CHINESE LANDSCAPE DESIGNER SATISFACTION SURVEY AND ANALYSIS

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ABSTRACT: *With the rapid rise of landscape design in China, a lot of management problems gradually appeared and restricted the sustainable development of this industry. This paper made descriptive analysis of the status quo of China's landscape industry and landscape human resources. A representative large-scale landscape design company in South China is selected to make satisfaction survey and put forward suggestions in the improvement in terms of human resource management, so as to provide reference to the same industry in China.*

KEYWORDS: Designer Satisfaction; Landscape Design; Landscape Design Company

INTRODUCTION

China's landscape design industry has risen rapidly since 2000, which has been deep into urban construction, real estate development, ecological protection, national construction, international affairs and various social activities (Heng Wu, 2012). In 2004, China State Council Learning Commission added "Landscape Design Professional Degree", which boosted the development of this industry at an amazing speed. However, at the same time of development, there are a number of problems such as unclear professional standards, great difference of employees, low management technology level and backward management.

Employee satisfaction is an important indicator of measuring the success of corporate human management, which can help managers to more accurately find the business strengths and weaknesses, thus targeting at the deep or potential management problems of enterprises. Based on the particularity of landscape Design Company and its employee constitution as well as the status quo of few employee satisfaction surveys, this paper selected a large landscape design company in Shenzhen, a city enjoying the reputation of "capital of design", for employee satisfaction survey and analysis. The research conclusions can provide basis for the improvement of the company management decisions; meanwhile, it has a certain inspiration and reference for the management and development of other landscape design companies.

STATUS QUO ANALYSIS OF CHINESE LANDSCAPE DESIGN INDUSTRY

Status quo of Chinese landscape design industry

The scientific status of landscape education: Martha Fahardo, chairman of International Federation of Landscape Architects (IFLA), said, "Landscape architect is a future career." The bright prospect of this industry consists in the special status of landscape architecture as the design and regulation of landscape as the media (Kongjian Yu, 2006). Today, the status of Chinese Landscape Architecture as a first-level discipline has been established. Landscape garden has transformed from the past affiliation of architecture-planning-garden into the parallel relationship with architecture and planning (Heng Wu, 2012). The enhancement of landscape education science also brings new opportunities to the fast, deep and fine development of landscape industry as well as the optimization of landscape career.

Unclear professional standards: In 2004, landscape designer was included in Chinese National Occupational Dictionary, consisting of landscape designer, assistant landscape designer, landscape designer and senior landscape designer. However, the actual qualification has not completely gotten rid of the traditional landscaping specialty. The vocational training and examination system are in disorder; no mandatory practice requirements have been formed. Compared with the international market, China's landscape industry is still far from forming a series of rigorous practitioner system from education, training, registration and continuing education. Although it has broad social basis and some outstanding talents, the social management systems like industry association have not been systematic yet, and there is still a big gap to meet the need of social division pillar. Instead, a messy job market has been formed (Zhijie Shi& Jianbo Li, 2009).

Great practitioner differences: Although the number of landscape design practitioners continues to surge, but there are great differences among them. In term of distribution, most of them are in the few first tier cities including Beijing, Shanghai, Shenzhen, Tianjin and Chongqing in China. With Shanghai as the boundary, the north and south landscape design companies vary greatly in design content and strengths. In the perspective of professional quality, most practitioners are majors of gardening, planning, environment art and even building, and less than 30% have the landscape professional background (Daniel, J.K, 2001).

Backward management of landscape design companies: China's landscape industry is dominated by small and medium enterprises, which mostly follow the traditional conservative mode of human resource management. Differences in the quality of employees result in the proportional imbalance of business management staff and technical designers. Incomplete remuneration and benefit systems cause frequent staff turnover and adjustment problems, consequently, it is difficult to form a fixed management model, and is lack of a long-term, global development goals and strategic planning.

On the whole, China's landscape design industry is in an early stage of development, with large space for development. How to break the bottleneck of development to change the current situation of big talent tap, chaotic job market and imperfect management is the key point to improve landscape design companies to be in line with international market. The staff satisfaction can be used as a port of internal research to find the existing or potential problems.

