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Status Quo and Revitalization Strategy of Design Industry in Busan

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ABSTRACT

This paper aims to propose ways to revitalize the design industry of Busan by way of analyzing the status of the design and its related industries .We also propose the systematic ways to improve the employment and strengthen the global competitiveness of the design industry of Busan. The basic year of this study is 2010, and the goal years are 2011, 20115 and 2020, each of which represents the short-term, mid-term and long-term goal period, respectively. The content of our study includes the status of the design and its related industries and ways to revitalize them. Our study focuses on ways to revitalize the design industry through the particularization of the design industry in Busan and to strengthen the global competitiveness of Busan's strategic industries. For this, we have read up on the design and its related industries, surveyed the previous research work, and conducted the statistical analysis of design fields for the years of 2006-2008. In order to provide the revitalization plan in a more efficient way, we have also gathered the opinions of the experts through FGI (focus group interview).

Keywords*: Design Industry,*

1. PREPARATION OF PAPERS

The design industry is a knowledge and information-integrating industry that leads the informatization of industry and industrialization of information by directly supporting the post-Fordism of small and medium-sized enterprises. The vitalization of the design industry provides the basis for creating the idiosyncratic community and boosting the development of the community. That is, fashioning the entire local community, pursuing the creativity of the local environment, establishing the productive local culture and internationalizing the local businesses-all of these can be achieved by the development of the design industry.

The design industry contributes to leading the regional development and securing the industrial competitiveness. The source of the competitiveness of small and medium-sized businesses in the field of footwear and textile in advanced countries such as Italy, France, UK and Japan lies in the high-quality/high-price strategy and the post-Fordism. Also countries like Japan, Taiwan and Singapore are trying to enhance their competitive edge through the design industry based on the governments' long-term development policy and positive support. Thus, it is needed to develop post-Fordist and higher value-added products through the long-term support of the design industry.

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The design industry in Korea lags way behind that of advanced countries. In addition to that, being concentrated in the capital area, the country is experiencing a great imbalance between the capital and regional design industry. Since the design industry has a great economic ripple effect on Busan's industrial structure and competitiveness, it is urgently required to encourage the development of the design industry of Busan. Accordingly, by presenting the distinctive development policies for the design industry, it is needed to establish the connecting system with the higher valued-added and promising industries such as visaul entertainment, IT, fashion, toursim/convention and cultural industry. In particular, Nurturing the design industry, which is an urban higher value-added industry, is both an essential prerequisite for enhancing Busan's industrial structure and securing the international competitiveness of the strategic industry and the practical support for small and medium-sized enterprises.

The domestic design industry is currently concentrated in the capital area, and the regional disparity (including Busan) is getting more and more noticeable. As of 2008, the number of the design companies in the capital area is 1,917 in Seoul, 350 in the Kyunggi province, and 36 in Inchon, which forms 76.8% (2,303) of the entire domestic companies. The concentration rate is 77.0% in 2005, 76.0% in 2006, 75.0% in 2007, and 76.8% in 2008, revealing the great regional disparity.

The domestic design industry is concentrated in the capital area, and the industrial gap between the capital area and local areas including Busan is ever growing. The rate of the concentration in the capital area marked 77% in 2005, 76% in

2006, and 75% in 2007, which shows the modest decrease of the concentration. However, it slightly increased again in 2009.[1] As of 2008, the number of the companies in the Busan area specializing in design is 193, which comprises 123 in Busan, 23 in Ulsan, and 47 in the Kyungnam province. This corresponds to 6.4% of the companies in the entire country, and 8.4% of the companies in the capital area. [2]

The industrial structure of Busan is hardware-oriented toward industries such as machinery, automobile, shipbuilding, and steel, which demands the balanced development of software fields including the design industry. To respond to the current converging trend of software, service and informatization areas, the change in the industrial structure of Busan is urgently required to strengthen the global competitiveness of its strategic industries, based on the revitalization of the design industry. To this end, it is necessary to analyze the current status of the design and its related industries in Busan to make their revitalization strategies.

