2012 International Conference on Information and Knowledge Management (ICIKM 2012)
IPCSIT vol.45 (2012) © (2012) IACSIT Press, Singapore

Modeling the Level of Objective & Subjective Career Success of Civil Engineers Towards Developing a Career Planning Program

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Abstract. This study sought to determine and analyze the level to which fringe benefits, professional development, network and professional linkages predicted civil engineer career success. Fringe benefits worked served as dependent measures of objective career success, and subjective career success was represented by life satisfaction. Results demonstrated that both objective and subjective career success were related to a wide range of predictors. The civil engineers received high fringe benefits. They are promoted because of their professional development. Moreover, civil engineers are only satisfied with "life satisfaction" As a group, network and professional linkages predictors generally displayed stronger relationship both objective career success and subjective career success.

Keywords: objective career success, subjective career success, life satisfaction, civil engineers

1. Introduction

Career success is defined as the accumulated positive work and psychological outcomes resulting from one's work experiences (Seibert & Kraimer 2010). Researchers often operationalize career success in one of two ways. The first includes variables that measure objective career success. These include indicators of career success for civil engineers that can be seen and therefore evaluated by objectively by others, such as fringe benefits. The second way that career success is operationalized is by variables that measure subjective career success. Such variables capture individuals' subjective judgements about their career attainments such as life satisfaction.

A quantitative review of the career success literature is important for several reasons. First, a critical review and synthesis of a body of research can play an important role in construct development and theory building. In the career success arena, this would be especially useful given the large number of studies on the topic and the large variability in findings across and individual studies. Second, scholars have used various operationalizations of career success and some argue that objective indicator (fringe benefits) is conceptually distinct from subjective indicator (life satisfaction; Greenhaus, 1995). As such, it would be theoretically valuable to review and compare the predictors of these two components of career success in order to guide the research and theory building.

Fringe benefits are the most widely used and readily accessible indicators of objective career success. This objective measure can have the substantial benefits of being readily available from existing records, standardized at least within firms, and efficient to collect. They are free from self serving and common-method variance, if collected by means other than self support. They are valued by many engineers and

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executives (Schneer, 2009). In some professions, fringe benefits stem are only objective outcomes that people seek from their careers.

Mead (2009) identified that professional development activities for engineers and scientists raise earnings, improve health, or add to a person's good habits over much of his lifetime. Therefore, economists regard expenditures on education, training, medical care, and so on as investments in human capital. They are called human capital because people cannot be separated from their knowledge, skills, health, or values in the way they can be separated from their financial and physical assets. Education and training are the most important investments in human capital.

Subjective career success most commonly operationalized as life satisfaction. Life satisfaction is important because achieving satisfaction with one's job or career at the expense of life satisfaction suggests limited career success. Adding life satisfaction to career success also acknowledges the importance of work life (or work family) balance Life satisfaction seems particularly relevant in research, as the challenge of achieving balance between life facets (work and family) may differ with social policies.

Social capital is a multi-dimensional concept that emphasizes both the quality and structure of social relationships. In social capital terms, networks and professional linkages play a vital role in improving technical skills of one's civil engineering profession.

2. Conceptual Framework

The researchers focus on the concept of Saiber & Kraimer theory that career success is defined as objective and subjective outcomes. This study uses the input-process-output approach with feedback serving as a major conduit to determine the predictors of career success of civil engineers. The input of this study focuses on the factors of career success of civil engineers. The factors serves as the input variable, significantly predict the objective and subjective career success will designed a career planning program for the civil engineers. Several factors that influence the career success were considered. These include professional development and technical skills learned from network and professional linkages. Considering the input mentioned, the process uses analysis of objective success such as fringe benefits and promotions and subjective success such as life satisfaction were acted as indicators in evaluating career success of civil engineers.

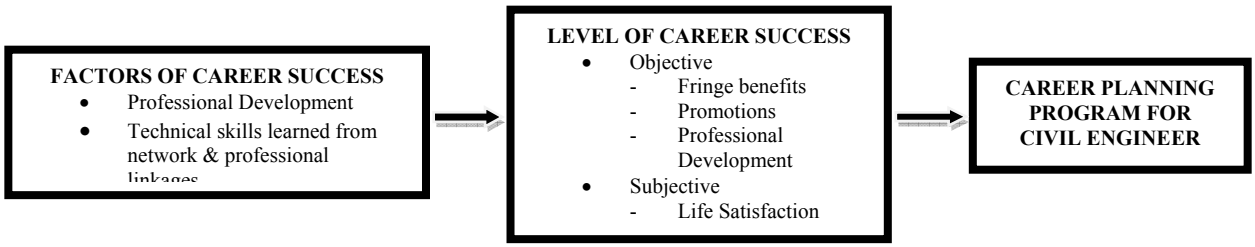

Fig. 1: Research Paradigm

3. Research Methodology

The researchers utilized the descriptive method of research. Questionnaire, structured interview and documentary analysis were also used to gather data that have been the basis of findings, conclusions and recommendations of this research. The subjects of this study were the companies located in the Philippines where vertical and horizontal structures projects are in progress. Purposive sampling was utilized in order to determine the participation of the knowledgeable employees only by considering those who are registered civil engineer in the Philippines and have 15-20 years experience in the construction industry.