Chinese landscape design company human resource analysis

Unique designer style thinking: Unlike the general work activities to solve "well-defined problems", focus on the characteristics of problems, thus working out the solutions, what handled by designers is "not clearly defined problems", which needs to focus on the solutions, and the definition and solution is a mutual influencing and concurrence relationship. Design behavior is constantly set and changed in a vague interaction and feedback process. Different from induction or deductive argument, design cognition is an inductive, productive and coordinative way of thinking (Nigel Cross, 2013), which is similar to a thinking connection formed between design problems and solutions, also known as creative thinking (Fred Rusen, 2003). It is different from other non-design industries, creative management and cultivation of the platform suitable for the design's way of thinking is a unique challenge faced by landscape design companies.

Analysis of different forms of education: The leading force of Chinese landscape industry is mostly the first batch of returnees. Relying on good overseas landscape education, they mainly serve the higher education and scientific research, and the number is small. The backbone is mostly the second generation of returnees, who mainly serve as business leadership, focusing on design guidance, team leading and application of domestic and overseas ideas (Xiangping Zhou, 2012). The professionals trained in the initial stage of landscape education by Chinese colleges and universities since 2000 have been the main force of the current landscape industry. However, due to the lack of long-term project practice and unevenness of various education forms, there are big deviations in the expertise. In short, the Chinese landscape education started late, with big differences in levels and ways. The leading force of this industry is highly favored by landscape design companies, while there are big skill gaps.

Skill difference analysis: From interdisciplinary perspective, in China, landscape architecture is related to the following disciplines: agriculture, forestry, science, medicine, engineering, art, history, information, management, sociology, etc. (Binyi, Liu, 2009). Because of different institutions and histories, the knowledge system and core course cannot achieve unified configuration, and the priorities and tendencies of the institutions are not the same. The resulting specialty deviation and incomprehensive professional skills also directly affected the practitioners' career development and imbalance of company talent configuration.

Responsibilities analysis: The vast majority of landscape design businesses implement general manager responsible management, the program director is the landscape representatives of the

program early stage, technical director is the service representative in the late design period, whereas the creative design often serve a number of positions including planner, landscape architect, construction designer and even other professional and technical titles (Xiangping Zhou, 2012). Although ordinary designers and design assistants can take into account of the co-ordination of origin design, due to the deviation of expertise, there are a lot of design originality abortion and design changes in the materialized metastasis. In addition, the imperfect control, weak market, inadequate ratio of full-time technical personnel for landscape designers, architects, planners, bound by economic interests, market built by the mode of forced delivery and service, extensive efficiency and effectiveness, one person for a few posts have been common phenomena in Chinese design companies (Andy. Stockman, 2006). In short, Chinese landscape design education started late, the mixed domestic education levels and knowledge systems cause a number of problems such as practitioner professional bias, incomprehensive skills and post personnel ratio imbalance. Moreover, compared with practitioners of other industries, the particularity of designer group thinking and working mode shall arouse the attention of managers and researchers. Therefore, the current traditional management models and rare studies are problems to be solved urgently.

METHODOLOGY

By summarizing the constituent elements of employ satisfaction proposed by domestic and overseas experts and scholars, the aspects with highest coincidence are work itself, work environment, work organization and remuneration. Before designing the questionnaire, the author of this paper made a non-structured interview of 5 employees in A landscape design company (1 HR director, 1 project director, 1 designer and 2 design assistants) and summarized the company had the following problems in the management process: performance appraisal, division of task, work hours and overtime system, design communication. In summary, this paper put forward 5 I-dimensional variables, namely, work, work support, work return, work group and corporate image, 22 corresponding II -dimensional variables and 1 overall satisfaction question. The questionnaire option used a five-hierarchical Likert scale, from 5 scores (strongly agree) to 1 score (strongly disagree).

Hypothesis

In the early literature review, the author found the employee satisfaction had significant differences due to the changes of different groups, so the paper proposed the following assumptions:

Hypothesis 1: Satisfactions of employees of different genders varied significantly.

Hypothesis 2: Satisfactions of employees at different ages varied significantly.

Hypothesis 3: Satisfactions of employees of different education backgrounds varied significantly.

Hypothesis 4: Satisfactions of employees of different tenures varied significantly.

Hypothesis5: Satisfactions of employees of different departments varied significantly.