This paper aims to propose ways to vitalize design industry of Busan by way of analyzing the status of the design and its related industries. We also propose the systematic ways to improve the employment and strengthen the global competitiveness of the design industry of Busan. The basic year of this study is 2010, and the goal years are 2011, 2015 and 2020, each of which represents the short-term, mid-term and long-term goal period, respectively. The spatial area of this study is limited to the design and related industries in Busan. The content of our study includes the status of the design and its related industries and ways to revitalize them. Our study focuses on ways to revitalize the design industry through the particularization of the design industry of Busan and to strengthen the global competitiveness of Busan's strategic industries. For this, we read up on the design and its related industries, surveyed the previous research work, and conducted the statistical analysis of design fields for the years of 2006-2008. In order to provide the vitalization plan in a more efficient way, we have also gathered the opinions of the experts through FGI (focus group interview).

The expected efficacy of this study includes: (1) to propose the systematic revitalization strategies of the design industry of Busan and make the design and related industries higher value-added, thus strengthening their global competitiveness; (2) to provide the footing for establishing the industrialization and informatization of the design industry, and building the hardware/software support system, and improving the employment of design-related human resources; (3) to lead the global competitiveness of the design and related industries in Busan by strengthening the design and technological competitiveness of small and medium-sized enterprises in Busan, Ulsan and Kyungnam province; (4) to establish the academic-industrial cooperation of Busan-based design industry by building the database of design fields and connecting them with domestic/foreign design industries through the networking of technology, information, expert human resources; (5) to establish the nurturing and supporting system of design-related human resources by analyzing and forecasting the supply-demand balance of the design industry.

2. STATUS ANALYSIS OF DESIGN AND RELATED INDUSTRIES IN BUSAN

2.1 Status of Design and Related Industries in Busan

2.1.1 Status of Design Industry in the Dong Nam Rerion

As shown in Table 1, the concentration of the design industry in the capital area and the gap between the capital area and the regional sectors are ever growing, as of 2003. The concentration of the design fields based on the number of the companies in the capital area forms 76.8% in design, 64.1% in advertisement, 76.2% in publishing, and 64.7 in presswork, respectively. As of 2008, the concentration of employees in the design fields forms 86% in design, 79.9% in advertisement, 79.6% in publishing, and 75 in presswork, which shows that the concentration weight of employees is higher than that of the number of companies. The weight of the number of the companies in this region forms only 6.4 in design, 11.61% in advertisement, 5.7% in publishing, and 11.9% in presswork, respectively. As of 2008, the concentration of employees in the design fields in the Dong Nam Region also poorly forms 4.4% in design, 7.1% in advertisement, 5.7% in publishing, and 8.4 in presswork. This statistics reveals that the footing of the design industry in the Dong Nam Region is very weak, and thus the establishment of the support system for the regional design and related industries is urgently needed.

Table 1. Status of Design Industry in the Dong Nam Region [Source: The Census of the Domestic Enterprises, Statistics Korea, 2009]

Field		# of Companies		# of Workers	
			%		%
Specialized Design	Capital	2,303	76.8	14,922	86.0
	Southeast	193	6.4	770	4.4
Advertisement	Capital	4,115	64.1	28,192	79.9
	Southeast	746	11.6	2,511	7.1
Publishing	Capital	3,242	76.2	44,431	79.6
	Southeast	244	5.7	2,453	4.4
Presswork	Capital	10,804	64.7	53,811	75.0
	Southeast	1,995	11.9	6,052	8.4

2.1.2 Status of Regional Design Industries

In table 2, the status of the specialized design companies by regional groups is given. As of 2008, the number of the specialized design companies is 2,997, and the number of their employees, 17,348. During the period of 2006-2008, the number of the design companies increased by 605, and the number of the employees decrease by 6,315. The number of the design companies in Seoul is 1,917, which is 64% of the entire domestic design companies. During 2006-2008, the number of the design companies increased by 390, forming the 0.2% rate of increase.

Table 2. Status of Design Industry by Regional Groups
[Source: The Census of the Domestic Design Companies by Regional Groups, Statistics Korea, 2008]