The respondents were purposively selected and have included 110 civil engineers who are members of Philippine Institute of Civil Engineers. Statistical tests of Regression Analysis, percentage and weighted mean values were used to enable researchers give appropriate responses to the statement of the problem.

4. Factors of Career Success

4.1. Professional Development

Respondents were given two or more choices to indicate the Professional Development Activities for the last two years. As shown in Table 1, majority of the respondents, 90 % chose " active participation on a committee on holding an office in a professional or technical society" as an answer, 80.9% are attending "professional engineering programs, seminars, tutorials, workshops, short courses, on-line or in house courses" , 70% are "attending program presentations related technical or professional meetings", 62.7% are both engaged in "self study of new regulations and "teaching or instructing", 56.4% are "attending professional training related to civil engineering", 53.6% are in "technical inspection in related to civil engineering works". Very few respondents, 50.9% are "authoring papers or articles that appear in nationally circulated journals or trade magazines or presented to a professional society of organizations" and 40% selected "receiving a patent for inventions and discoveries". This means that civil engineers are very active in professional development activities

Table 1: Frequency and Percentage Distribution of Civil Engineers by Professional Development

Professional Development Activities	f	%
1. Active participation on a committee or holding an office in a professional or technical society	99	90
2. Attending program presentations related technical or professional meetings.	77	70
3. Authoring papers or articles that appear in nationally circulated journals or trade magazines or presented to a professional society of organizations	56	50.9
4. Engaging in self study of new regulations, requirements or advances related to civil engineering	69	62.7
5. Professional engineering programs, seminars, tutorials, workshops, short courses, on-line or in-house courses	89	80.9
6. Professional trainings related to civil engineering	62	56.4
7. Receiving a patent for inventions and discoveries	44	40
8. Technical inspection in related to structural engineering works receiving a patent for inventions and discoveries	59	53.6
9. Teaching or instructing (does not apply to faculty in the performance of regular assigned duties).	69	62.7

4.2. Network and Professional Linkages

Respondents perception that the level of confidence to demonstrate technical skills gained from networks and professional linkages have an over-all mean of 3.66 which is very high. Each technical skill gained from networks and professional linkages have a mean between 3.49 and 3.69. This means that civil engineers are very much interested in the technical skills gained from networks and professional linkages.

Table 2: Mean Responses of Civil Engineers on Level of Confident of Technical Skills Gained from Networks and Professional Linkages

Networks and Professional Linkages	Mean	Interpretation
1. Creativity and an innovative approach to solving problems	3.64	Very High
2. Ability to analyze and interpret complex data	3.60	Very High
3. Ability to evaluate designs, plans and projects.	3.64	Very High
4. Effective assessment and management of risk, resources and time.	3.60	Very High
5. Highly developed numeracy and computer literacy.	3.69	Very High
6. Clear written and oral communication skills.	3.49	Very High
Over-all mean	3.66	Very High

5. Level of Career Success

5.1. Fringe Benefits

Respondents were given two or more choices to indicate fringe benefits, etc., miscellaneous benefits and paid time off (PTO)/leave bank received from the company for the last two years. As shown in the table 3, more than half of the respondents received Christmas bonus/other special bonus (77.3%), housing allowance/house rent subsidy (68.2%) and salary advance (61.8%) .Therefore, the level of the fringe benefits received by civil engineers is highly competitive compared with other professions.

Table 3: Percentage and Frequency Distribution of Civil Engineers by Fringe Benefits

Fringe Benefits, etc.	Frequency	Percentage
Salary advance	68	61.8
Christmas bonus/other special bonus	85	77.3
Housing allowance/house rent subsidy	75	68.2
Retirement benefits-gratuities, pensions	49	44.5
Death Benefits	34	30.9
Disability retirement	33	30.0

5.2. Life Satisfaction

Respondents claimed that civil engineers "agree" that they are satisfied with the conditions of their life which is excellent. This statement received high mean responses of 3.29 from civil engineer. Moreover, a closer look on the table further exhibited the mean responses on the respondents' perception as regard that the civil engineer "agree" that their ways of life is closer to their ideal and if they would have their life over, they would change almost nothing where the respondents register a mean response of 3.25. Furthermore, the same table presented that they are satisfied with the important things they want in their life and satisfied with their life. The mean responses were 3.18 and 3.13. All of which were interpreted as "agree".