RESULTS

Beilingyuan landscape design company (Hereinafter referred to as the B landscape design company) selected by this paper is located in Shenzhen, China's city of design, with a powerful influence and representation in South China. Currently, the company has more than 200 employees; the main business includes landscape design, urban planning, water conservation, architectural design, urban design, etc. It has landscape architecture engineering design grade A, water conservation grade A, urban planning formulation grade A, building industry (architectural engineering) grade B and other qualifications. This questionnaire is for all employees of B landscape Design Company. 163 questionnaires were distributed, 133 were recovered, with the recovery rate of 81.6%, including 120 valid questionnaires, accounting for 90.2% of the recovery questionnaire.

Personal information frequency analysis

Gender distribution: 64 male employees, accounting for 53.3% of valid samples; 56 female employees, accounting for 46.7% of valid samples.

Age distribution: Employees aging from 26 to 35 are the main group of the company, accounting for more than half of the valid samples; these aging from 18 to 20 accounted for 20%, these aging from 36 to 45accounted for 18.3%; and these above 46 accounted for 7.5%.

Education background distribution: 20 junior college graduates (16.7%); 66 undergraduates (55%); 31 masters (25.8%), 3Ph. D. and above (2.5%)

Serving time distribution: 12 with the serving time less than six months, accounting for 10% of valid samples; 39 with the serving time of 6 months to 1 year, accounting for 32.5% of valid samples; 56 with the serving time of 1-3 years, accounting for 46.7% of valid samples; and 13 with the serving time of more than 3 years, accounting for 10.8% of valid samples.

Department distribution: 39 in landscape design branch, accounting for 32.5% of valid samples; 32 in ecology and urban planning branch, accounting for 26.7% of valid samples; 24 in architectural planning and design branch, accounting for 20% of valid samples; 25 in other departments, accounting for 20.8% of valid samples.

Factor analysis

1) Validity and reliability analysis

The test results are shown in Table 1, the KMO value is 0.812; the Bartlett sphericity approximate chi-square is 1097.041(df=231, Sig=0.000<0.05), suitable for factor analysis.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.812
Bartlett's Test of Sphericity	Approx. Chi-Square	1097.041
	df	231
	Sig.	.000

In addition, this survey used Cronbach's Alpha reliability coefficient for reliability analysis. It made calculation of 22 questions by SPSS19.0. The results showed the value of Cronbach's Alpha was 0.883, greater than 0.8, indicating the questionnaire reliability is ideal.

2) Factor analysis

This study used the principal component analysis to verify the questionnaire structure validity. See Table 2 for the principle component analysis results. Select 5 factors with the eigenvalue greater than 1, which can explain the variance of 61.481%.

Table 2. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.684	30.383	30.383	6.684	30.383	30.383	3.369	15.313	15.313
2	2.243	10.194	40.577	2.243	10.194	40.577	3.041	13.821	29.134
3	1.840	8.365	48.942	1.840	8.365	48.942	2.678	12.175	41.309
4	1.542	7.011	55.952	1.542	7.011	55.952	2.471	11.232	52.542
5	1.216	5.528	61.481	1.216	5.528	61.481	1.967	8.939	61.481
6	.969	4.407	65.887						
7	.921	4.188	70.075						
8	.749	3.404	73.479						
9	.702	3.190	76.669						
10	.684	3.110	79.779						
11	.585	2.660	82.439						
12	.538	2.447	84.886						
13	.477	2.170	87.056						
14	.466	2.119	89.175						
15	.433	1.969	91.144						
16	.379	1.722	92.865						
17	.351	1.597	94.462						
18	.317	1.442	95.904						
19	.281	1.275	97.179						
20	.254	1.156	98.335						
21	.205	.931	99.266						
22	.162	.734	100.000						
Extraction Method: Principal Component Analysis.									