Region		# of Companies						# of Employees					
		2006		2007		2008		2006		2007		2008	
			%		%		%		%		%		%
Nationwide		2,392	100.0	2,563	100.0	2,997	100.0	11,033	100.0	12,940	100.0	17,348	100.0
Capital	Total	1,819	76.0	1,923	75.0	2,303	76.8	9,055	82.1	10,692	82.6	14,922	86.0
	Seoul	1,527	63.8	1,575	61.5	1,917	64.0	7,939	72.0	9,133	70.6	13,118	75.6
	Inchon	40	1.7	37	1.4	36	1.2	113	1.0	96	0.7	129	0.7
	Kyunggi	252	10.5	311	12.1	350	11.7	1,003	9.1	1,463	11.3	1,675	9.7
South east	Total	178	7.4	203	7.9	193	6.4	717	6.5	785	6.1	770	4.4
	Busan	117	4.9	138	5.4	123	4.1	527	4.8	603	4.7	551	3.2
	Ulsan	25	1.0	21	0.8	23	0.8	61	0.6	64	0.5	63	0.4
	Kyungnam	36	1.5	44	1.7	47	1.6	129	1.2	118	0.9	156	0.9

The number of design companies (KSIC 732) in the capital area is 2,303 (76.8%) comprising 1,917 in Seoul, 350 in Kyunggi province, and 36 in Inchon. The concentration of the design industry in the capital area is 76% in 2006, 75% in 2007 and 76.8% in 2008. The concentration has been slightly dropping since 2008. The number of design companies in Busan is 117 in 2006 (4.9%), 138 in 2007 (5.4%) and 123 (4.1%), increasing by 64 since 2006. As of 2008, the total number of design companies in the Dong Nam Region is 193, which is only 6.4% of the design companies in the entire country, and 8.4% of the design companies in the capital area. The number of employees in design is 13,118 (75.6%) in Seoul, followed by 1,675 (11.3%) in Kyunggi and 551 (3.2%) in Busan. The number of employees in design in the capital area has been continuously increasing from 9,055 (82.1%) in 2006 to 10,692 (82.6%) in 2007 and to 14,922 (86%). The number of employees in the Southeast area has been decreasing to 717 (6.6%) in 2006, 785 (6.6%) in 2007 and 770 (4.4%) in 2008, which is only 5.2% of the employees in the capital area.

2.1.3 Status of Regional Advertisement Business

Table 3 shows that the number of domestic advertising companies (KSIC 713) is 5,906 in 2006, 5,967 in 2007 and 6,418 in 2008, which shows the increase by 512 during 2006-2008. The number of employees in advertisement business is 30,881 in 2006, 32,305 in 2007 and 35,280 in 2008, which shows the increase by 4,399 during 2006-2008. As of 2008, the number of advertising companies in Seoul is 3,342 (52.1%) and it increased by 202 during 2006-2008. The number of advertising companies in the capital area is 4,115, forming the concentration weight of 64.1%.

The number of advertising companies in Busan is 479 (8.1%) in 2006, 490 (8%) in 2007 and 463 (7.2%) in 2008, decreasing by 16 during 2006-2008. As of 2008, the number of advertising companies in the Dong Nam Region is 746 (463 in Busan, 60 in Ulsan and 223 in Kyungnam province), which is 11.6% of the advertising companies in the entire country, and 18.1% of those in the capital area. During 2006-2008, the number of advertising companies in the Dong Nam Region decreased by 10, revealing the weakness of its industrial footing.

Table 3. Status of Advertisement Business by Regional Groups
[Source: The Census of the Domestic Design Companies by Regional Groups, Statistics Korea, 2008]

Region		# of Companies						# of Employees					
		2006		2007		2008		2006		2007		2008	
			%		%		%		%		%		%
Nationwide		5,906	100.0	5,967	100.0	6,418	100.0	30,881	100.0	32,305	100.0	35,280	100.0
Capital	Total	3,757	63.6	3,809	63.8	4,115	64.1	24,312	78.7	25,595	79.2	28,192	79.9
	Seoul	3,140	53.2	3,110	52.1	3,342	52.1	22,300	72.2	23,144	71.6	25,584	72.5
	Inchon	116	2.0	134	2.2	147	2.3	372	1.2	418	1.3	472	1.3
	Kyunggi	501	8.5	565	9.5	626	9.8	1,640	5.3	2,033	6.3	2,136	6.1
South east	Total	756	12.8	750	12.6	746	11.6	2,301	7.5	2,446	7.6	2,511	7.1
	Busan	479	8.1	480	8.0	463	7.2	1,492	4.8	1,640	5.1	1,726	4.9
	Ulsan	61	1.0	61	1.0	60	0.9	187	0.6	190	0.6	181	0.5
	Kyungnam	216	3.7	209	3.5	223	3.5	622	2.0	616	1.9	604	1.7

