2012 International Conference on Solid State Devices and Materials Science

An Empirical Research on the Correlation between Human Capital and Career Success of Knowledge Workers in Enterprise*

Wenchen Guo, Hongjun Xiao and Xi Yang

Faculty of Management and Economics, Dalian University of Technology, Dalian, 116023, China

Abstract

Human capital plays an important part in employability of knowledge workers, also it is the important intangible assets of company. This paper explores the correlation between human capital and career success of knowledge workers. Based on literature retrieval, we identified measuring tool of career success and modified further; measuring human capital with self-developed scale of high reliability and validity. After exploratory factor analysis, we suggest that human capital contents four dimensions, including education, work experience, learning ability and training; career success contents three dimensions, including perceived internal competitiveness of organization, perceived external competitiveness of organization and career satisfaction. The result of empirical analysis indicates that there is a positive correlation between human capital and career success, and human capital is an excellent predictor of career success beyond demographics variables.

Keywords: Human capital; Career success; Knowledge workers; protean career; Boundary less career; Empirical research

1. Research Background

As a result of the sweeping global economic recession triggered by the US financial crisis, there was a sharp rise in unemployment rate. Highly educated knowledge workers' career progression was affected as well, which forced them to plan their careers again. "Getting employed is difficult" has become a consensus of people and reducing employment standards has also become a psychological self-suggestion of knowledge workers. These situations seem to further confirm the concepts of "protean career" (Hall,

1976) [1] and "boundaryless career" (Arthur, 1994) [2]. Through a comparative study between traditional career and boundaryless career, Sullivan (1999) [3] found that employment philosophy, employment relationship, self-career design, organizational career management, and career success criteria had dramatically changed in the process of economic development. Briscoe and Hall (2006) [4] did another comparative study between boundaryless career and protean career and suggested that the sense of identity and values could guide one's career; adaptability and flexibility could substantially decide one's direction, potential and career success; value driving, self-direction, psychological and physical mobility determined the patterns of individuals' careers.

Though boundaryless career and protean career have some differences on characteristic, there are two consistent

aspects of them when compared with traditional career. On the one hand, the responsibility of management in traditional career is the responsibility of organizations, but in boundaryless and protean career, it is the responsibility of individuals. That is to say organizations no longer provide employees with lifetime employment opportunities, and the employment concept of employees has changed, shifting from traditional lifetime employment to enhancing life-long employability; on the other hand, the measurement criteria of success shifts from the traditional salary, promotion and social status to psychologically meaningful work or psychological success[5]. With the development of research on boundaryless and protean careers, up to late 1990s, the concept of employability was basically acknowledged by academia. Among the research on the structure of employability, the three-dimension model constructed by Fugate (2004) [6] was acknowledged: career identity, individual adaptability, social and human capital. At the same time, the researchers began to focus on the inherent personality traits of individuals and correlate them with career success, for example, the relationship between proactive personality and career success [7], adaptability and career success [8], social capital and career success [9], etc.

In the era of boundaryless career, Fugate and others propose that employability which contents human capital has become the precondition and key factor of individual's career success. In that way, what is the relationship between human capital and career success? How does human capital impact career success? Based on this, this study intends to explore the relationship between human capital and career success of knowledge workers, in order to reveal the effect of human capital on career success.

2. Model Construction and Research Hypotheses

2.1Concept Definition

(1)Knowledge Workers

There are many different opinions on how to define "knowledge workers" at home and abroad. The concept of knowledge workers was first proposed by Peter Drucker-the world famous management guru, in his book "Landmarks of Tomorrow". He defined it as "people who master and apply symbols and concepts, working by using knowledge or information" （Drucke,1956） [10]. Horibe （1999） [11] defineded knowledge workers as those who use their brains more than their hands when they create wealth. Woodruffe （1999） [12]considered that the knowledge workers are those who "have well professional competence, educational background and industrial experience, also their main purposes of work are creating, sharing and applying knowledge".