Analysis of means of I dimensional variables and II dimensional variables

See Figure 1 for the employee satisfaction mean value of five I dimensional variables. The mean value work return is the lowest, followed by the mean value of the work itself. The mean values of employee satisfaction of 22 II dimensional variables are shown in Figure 2. Employees of B company gave the highest scores of the completion of necessary work facilities, overall work atmosphere and mutual cooperation, which were 3.35, 3.37 and 3.37; the lowest scores went to the company's overtime system, working hours and promotion conditions, 2.62, 2.78 and 2.79 respectively. The above results are consistent with the status quo of landscape industry at the early stage and the analysis of landscape company human resources status quo, which are also in line with the expectations of B landscape design company interviews.
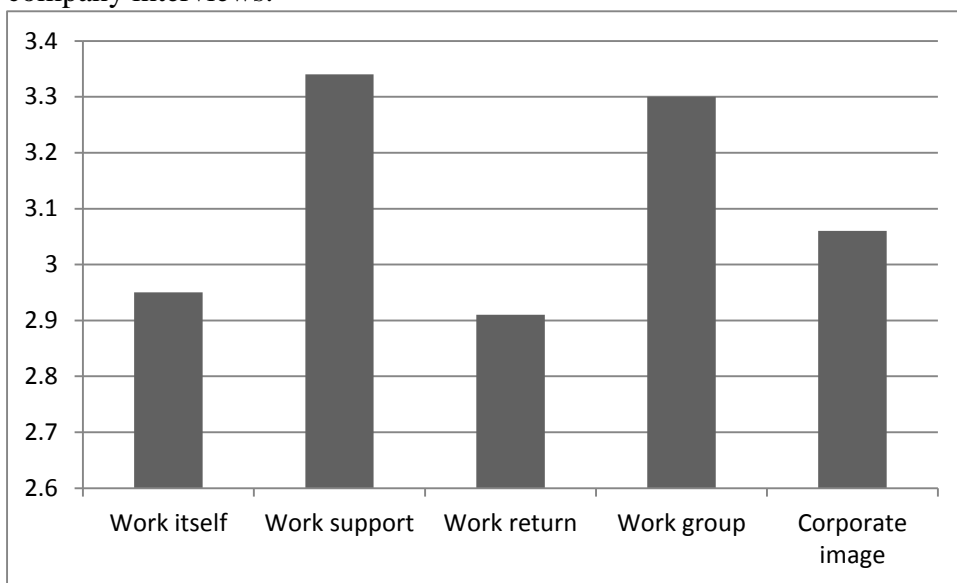

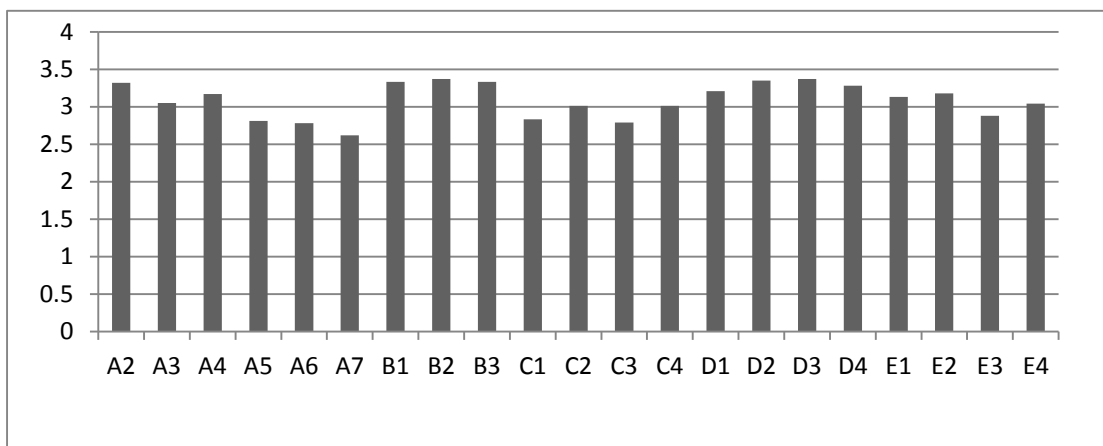**Figure 1.Employee Satisfaction Mean Values of I dimensional variables**

Figure 2.   Employee Satisfaction Mean Values of II dimensional variables

Difference Test

The study assumed that personal attributes would affect employee satisfaction; therefore, independent sample T test and one-way analysis of variance were used to make analysis of different personal attributes variables and five dependent variables and overall satisfaction. The analysis results of each part were summarized into Table 3. The results showed that employees of B Company produced significant differences in terms of age, education background, tenures; but no significant difference in gender groups.