As of 2008, the number of employees in advertisement business in Seoul is 25,584, forming 72.5% of that in the entire country. Following it are 2,136 (6.1%) in Kyunggi, 1,726 (4.9%) in Busan and 604 (1.7%) in Kyungnam. The number of employees in the capital area is 24,312 (78.7%) in 2006, 25,595 (79.2%) in 2007, and 28,192 (79.9%) in 2008, increasing by 3,880 during 2006-2008. The number of employees in the nDong Nam Region is 2,301 (7.4%) in 2006, 2,446 (7.6%) in 2007 and 2,511 (7.1%), increasing 210 during 2006-2008. As of 2008, the number of employees in the Dong Nam Region forms only 8.9% of that in the capital area. The number of employees in Busan is 1,492 (4.8%) in 2006, 1,640 (5.1%) in 2007 and 1,726 (4.9%) in 2008, showing a slight increasing trend. Though the number of employees in Busan increased by 234, it forms only 6.7% of that in Seoul, deepening the problem of the out-of-the-area spill of employees in Busan.

2.1.4 Status of Regional Publishing Business

Shown in Table 4 is the status of publishing business (KSIC 581) during 2006-2008.

Table 4. Status of Publishing Business by Regional Groups
[Source: The Census of the Domestic Design Companies by Regional Groups, Statistics Korea, 2008]

Region		# of Companies						# of Employees					
		2006		2007		2008		2006		2007		2008	
			%		%		%		%		%		%
Nationwide		4,734	100.0	4,433	100.0	4,253	100.0	62,702	100.0	58,478	100.0	55,789	100.0
Capital	Total	3,653	77.2	3,382	76.3	3,242	76.2	49,308	78.6	46,069	78.8	44,431	79.6
	Seoul	3,007	63.5	2,750	62.0	2,640	62.1	40,044	63.9	37,704	64.5	36,912	66.2
	Inchon	70	1.5	62	1.4	58	1.4	823	1.3	835	1.4	752	1.3
	Kyunggi	576	12.2	570	12.9	544	12.8	8,441	13.5	7,530	12.9	6,767	12.1
South east	Total	258	5.4	260	5.9	244	5.7	2,791	4.5	2,671	4.6	2,453	4.4
	Busan	129	2.7	118	2.7	103	2.4	1,282	2.0	1,074	1.8	1,033	1.9
	Ulsan	23	0.5	22	0.5	20	0.5	374	0.6	402	0.7	335	0.6
	Kyungnam	106	2.2	120	2.7	121	2.8	1,135	1.8	1,195	2.0	1,085	1.9

The number of the domestic publishing companies is 4,734 in 2006, 4,433 in 2007 and 4,253 in 2008, showing the decrease by 481 during 2006-2008. As of 2008, the number of presswork companies by regional groups is 2,640 (62.1%) in Seoul, 544 (12.8%) in Kyunggi province, 121 (2.8%) in Kyungnam province and 103 (2.4%) in Busan. As of 2008, publishing business is concentrated in the capital area, forming 76.2% with 3,242 companies, and the number of the companies decreased by 411 during 2006-2008. The Dong Nam Region has 244 companies (5.7%), forming 7.5% of the companies in the capital area. With the nationwide decreasing trend of publishing business, the number of employees dropped to 62,702 in 2006, 58,478 in 2007 and 55,789 in 2008, decreasing by 6,913 during the three years. As of 2008, the number of employees in Seoul is 36,912 (66.2%), followed by 6,767 in Kyunggi, 1,085 (1.9%) in Kyungnam and 1,033 (1.9%). Employees in publishing business are heavily concentrated in the capital area, forming 79.6% with 44,431, which is higher than the concentration of companies. The Dong Nam Region forms only 4.4% (2,453) of the number of employees in the entire country and 5.5% of that in the capital area.

2.1.5 Status of Regional Presswork Business

Presented in Table 5 are the number of companies and employees in presswork business (KSIC 181) by regional groups in 2006-2008. As of 2008, the number of domestic presswork companies is 16,709 and the number of employees is 71,716. The number of the presswork companies decreased by 895 during 2006-2008. The number of the presswork companies in Seoul is 7,347 (44%), followed by Kyunggi (2,939, 17.6%), Busan (1,143, 6.8%), Kyungnam (652, 39%) and Inchon (518, 3.1%).