Generally, the level of career success of civil engineers in terms of life satisfaction was satisfied only. With a composite mean response of 3.22, it was interpreted "agree". Therefore, the level of satisfaction received in life satisfaction for civil engineers is average.

Table 4: Mean Responses of Civil Engineers by Life Satisfaction

Life Satisfaction	Mean	Interpretation
1. In most ways my life is close to my ideal	3.25	Agree
2. The conditions of my life are excellent	3.29	Agree
3. I am satisfied with my life	3.13	Agree
4. So far I have gotten the important things I want in my life	3.18	Agree
5. If I could live my life over, I would change almost nothing	3.25	Agree
Composite Mean	3.22	Agree

6. Predictors of Objective and Subjective Career Success

For professional development network and professional linkages have significance values of 0.004 and 0.001 in fringe benefits and indicating a significant result at 0.05 levels. Thus, professional development, network and professional linkages are predictors of fringe benefits. This shows that civil engineers learned professional skills, technical skills, knowledge, etc. through the level of the fringe benefits received by the civil engineers in their company. It also shows that there is no significant relationship between professional development and life satisfaction. However, network and professional linkages has significance value of 0.026 in life satisfaction. This means that civil engineers enjoy network and professional linkages of different societies that make them very satisfied in their life.

Table 5: Predictors Career Success

Factors of Career Success	Level of Career Success	Beta	R^2	Sig.	Decision	Interpretation
Professional Development	Fringe Benefits	0.266	0.171	0.004	Rejected	Significant
	Life Satisfaction	-0.117	0.014	0.225	Accepted	Not Significant
Networks and Professional linkages	Fringe Benefits	0.313	0.198	0.001	Rejected	Significant
	Life Satisfaction	-0.213	0.145	0.026	Rejected	Significant

7. Network and Professional Linkages Model

Results in Table 5 shows that network and professional linkages play a vital role in improving technical skills of one's civil engineering profession and contributes in objective success of civil engineers. The researchers made a model for network and professional linkages. The objective of this model is to build relations with all civil engineers for intellectual interactions and civil engineers updates. Figure 2, shows that civil engineers should attend Philippine Institute of Civil Engineers events and quickly form a friendship with a dozen or so likeminded people. There will be tunes that civil engineer ask a favour when it will help to know someone in another organization that can help their problem query. List all the people who are civil engineers. Civil engineers should seek their advice in technical skills. They could get 2-3 referrals from a contact they know quite well.

Fig. 2: Network and Professional Linkages Model

8. Professional Development Program

Table 5 shows that professional development was found highly contribute in objective success of civil engineers. Since professional development is very important in objective success of civil engineers, the researchers made a professional development program as shown in Figure 3. The purpose of this program is to acquire new knowledge and information and build a conceptual understanding of it. The professional development program of civil engineer has four (4) components: activities (e.g., active participation on a technical society and attending professional meetings), skill and leadership development(e.g., professional engineering programs, seminars and workshops, and authoring papers or articles that appear in nationally journals), professionalism (e.g., professional trainings related to attitudes, etiquette, ethical development and civil engagement), and personal development and overall maturity (e.g., employability skills learned from mentors, managers and colleagues). Through these components, civil engineers will develop skills and characteristics necessary for their success in their profession, an applicant to professional program, a career professional and most importantly, objective and subjective success as civil engineers grow in both experience and maturity as an individual.

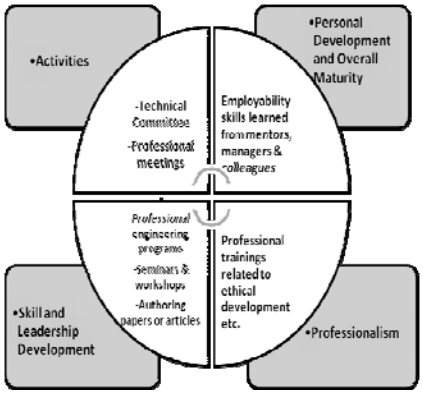

Fig. 3: Professional Development Program

9. Conclusion

It is concluded that the profile of civil engineers especially in terms of professional development, network and professional linkages to a large extent contribute in the success of civil engineer. The most objectively successful civil engineer appears to be one who is active to participate on a committee, holding an office in a professional society, highly skilled in mathematics and computer literate. Specifically, with respect to fringe benefits attributes, a civil engineer who has a special bonus, housing allowance and salary advance is projected to have more professional development activities. Professional development, network and professional linkages were found highly contribute in objective success of civil engineers. Civil engineer has only average levels of life satisfaction. This happens when a career and job are given more emphasis rather than a family which is also determinants of life satisfaction. On the other hand, Network and professional linkages can best predict objective success in terms of fringe benefits.

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