Table 3. Difference Test Summaries

Classification	Work itself	Work support	Work return	Work group	Corporate image	Overall satisfaction
Gender						
Male	2.98	3.39	2.88	3.31	3.09	2.98
Female	2.91	3.29	2.94	3.29	3.02	3.18
F value	1.08	1.47	0.35	0.31	2.23	0.24
P value	0.30	0.23	0.56	0.58	0.14	0.63
t value	0.53	0.69	-0.46	0.09	0.70	-0.94
P value	0.59	0.49	0.64	0.92	0.49	0.35
Age						
18-25	3.41	3.4	3.06	3.53	3.14	3.79
26-35	2.57	3.26	2.72	3.13	2.95	2.66
36-45	3.21	3.64	3.22	3.45	3.26	3.32
Above 46	3.83	3.11	3.17	3.56	3.17	3.56
F value	18.99	1.64	4.21	2.35	1.94	8.39
P value	0.00	0.19	0.07	0.08	0.13	0.00
Education background						
Junior college graduate	2.96	3.49	3.07	3.41	3.25	3.00
Undergraduate	2.93	3.25	2.85	3.25	3.00	3.00
Master	3.28	3.57	3.01	3.40	3.12	3.46
Ph.D. and above	2.26	3.18	2.80	3.20	2.95	2.73
F value	1.76	0.88	4.56	3.91	1.29	2.62
P value	0.16	0.46	0.05	0.01	0.28	0.05
Tenure						
Below 6 months	3.43	3.78	3.31	3.60	3.04	4.00
6 months-1 year	3.40	3.45	3.38	3.53	3.22	3.33
1-3 years	2.58	3.27	2.56	3.10	2.98	2.75
Above 3 years	2.74	2.97	2.63	3.19	2.90	2.85
F value	14.51	2.72	18.46	3.12	1.67	5.75

P value	0.00	0.05	0.00	0.03	0.18	0.00
Working department						
Landscape design branch	3.07	3.99	3.11	3.58	3.30	3.26
Ecology and urban and rural planning branch	3.14	3.52	2.84	3.33	3.16	3.41
Architecture planning and design branch	2.82	2.56	2.78	3.01	2.73	2.50
Others	2.63	2.87	2.81	3.12	2.87	2.92
F value	2.83	42.324	1.63	3.30	6.69	3,76
P value	0.04	0.00	0.19	0.02	0.00	0.01

1) Satisfaction comparison of employees at different ages

The satisfaction of employees aging from 26 to 35 (2.66) landscape design company is significantly lower than the satisfactions of other ages (as shown in Figure 3). Significant differences exist in the cognition of different ages in work itself, work return and overall satisfaction. By the perceptual differences of post multiple comparable groups by further use of Scheffe approach, we found that in the work itself, the employees had great different significance, of which the satisfaction of employees aging from 26-35 was significantly lower than employees at other ages. In terms of work return, the satisfaction of employees aging from 26-35 was significantly lower than that of employees aging from 36 to 45. On the overall satisfaction, employees aging from 26-35 were significantly lower than employees at other ages. Therefore, the hypothesis of "satisfactions of employees at different ages varied significantly" proposed of this paper is valid.

Employees aging from 26-35 are the mainstay of B landscape design company, accounting for most of the employee proportion. However, most of them are at the foundation work level, bearing a lot of work tasks and working hours, but enjoy less working return, so their satisfaction shall arouse enough attraction of the company leadership.
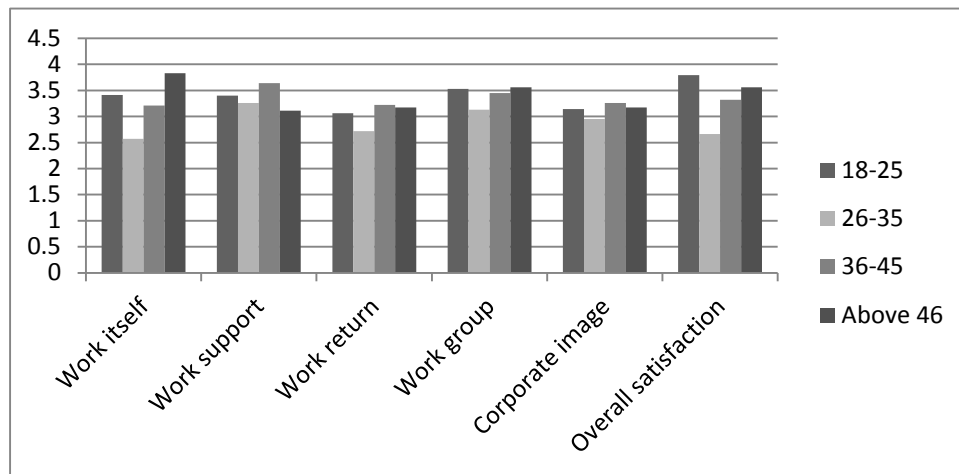
Figure 3. Employee Satisfaction Mean Values of Different Ages