Table 5. Status of Presswork Business by Regional Groups
[Source: The Census of the Domestic Design Companies by Regional Groups, Statistics Korea, 2008]

Region		# of Companies						# of Employees					
		2006		2007		2008		2006		2007		2008	
			%		%		%		%		%		%
Nationwide		17,604	100.0	17,654	100.0	16,709	100.0	67,417	100.0	73,972	100.0	71,716	100.0
Capital	Total	11,351	64.5	11,447	64.8	10,804	64.7	49,578	73.5	55,158	74.6	53,811	75.0
	Seoul	7,957	45.2	7,866	44.6	7,347	44.0	30,541	45.3	32,628	44.1	32,071	44.7
	Inchon	536	3.0	552	3.1	518	3.1	1,956	2.9	2,137	2.9	2,007	2.8
	Kyunggi	2,858	16.2	3,029	17.2	2,939	17.6	17,081	25.3	20,393	27.6	19,733	27.5
South east	Total	2,129	12.1	2,132	12.1	1,995	11.9	6,362	9.4	6,549	8.9	6,052	8.4
	Busan	1,239	7.0	1,256	7.1	1,143	6.8	3,679	5.5	3,728	5.0	3,391	4.7
	Ulsan	212	1.2	212	1.2	200	1.2	560	0.8	606	0.8	545	0.8
	Kyungnam	678	3.9	664	3.8	652	3.9	2,123	3.1	2,215	3.0	2,116	3.0

Though presswork companies are concentrated in the capital area with 10,804 (64.7%), the concentration is relatively lower than that of publishing business. The number of the presswork companies in the Dong Nam Region is 1,995, forming 11.9% of that of the entire country and 18.5% of that of the capital area. The number of employees in the domestic presswork business is 67,417 in 2006, 73,972 in 2007 and 71,716 in 2008, increasing by 4,299 during 2006-2008. As of 2008, the number of the employees is 32,071 (44.7%), followed by 19,733 (27.5%) in Kyunggi, 3,391 (4.7%) in Busan, 2,116 (3%) in Kyungnam and 2,007 (2.8%) in Inchon.

Employees in the presswork business are concentrated in the capital area with 53,811, forming 75% of the entire country. On the other hand, Employees in the Dong Nam Region (6,052) forms only 8.4% of the entire country and 11.2% of the capital area. The gap between regional groups also is a bit smaller, compared to the publishing business. The number of employees increased by 1,530 in Seoul, 2,652 in Kyunggi and 51 in Inchon, and decreased by 288 in Busan, 15 in Ulsan and 7 in Kyungnam.

2.1.6 Analysis of Design Industry by Regional Groups

Table 6 shows the results of LQ (Location Quotient) analysis conducted to compare and analyze the particularization of the design industry in terms of regional groups. The LQ analysis is the basic approach to analyzing the particularization of an industry in a specific region by comparing the regional and domestic structure of the industry. If LQ > 1, the industry under analysis can be classified as ‘particularized,’ if LQ = 1, ‘self-sufficient,’ and if LQ < 1, ‘non-basic’. In particular, the LQ analysis provides the macroscopic analytical methodology for grasping the concentration of a specific industry in a region and the structural change of growing/declining industry in terms of the time-series comparison and analysis of LQ.

Table 6. Local Particularization of Design Industry by Region Groups (LQ: Number of Employees in 2008)
[Source: Analyzed from Table 2-5]

Region	Design		Advertisement		Publishing		Presswork	
	2007	2008	2007	2008	2007	2008	2007	2008
Seoul	1.44	1.46	1.27	1.09	0.85	0.85	0.998	0.998
Inchon	0.28	0.29	0.42	0.53	1.81	1.64	1.016	1.014
Kyunggi	0.74	0.65	0.53	0.57	1.29	1.41	0.992	0.994
Busan	0.88	0.64	0.84	1.19	0.99	0.88	1.016	1.014
Ulsan	0.42	0.32	0.51	0.68	1.57	1.56	1.017	1.015
Kyungnam	0.27	0.28	0.66	0.85	1.81	2.01	1.017	1.015

Table 6 shows that based on the number of employees as of 2008, the regions having the design industry as their particularized industry (*i.e.*, LQ > 1) are the following: Seoul (1.46) in design, Busan (1.19) and Seoul (1.09) in advertisement, Kyungnam (2.01), Inchon (1.64), Ulsan (1.56) and Kyunggi (1.41) in publishing, and Ulsan/Kyungnam (1.015), Busan/Inchon (1.014) in presswork.

