reflects the proposal for alteration raised in the foregoing flow review to include main and sub flows and to prepare the store-specific lay-out. (9) The commercial environment concept module develops concepts and images to set up and implement a theme optimized for the MD concept and the construction concept design, and in some cases proposes naming options applicable to marketing. (10) The commercial environment image module collects and proposes the sketches that reify the commercial environment concepts or reference images per component. (11) The image CG module produces computer graphic images, which is one of the important outcomes to be submitted, generally in association with the exterior plan module of commercial facilities. (12) The commercial facility exterior plan module which can be considered the most important component in representing the commercial environment design is included, and the work level is determined, depending on the division of works with the architectural design field and the stages of construction approval. (13) The objet proposal module proposes installations or displays external to buildings that could represent the commercial environment concepts including symbolic sculptures or installation ornaments. (14) The floor plan concerns preparing the floor plan for communal parts of commercial facilities by reflecting the store lay-out and includes such representation components as floor patterns. (15) The ceiling plan concerns preparing the drawing of the ceiling corresponding to the upper part of the floor plan, and usually involves the lighting design, assuming a co-work with a local design firm. (16) The lighting plan proposes a guideline regarding the brightness of lightings and color temperature for overall commercial facilities including street lamps, wall light lamps and ornament lamps. (17) The store façade plan module proposes common design components including pillar surfaces but excluding the façade which is a tenant's unique design area. (18) The sign plan module prescribes the signage regulation for each tenant in a commercial facility and gives support so that integrated and harmonious signage is installed. (19) The FFE module suggests installation of benches, public furniture and information signs of way-finding systems. (20) The detailed design and construction document supervision module advises on and supervises the preparation of

detailed design and construction documents, based on which the design produced in the schematic design and the design development steps will be exactly embodied in real construction. This module together with the (22) detailed design production module is an optional module. (21) The design-related adjustment module concerns discussions on construction-related issues including the architectural design and facility design and partly modifying the design. (22) The detailed design preparation module is hardly conducted by overseas firms, whereas domestic commercial environment design consulting firms outsource the preparation of design drawings to a third party in the form of a consortium, where the modules (20) and (21) are included as a matter of course.

5. Conclusions

The commercial environment design consulting significantly differs from the general product-oriented industrial design consulting. The commercial environment design is independent of the existing MD consulting, architectural design and interior design for commercial facilities, and thus has not been conceptualized properly. Also, the work scope and process of the commercial environment design consulting have hardly been investigated. In this context, the present study proposes the consulting modules that enable customized consulting services, facilitate seamless communication between clients and consultants and improve project outcomes. The proposed modules comprise the minimal independent work units and the core process steps derived from the process-compliant approach to design consulting which is currently dealt with in academic and practical research, and from Japanese commercial environment design firms' processes and application projects, given the fact that the commercial environment design has long been developing in Japan in contrast to Korea. The proposed general-purpose stepwise commercial environment design consulting modules can be selectively combined with one another to meet the nature of a project or a client's needs. Also, the specification of each unit module can be expanded or reduced in compliance with business scales so as to provide customized consulting services that match corporate conditions and levels. Significantly, the present study contributes to literature that could be used as reference data for developing any practical manuals about fulfilling the commercial environment design consulting.

Table 4. Commercial environment design consulting module

	MD	CD	SD	DD
Start Plan (1)Proposal Proposal preparation Presentation				
(2)Contract Sign a contract				
Diagnosis & Analysis	(3)Environment analysis Development environment analysis Commercial zone analysis Market environment analysis Benchmarking including competitive stores (4)Demand analysis Market potential /Demand analysis (5)Mass/flow review Building mass and layout plan review Vertical/horizontal flow review			
Strategy Making	(6)MD Concept MD Concept Targeting Position (7)MD zoning Vertical MD MD zoning plan Tenant brand example			
Concept Plan	(8)Lay-out flow planning(main, sub) Lay-out preparation	(10)Commercial environment image Image sketch Image collage	(12) Commercial facilities Exterior plan	
		(11) Image CG	(13)Objet proposal Symbolic sculpture, Objet image	
Design development & Evaluation			(14) Floor plan (including floor design)	
			(15) Ceiling plan (including lighting design)	
			(16) Lighting plan (basic, corner, point)	
			(17) Store façade plan	
			(18) Sign plan	
			(19)FFE Furniture, Fixture and Equipment plan	
Termination & Management				(20) Supervision of detailed design & construction documents
				(21)Design-related adjustment Building design adjustment Facility design adjustment Other construction-related adjustment
				(22)Detailed design preparation Construction document

Future studies need to approach the less explained space design process and framework to promote academic and practical research on commercial environment design consulting, which is less known in Korea, to list spatial and physical commercial environment design components to help derive successful outcomes from each step of projects, and to specify the detailed structure of each module so as to help develop practical manuals and performance guidelines that designers and consultants may apply in practice.

6. Acknowledgment

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7. References

1. Theory and practice of consulting [Internet]. [cited 2011 Jun 12]. Available from: <http://caaab.org/wordpress/wp-content/uploads/2012/04/CAAAB-Consulting-Research-Report.pdf>.
2. Park SH, Gwon HJ, You YY. A study on the characteristics of quality elements of consulting service (using AHP Model). *Indian Journal of Science and Technology*. 2016; 9(26):1–7.
3. Jeong GW. Design management. Ahn Graphics; Seoul; 1999. p. 436.
4. Kim HB. A study on the establishment of design consulting framework for the strategic development of new product. *Bulletin of Korean Society of Basic Design and Art*. 2002; 3(2):281–92.
5. Kim JH, Kim JY. A study of relativity between the space design marketing strategy factors of urban entertainment center and brand effect. *Journal of the Korean Society of Design Culture*. 2015; 21(1):152–4.
6. Yoo Ik, Choi SH. A study on entertainment contents elements of urban entertainment centers for attraction of consumers. *Journal of the architectural institute of Korea planning and design*. 2011; 27(1):42.
7. Cho SH, Lee MJ. Interior design elements in commercial space with marketing perspective: Based on the spaces for eating and drinking. *Korean Institute of Interior Design*. 2010; 12(3): 206–8.
8. Ahn GH, Hwang SJ, Jeong CJ. Fashion marketing revised 3rd (edn)., Suhak Publishing Co: Seoul; 2011.
9. Turley LW, Chebat, JC. Linking retail strategy, atmospheric design and shopping behavior. *Journal of Marketing Management*. 2002; 18(1–2):125–44.
10. Lee JY, Jung AY, Kong SK. A study on types of strategies of brand communication and analysis of a case of fashion flagship store applied with VMD expressional elements. *Korean Institute of Interior Design Journal*. 2013; 22(2):167–75.
11. Kim HB, Ju YJ. A study on the building of design consulting module system based on the design consulting tasks and process. *Archives of Design Research*. 2012; 25(1):262–64.
12. Suk KJ, Roh SW. A study on the development of design consulting process based on the demands of korean design consultancy. *Korea Design Knowledge Journal*. 2012; 21(2012):138–49.
13. Korea institute of design promotion [Internet]. [cited 2016]. Available from: <http://www.kidp.or.kr>.
14. Geo Akamatsu Co., Ltd [Internet]. [cited 2016]. Available from: <http://www.geo-akamatsu.co.jp>.
15. Tankyo Corporation [Internet]. [cited 2016]. Available from: <http://www.tanseisha.co.jp>.
16. Semba [Internet]. [cited 2016]. Available from: <http://www.semba1008.co.jp>.