2) Satisfaction comparison of employees with different education background

A company junior college graduates and Ph.D. employees (4.67) satisfaction have high degree of satisfaction, 3.25 and 4.67, respectively, the master employees had the lowest satisfaction 2.87, followed by undergraduate employees 3.05. It can be seen by Scheffe method that there was significant difference in work return, and the master and undergraduate employee satisfactions were significantly lower than that of the junior college graduate employees. On the whole, the master employee satisfaction had the lowest score in work itself, work support, work return and corporate image. We can see the hypothesis of "satisfactions of employees with different education backgrounds varied significantly" proposed of this paper is valid.

Undergraduate and master employees are the core talents and back bone of A landscape company, but the survey showed their satisfactions, especially the master employee satisfaction was lowest in the aspects of work itself, work support, work return and corporate image.
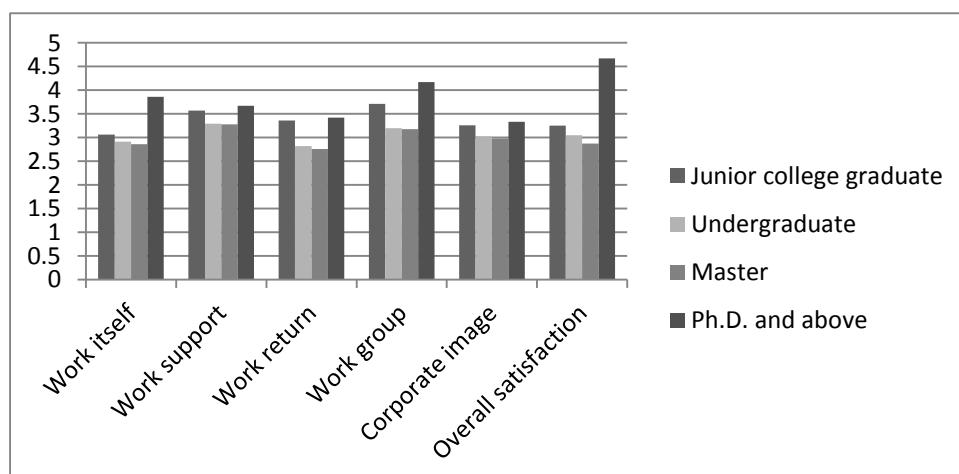

Figure 4.Employee Satisfaction Mean Values of Different Education Backgrounds

3) Satisfaction comparison of employees with different tenures

Satisfactions of employees with 1-3 years tenure and employees with more than 3 years tenure, 2.75 and 2.85, were lower than the satisfaction of employees with the tenure less than 6 months (4.00) (as showed in Figure 4). We can find out by Scheffe method that there was a significant difference in work itself; employees with shorter tenure had higher satisfaction. In terms of overall satisfaction, employees with the tenure less than 6 months had the highest satisfaction, so the previous hypothesis of "satisfactions of employees with different tenures varied significantly" is valid.