As of 2008, the local particularization in the design industry of Busan is 1.19 in advertisement, 1.014 in presswork, 0.64 in design and 0.88 in publishing, which calls for particularizing and nurturing the design industry. In the case of Ulsan, the quotient forms 1.56 in publishing, 1.015 in presswork, and 0.68 in design. Considering the number of companies and employees, the footing of the design industry in Ulsan turned out to be somewhat weak. In Kyungnam, publishing business marks the highest quotient of 2.01, whereas the quotient of presswork (1.015), advertisement (0.32) and design (0.28) was very low.

3. FGI FOR REVITALIZING DESIGN INDUSTRY OF BUSAN

Table 7 shows the results of FGI (Focus Group Interview) conducted for 10 Busan-based design experts in order to establish the revitalization strategy of the design industry of Busan. This FGI has been conducted targeting the six sectors: (1) conditions and problems of the design industry in Busan, (2) long-term vision of the design industry, (3) directions and support system for particularization of the design industry, (4) difficulties in nurturing human resources, (5) problems in academic-industrial cooperation and the remedial steps, and (6) improvement of employment

Table 7. Results of Expert FGI for Revitalizing Design Industry in Busan

Item	Major Issues	Policy Directions
Conditions and problems of the design industry in Busan	✧ Weakness and pettiness of Design Industry in Busan ✧ Weakness in connectedness between design industry in Busan and its local industry ✧ Oversupply of design-related human resources ✧ Shortage of professionals with hands-on experience and CEOs' lack of awareness in design	✧ Promoting investment in infrastructure of design industry ✧ Strengthening the connectedness between design companies and designers ✧ Nurturing human resources in preparation for future growth industry ✧ Particularizing design education
Long-term vision of the design industry	✧ Center of R&D, technology and information of domestic design industry ✧ Base for nurturing specialized human resources of domestic design industry ✧ Leading the cluster of next-generation growth industry of Busan	✧ Establishing long-term plan for developing design industry of Busan
Directions and support system for particularization of the design industry	✧ Creation of design industry cluster in Busan - Strengthening infrastructure and competitiveness of design industry, R&D support for small and medium-sized enterprises ✧ Reinforcing the support system of design-supporting organizations ✧ Connecting design industry with convergence industry and cultural identity of Busan	✧ Creation of design industry cluster in Busan ✧ Reinforcing the support system for design industry in Busan
Difficulties in nurturing human resources	✧ Oversupply of human resources due to procrustean educational programs ✧ Financial and systemic difficulty with inviting domestic/foreign design experts ✧ Employment-oriented evaluation of business value	✧ Particularization and differentiation of design education ✧ Expanding support for inviting design experts ✧ Complementing efficiency of nurturing design human resources
Problems in academic-industrial cooperation and remedial steps for nurturing human resources	✧ Procrustean support system and policy for academic-industrial coopration ✧ Pettiness of design companies and weakness in responding to growth industry	✧ Networking designers in Busan - Differentiated programs - Elite programs ✧ Nurturing professional human resources for convergence industry ✧ Training programs for Busan-based companies
Revitalization Strategy for Design Industry in Busan	✧ Long-term planning for developing convergence-oriented design industry in Busan ✧ Establishment of differentiated educational system - Differentiation between undergraduate and graduate school - Rejection conformity of educational system ✧ Customized educational programs responding to industrial environment and demand	✧ Extensive support for knowledge-based industry ✧ Specialization and differentiation in terms of choose-and-concentrate strategy ✧ Establishment of Busan Design School ✧ Strengthening customized training programs for local companies

3.2 Analytical Results of FGI for Revitalizing Design Industry of Busan

3.2.1 Conditions and Problems of Design Industry in Busan

From the results of FGI analysis, the design industry in Busan appears to have serious pettiness in its scale and weakness in industrial infrastructure. Also, the connectedness between the major industries (automobile, shipbuilding, machinery, steel, and chemistry) and the design industry is loose, and CEOs of design companies lack an awareness of the importance of design. Due to these problems, the design industry in Busan has been suffering from the supplying imbalance of design human resources, which is caused by failing to provide pertinent professionals for the related industries. The lack of professional human resources with hands-on experience has led to the weakness of competitiveness and the drain of design human resources to the capital area. To revitalize the design industry in Busan, the expansion of investment in establishing the infrastructure for local design industry, the strengthening of connectedness between companies and designers, the nurturing of design human resources for future growth industries and the particularization of design educational system are urgently needed.