Some domestic scholars have also studied and defined the concept of knowledge workers. Wang, et al （1998） [13]defined it as those who engage in producing, creating, expanding and applying knowledge, and who bring the increase of knowledge capital to the enterprises(or organizations). Peng and Zhang （1999） [14]who research the management of knowledge workers specially considered the characters of

knowledge workers were: 1)they gain huge internal satisfaction from their work; 2)they are more loyal to their profession than their employers; 3)they need to constantly update their knowledge to be consistent with the professional development; 4)they throw themselves into the work, that is they don't consider workweek as working 5-8 hours a day and working 5 days a week; 5)they generally have higher payoff and hope having more freedom and power of decision, meanwhile they value the support very much.

Based on the theory of protean and boundaryless career and the characters of knowledge workers, we define the knowledge workers as people who are having a bachelor's degree, strong achievement motivation, and a strong sense of independence; focusing on learning and innovation, emphasizing on individual's career development. utilizing knowledge and information to engage in management and technical services. These people include middle and senior class managers, supervisors, and professionals of company.

(2)Human Capital

The concept of "human capital" was first formally proposed by American economist Walsh, J. R. And the real formation of the theory emerged in late 1950s and early 1960s. The representative researchers are Shultz, T.W., Mincer, J., Becker, G.S. Human capital refers to a stock of knowledge, experience and capability, which are condensation in the individual.

Studies of measuring human capital can be divided into two categories: one is measuring related dimensions of all employees in all sectors. The representative study is: Ng, et al（2005）[15]thought the dimensions of human capital included working hours, working center(such as working involvement), working life, organization life, working experience, willingness to quit, international working experience, education, career planning, political knowledge and skills and social capital. Domestic researchers study less on the individual human capital. J.C. Fu and P. Fu（2008）[16]in their study of the relationship between human capital and occupational mobility measured the human capital by age, education, tenure, and position.

Another is measuring special employees' dimensions in particular sectors. Holland researcher Boxman, et al（1991）[17]from three aspects (education, working experience, and working performance) measured the human capital of 1359 senior managers in the Dutch Company. Keeton（1996）[18]measured the human capital of government commissioners, middle and senior female managers from aspects of education, competitiveness, intelligence, skills, career planning, marital status, years in company, etc.

Since 1990s, because of the rise of the theory of knowledge capital, the theory of human capital has developed. First of all it is based on the theory of empolyment of knowledge. Researchers consider that the human capital of staff are most likely to be seen as the core of company. That is because the values of employees can help company to achieve the strategic objectives. And these employees are most likely to be knowledge workers--who use brains more than hands in creating wealth. Guo Wenchen and Xiao Hongjun (2010) studied on 276 knowledge workers and developed the knowledge workers' human capital scale. This scale includes four dimensions: education, working experience, learning ability and training.

(3)Career Success

In foreign studies, career success is defined as positive psychological feelings and work-related achievements accumulated by individuals from their work experience[7]. Thorndike (1934) [19]first proposed the issue of criteria of career success. He divided career success into subjective career success and objective career success, and considered career satisfaction as the measure of subjective career success's criteria, while income and work status as the measures of objective career success's criteria.

The factors of career success are influenced by individual variables, organizational variables and social variables, etc. As a result, the opinions on how to measure career success are various. Judge, et al(2006) [20] indicated that the career satisfaction is the most important manifestation of subjective career success. Arthur, et al (2005) [21] statistically analyzed the articles about career development from 15 major journals during 1992-2002, and found that except career satisfaction and work satisfaction, more and

more scholars use "perceived career success", "social support", "organizational commitment", "career involvement", "perceived promotion opportunities", "life satisfaction" and so on to measure subjective career success.