Employees with the tenure of less than 6 months or 6 months to 1 year are mostly interns, who are learning oriented. They have less consideration in work return and other aspect, so they have a high degree of satisfaction. What shall be noted by the management is the low satisfaction of employees with the tenure of 1 to 3 years.
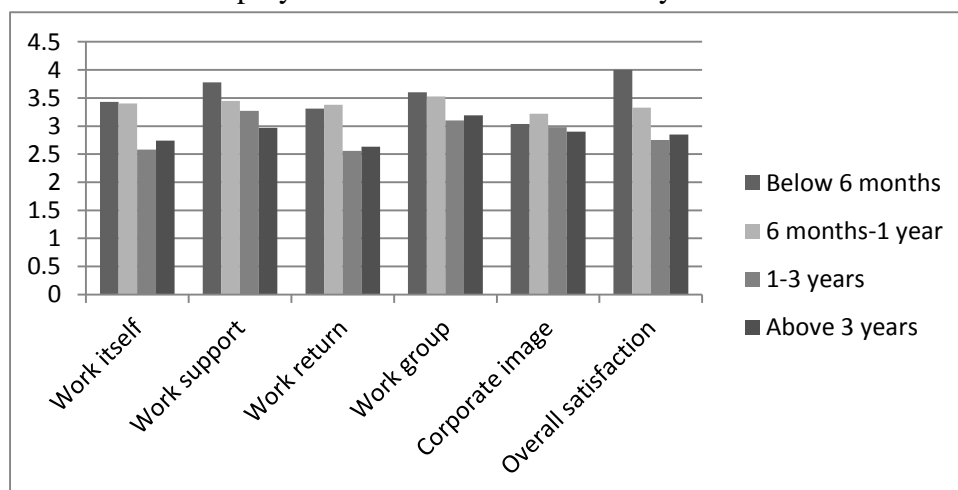

Figure 5.Employee Satisfaction Mean Values of Different Tenures

4) Satisfaction comparison of employees in different departments

The employee satisfactions of landscape design branch and ecological, rural and urban planning branch, 3.26 and 3.41, were higher than that of architectural planning and design branch (2.5) (as shown in Figure 5). It can be found by Scheffe method that in the aspects of work support and corporate image, the employee satisfaction of landscape design branch was significantly higher than other departments. On working groups, the employee satisfaction of landscape design branch was significantly higher than that of architectural planning and design branch, and it proved the hypothesis of "satisfactions of employees in different departments varied significantly" is valid.

Employees of landscape design branch had the highest satisfaction in terms of work support, work return, work groups and corporate image, because the branch is the veteran and core department of the company. The branch is in a separate office floor, with better greening and
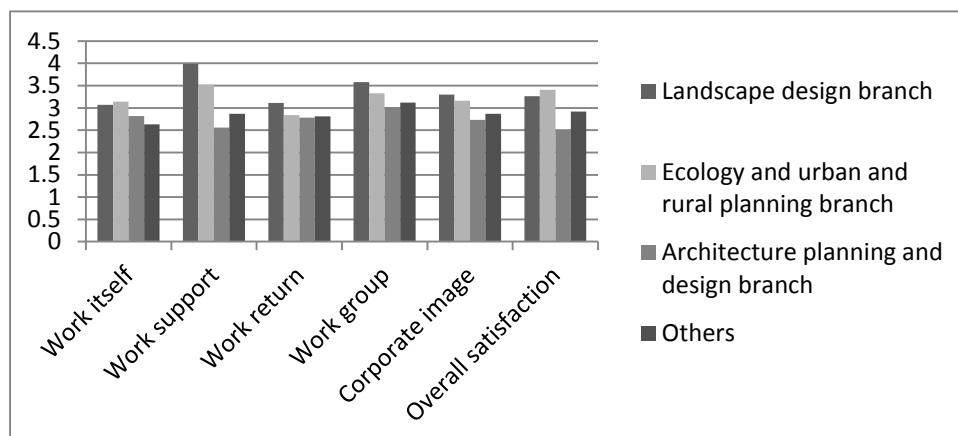
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setting.

Figure 6. Employee Satisfaction Mean Values of Different Departments

From the analysis of this part, we can see that except the hypothesis of "satisfactions of employees of different genders varied significantly" is invalid, the other four hypothesizes of "satisfactions of employees of different ages, education backgrounds, tenures and departments varied significantly" proposed in are valid.

CONCLUSION

According to the data analysis, the company has balanced gender ratio; the main age group is the young and middle-aged, employees with the tenure of 1-3 years nearly account for 50%, and employees with the education background of undergraduate and above are the absolute power. The means of employee satisfaction are work support, work group, corporate image, work itself and work return in descending order. In the II dimensional variable, the overtime system, working hours and promotion circumstances have the lowest scores. In terms of difference analysis, employees aging from 26 to 35 had the lowest satisfaction; undergraduate and master employees had the lowest satisfaction, especially masters made the lowest scores in work itself, work support, work return and corporate image; in terms of working hours, most employees with the tenure less than 1 year are interns, whose satisfaction degree was significantly higher than employees with the tenure above 1 year; on work department, employees of the architectural planning and design branch was generally low.