3.2.2 Long-term Vision of Design Industry in Busan

As the long-term vision of the design industry in Busan, we propose to make it the centric place of R&D, technology and information of the domestic design industry. It is also needed to establish the leading role of clustering Busan's next-generation growth industries. To implement this vision, the long-term and detailed propulsive planning of developing Busan's design industry should be established.

3.2.3 Directions and Support Plans for Particularizing Design Industry in Busan

In order to particularize the design industry in Busan, the footing of the industry should be strengthened and integrated by clustering design-related industries in Busan. The supporting organizations also need to lead the revitalization of the design industry by strengthening their support system for small and medium-sized enterprises. In the long run, the strategy for differentiating Busan's design industry from that of the capital area should be pursued by actively responding to convergence industry and connecting with the local cultural identity.

4. STRATEGY FOR REVITALIZING DESIGN INDUSTRY IN BUSAN

4.1 Difficulties with Nurturing Design Human Resources

It is pointed out from the results of FGI analysis on nurturing of design human resources that their specialization and differentiation is low due to the oversupply of human resources driven by the procrustean education programs. In spite of the necessity of inviting domestic and foreign design experts for effective nurturing of human resources, the shortage of financial and systemic difficulties makes it hard to accomplish. In evaluating business value of programs for nurturing human resources, inefficiencies remain because they are uniformly evaluated on the basis of employment showings. To remedy the difficulties in nurturing proper human resources, we propose that educational programs for design be specialized and differentiated, the support for inviting design experts be expanded, and complement the inefficiency of procrustean nurturing of human resources.

4.2 Strategy of Revitalizing Academic-Industrial Cooperative System for Nurturing Design Human Resources

The main problem with the academic-industrial cooperative system in nurturing human resources for the design industry in Busan is the procrustean support system and regulations. The pettiness of design companies in Busan also makes it difficult to properly respond to future growth industries. The lack of CEOs and executives' awareness of the importance of design makes the situation worse. Therefore, to establish the effective academic-industrial cooperative system for nurturing human resources and strengthen the competitiveness of design human resources in Busan, it seems necessary to create the 'Designers' Network of Busan', which can serve as the design consultant and supporter for small and medium-sized design companies. In so doing, a university professor or renowned design expert can be appointed as CDO (Chief Design Officer) of the Network. The vitalization of the network would help to improve the employment of human resources in new design fields, contributing to solving youth unemployment.

4.3 Revitalization Strategy for Design Industry in Busan

For the revitalization of the design industry in Busan, long-term converging plans on developing the major and design industries need to be established. Furthermore, the educational system should be specialized and differentiated in terms of particularizing programs of undergraduate and graduate school by rejecting the procrustean training system. If the proper educational programs to properly respond to the demand and environment of the design industry in Busan can be prepared, it will serve to improve the employment problem in terms of increasing design human resources that the industry is looking for.

The establishment of the 'Design School of Busan' for nurturing, training and retraining design human resources is also needed to support the progressive development of the design industry and improve the employment of the design industry. The school is to establish the global design training system by inviting world-class design experts and the international exchange system by introducing overseas training programs, trend-learning courses and cyber-university of design, etc. It also needs to respond to the demand for multimedia contents such as 3D games and special visual effects by nurturing digital content designers. It would be desirable to provide trainees with degree-earning course, expert course and CEO course.

To boost the competitiveness of the design industry and improve designers' capability, the dualistic strategy to establish the support system for designers' starting a venture business and to expand the base for preparatory design human resources is required.

5. CONCLUDING REMARKS

The design companies in Busan possess developmental capability in various design fields. However, they have a relatively low level of awareness due to the overall pettiness, low-leveled technologies and weakness in developmental ability of design human resources, and thus their regional design market is being eaten by large companies in Seoul. Nontheless, Busan's design industry community are not responding systematically to this problem, degenerating into subcontractors of the large companies in Seoul.