Eby and Butts(2003) [22] proposed to use the scale developed by Greenhaus, et al (1990) [23] which includes five items to measure career satisfaction. Career satisfaction refers to the individual attitudes and emotions toward career activities, and personal satisfaction, which is a collection of all perception in organizations. The criteria of objective career success are perceived internal competitiveness and perceived external competitiveness of an organization. Perceived internal competitiveness of an organization (abbreviation as internal competitiveness) refers to the employees themselves feel they are valuable for the company and employer, and this kind of competitiveness benefits employees' internal career development as to reduce the possibility to be fired; perceived external competitiveness of an organization (abbreviation as external competitiveness) refers to the employees themselves feel they are valuable for the other organizations and employers, that is to say employees are confident and believe they can easily find another work. So, internal and external competitiveness of an individual become a significant criteria of career success in era of boundaryless career.

They considered that using competitiveness index to replace traditional objective indexes, such as salary, promotion and so on, maybe more correspond with the meaning of boundaryless career. Eby and Butts emphasized that perception of individual on the career success are more important than objective career success.

2.2Construction and Research Hypotheses

The research based on the study of human capital measuring tool, dividing human capital into four dimensions, including education, work experience, learning ability and training.

Based on the research background of protean and boundaryless careers, this article adopts three criteria of career success (individual's career satisfaction, perceived internal competitiveness and perceived external competitiveness of an organization) proposed by Eby and Butts as the three dimensions of measuring career success.

In order to explore the relationship between knowledge worker's employability and career success, we formulate their relationship model (see Fig.1).
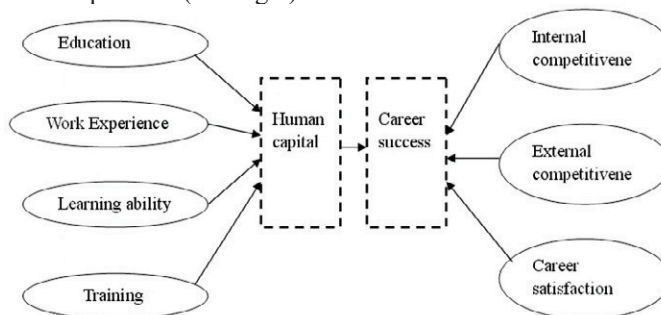

Fig. 1 Relational Model of Human Capital and Career Success

Foreign studies show that human capital variables play an important part in career success, because they explain the most part of salary changes and the number of promotion. Dreher, Ash(1990) [24]and Tharenou, et al (1994) [25] have found that personal investment in education and experience is the strongest predictor of career development. Kirchmeyer (1998) [26]considered work experience and tenure were strongly correlated with subjective and objective career success. As careers become more uncertain, these characteristics owned by individuals become more critical, perhaps more than ever, because

professionals are facing impacts from different modes of career success.

Wayne, et al (1999) [27] and others demonstrated that two variables of human capital—term and training of organization can predict career success evidently by empirical study. Based on the theory of contest mobility and support mobility, T.W. H. NG and others studied effects of human capital, organization support, population and stable differences of individuals on objective and subjective career success. Dividing human capital into several dimensions as follows: working hours, work center (such as work involvement), working life, term of organization, work experience(such as working years), work-hopping wishes, international work experience, education, career planning, political skills and knowledge and social capital(such as the number and quality of accumulative contact). Ballout(2007) [28] considerd that educational,work involvement, work experience and working hours of human capital correlated positively with career success by empirical study.

Based on the existing research, this article put forward the following research hypotheses:

Hypothesis H1: human capital is positively related to career success, and it can be divided into three sub-hypotheses: H1a: the dimensions of human capital are positively related to internal competitiveness of organization; H1b: the dimensions of human capital are positively related to external competitiveness of organization; H1c: the dimensions of human capital are positively related to career satisfaction.

Hypothesis H2: human capital can predict career success, and it can be divided into three sub-hypotheses: H2a: human capital can predict internal competitiveness of organization; H2b: human capital can predict external competitiveness of organization; H2c: human capital can predict career satisfaction.