Combining with the previous analysis, we can see that the design company's employees have a certain particularity. In addition to the improvement of work return, social benefits, rational distribution of post functions and work tasks shall be made. On this basis, the company shall set up the interactive platform for designers to ensure design unification under the premise of reasonable division and achieve the overall coordination based on design diversity. Therefore, this paper made the following recommendations to B landscape Design Company:

1. Build an open, interactive platform for designers

Due to short duration, inadequate employee ratio and affected by economic interests, most landscape companies, including the research object B landscape design company are inevitably caught up in pipelined mode of production. Designers freely and quickly shuttle in information collection, sketching, reflection and other activities. In the interaction with the external information afflux, inspiration and creativity is easier to break out (Nigel Cross, 2013). Meanwhile, when employees are sharing a positive attitude, they are more likely to cooperate and collaborate (Daniel, J.K, 2001). Companies shall change the status quo of chief architect full participation and multi-roles, but add the middle and lower level designers into the rank of chief architect to build a regular exchange platform, especially in the scenario generation phase. In this way, the design efficiency and quality can be improved, while the exchange and communication between designers at different levels can be enhanced to create a positive atmosphere.

2. Attach importance to the satisfaction of employees aging from 26 to 35, especially in the aspects of work itself and work return.

Employees aging from 26 to 35 accounted for more than 50% of employees in A landscape design company, constituting the hard core. Most of them are in the grass-roots or mid-level posts, bearing heavy tasks and great pressure, but with less work return, so there is a high turnover rate. Only by maintaining the backbone stability, the HR management can make sustainable development; otherwise a slight move in this group may affect the situation as a whole.

On this group, companies shall re-examine the existing responsibility distribution to ensure clear and reasonable internal division and try to avoid the disputes caused by cross-tasking distribution. Furthermore, they shall carry out overall control capability training for capable employees with great potential and work out good career path for them.

In terms of working hours, make statistical management for usual overtime hours, strike a balance between work duration and personnel assignment, and improve the status quo of tight scenario and duration to give employees more disposable time for rest and adjustment. For instance, companies can add a weekend to employees after the end of a project to compensate for the previously sacrificed rest time, so as to ensure them to better engage in the next project. With regard to remuneration, the existing form of dividends at the end of year is a big subjective factor. It is difficult to ensure the incentive in usual time, so make the open and fair records and points of each project and change the previous form of director reward distribution on monthly basis can motivate more employees. In terms of welfare, the organic combination of material form and non-material forms can yield twice the result with half the effort (Michael A. S& George C. C, 2000). For example, companies can issue fitness card to employees, hold monthly and annual outstanding employee appraisal, and can organize outings, group activities, sports activities to promote collective sense of belonging.

3. Set employee training program and emphasize the development of undergraduate and master employees

Survey results indicated undergraduate and master employees aging from 26 to 35 pay special attention to the development and realization of individual value, so companies shall attach importance to them in terms of career development, skill cultivation and capacity affirmation, etc. At the same time of setting reasonable personal development route, companies shall also focus on the improvement of the situation of a great many of basic designer post and few middle and senior management positions, and strive to retain capable employees as core staff by referring to "full net, focused training" (Robin Stanley, 2013).

4. Regular training of skills and overall quality

We can see from the earlier analysis of the landscape industry HR status quo, the imperfect basic education and industry standards result in the scarcity of leading force, specialty deviation and incomprehensive skills of grassroots and middle level employees and unbalanced talent ratio in most companies including B landscape design company. The situation also constitutes the major reason of difficult job hunting, low wages, heavy workload and frequent resignation of many graduates. The past mode of one master one apprentice easily subject to individual factors and is difficult to ensure efficiency and results. However, the systematic, scientific, professional and scale training provided by companies can play a good role in this regard (Xianmei Gao, 2009). Therefore, it is particularly important whether in the consideration of obligations, responsibilities or strategic long-term development.

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