The design companies in Busan have been experiencing difficulties in securing their management footing and competitiveness with the combination of various problems including the weakness of management, finance, sales and human resources, and the inability to access private financing and policy loans. Thus, in order to secure the domestic/international competitiveness and the autogenous power, it is necessary to set up the basic direction for nurturing the design industry of Busan distinctive from that of the capital area. In this regard, it is very urgent to establish and push ahead a long-term planning for strengthening the competitiveness and maximizing the ripple effect through the particularization of the design industry of Busan. To properly respond to the current industrial trend in focusing on software, services, information and convergence, the task of enhancing the industrial structure of Busan and strengthening the global competitiveness based on the revitalization of Busan's design industry is really coming to the front.

The industrial structure of the Dong Nam Region leans too much towards machinery, automobile, shipbuilding, steel and heavy chemistry, and thus the balanced development of software sectors including design is needed. To properly respond to the current converging trend of software, service and informatization areas, the change in the industrial structure of Busan is urgently required to strengthen the global competitiveness of its strategic industries, based on the revitalization of the design industry.

As of 2008, the domestic design industry is concentrated in the capital area, and the industrial gap between the capital area and local areas is ever growing. The concentration of the design fields based on the number of the companies in the capital area forms 76.8% in design, 64.1% in advertisement, 76.2% in publishing, and 64.7 in presswork, respectively.

The concentration of employees in the design fields forms 86% in design, 79.9% in advertisement, 79.6% in publishing, and 75 in presswork, which shows that the concentration weight of employees is higher than that of the number of companies. The footing of the design industry in the Dong Nam Region is very weak, and as of 2008, the weight of the number of the companies in this region forms only 6.4 in design, 11.61% in advertisement, 5.7% in publishing, and 11.9% in presswork, respectively.

As of 2008, the concentration of employees in the design fields in the Dong Nam Region also poorly forms 4.4% in design, 7.1% in advertisement, 5.7% in publishing, and 8.4 in presswork. This statistics reveals that the footing of the design industry in the Dong Nam Region is very weak, and thus the establishment of the support system for the regional design and related industries is urgently needed.

As of 2008, the local particularization in the design industry of Busan is 1.19 in advertisement, 1.014 in presswork, 0.64 in design and 0.88 in publishing, which calls for particularizing and nurturing the design industry. In the case of Ulsan, the quotient forms 1.56 in publishing, 1.015 in presswork, and 0.68 in design. Considering the number of companies and employees, the footing of the design industry in Ulsan turned out to be somewhat weak. In Kyungnam, publishing business marks the highest quotient of 2.01, whereas the quotient of presswork (1.015), advertisement (0.32) and design (0.28) was very low.

As the long-term vision of the design industry in Busan, we have proposed to make it the centric place of R&D, technology and information of the domestic design industry. It is also needed to establish the leading role of clustering Busan’s next-generation growth industries. To implement this vision, the long-term and detailed propulsive planning of developing Busan’s design industry should be established.

For the particularization of the design industry in Busan, the footing of the industry should be strengthened and integrated by clustering design-related industries in Busan. The supporting organizations also need to lead the revitalization of the design industry by strengthening their support system for small and medium-sized enterprises.

To remedy the difficulties in nurturing proper human resources, we have proposed that educational programs for design be specialized and differentiated, the support for inviting design experts be expanded, and complement the inefficiency of procrustean nurturing of human resources.

In order to establish the effective academic-industrial cooperative system for nurturing human resources and strengthen the competitiveness of design human resources in Busan, it seems necessary to create the ‘Designers’ Network of Busan’, which can serve as the design consultant and supporter for small and medium-sized design companies. In so doing, a university professor or renowned design expert can be appointed as CDO (Chief Design Officer) of the Network. The vitalization of the network would help to improve the employment of human resources in new design fields, contributing to solving youth unemployment.

For the revitalization of the design industry in Busan, long-term converging plans on developing the major and design industries need to be established. Furthermore, the educational system should be specialized and differentiated in terms of particularizing programs of undergraduate and graduate school by rejecting the procrustean training system. Meanwhile, the establishment of the ‘Design School of Busan’ for nurturing, training and retraining design human resources is also needed to support the progressive development of the design industry and improve the employment of the design industry. The school is to establish the global design training system by inviting world-class design experts and the international exchange system by introducing overseas training programs, trend-learning courses and cyber-university of design, etc. It also needs to respond to the demand for multimedia contents such as 3D games and special visual effects by nurturing digital content designers.

To boost the competitiveness of the design industry and improve designers’ capability, the dualistic strategy to establish the support system for designers’ starting a venture business and to expand the base for preparatory design human resources is required.

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