Early studies mainly linked demographic and personal factors to career success. For example, demographic factors such as age and marital status, personal factors such as education and experience were found to be strong determinants of career success(Hall, 1979) [29]; Gould and Penley, 1984) [30], Recent empirical research supports the idea that personal and socio-demographic characteristics are strong predictors of career success(T.W. H. NG et al, 2005) [15] As careers become more uncertain, these characteristics owned by individuals become more critical, perhaps more than ever, because professionals are facing impacts from different modes of career success.

Based on the past studies, hypothesis H3 is proposed in order to further explore the impact of age, education, working life and position of knowledge workers on career success: different demographic variables have significant differences in various dimensions of career success.

3. Empirical Analysis

3.1Research Tools

The study uses the human capital scale of knowledge workers developed by the author which includes 12-item, that is education (3 items), working experience(3 items), learning ability(3 items) and training(3 items).

Career success is measured by career success scale developed by Eby and Butts. Objective career success includes perceived internal competitiveness (3 items) and perceived external competitiveness (3 items); subjective career success is measured by career satisfaction scale(5 items) developed by Greenhause, et al.

3.2Questionnaire Design and Survey Model

The survey questionnaire consists of 32 items, including essential information and related investigation content. The respondents are the knowledge workers of the company. Research samples are mainly from state-owned companies, oversea-funded or joint venture companies and private companies in

Liaoning, Beijing, Guangzhou, Zhejiang, Shanxi, Sinkiang, Tibet, Shandong, Heilongjiang and Hebei provinces. Moreover, MBA graduates and MBA students of human resource management help to identify the respondents. The questionnaire was granted by professional investigation website, and the number of valid questionnaires is 406.

The basic information of the participants is as following: male respondents account for 51.7% and female 48.3%; 9.4% respondents are aged under 25, 49.7% between 26 and 30, 27.8% between 31 and 35, and 13.1% above 36; those who have obtained bachelor's degree account for 63.5%, and those with master's degree account for 36.5%; those with work experience of no more than 3 years account for 21.7%, those with work experience of 4-6 years 32.3%, those with work experience of 7-10 years 25.8%, and those with work experience of more than 11 years 20.2%; 55.4% respondents are ordinary employees, 37.5% are intermediate management, and 7.1% are senior management; 43.8% respondents are management, 30.1% are research and development professionals (including technicians), 11.3% are marketing personnel, and 14.8% are on other posts; 33.3% respondents have no technical titles, 25.4% have junior titles, 32.2% have intermediate titles, and 9.1% have senior titles; 33.7% earn an annual salary of less than 50 thousand RMB, 37.2% earn 60-100 thousand RMB, 19.7% earn 110-150 thousand RMB, and 9.4% earn more than 160 thousand RMB; 24.9% work in state-owned enterprises, 24.1% in private ones, 43.4% in foreign-owned or jointly-ventured ones, and 7.6% in other types of enterprises.

3.3 Reliability and Validity Test of the Questionnaire

Firstly , studying the 406 samples through exploratory factor analysis. KMO values of human capital and career success scale are separately 0.832 and 0.852, and the significant level of Bartlett's spherical test is close to zero. The study uses Principal Component Analysis to extract factors, and intercept factors with eigenvalues greater than 1 as a standard. The results show that there are four main factors for human capital scale, and they are respectively training, work experience, education and learning ability (Table 1);

Table 1 Rotated component matrix

items	factors			
	1	2	3	4
20	.893			
21	.880			
19	.796			
15		.814		
13		.774		
14		.761		
11			.810	
10			.785	
12			.778	
16				.817
17				.968
18				.742

there are three main factors for career success scale, and they are respectively career satisfaction, perceived external competitiveness and perceived internal competitiveness (Table 2). The present factor structures are identical with the original factor structures, which manifests the questionnaire has better construct validity.

Cronbach' a coefficient for human capital scale is 0.851, and Cronbach' a coefficient for career success scale is 0.857,which indicates the questionnaire has better reliability.

Table 2 Rotated component matrix

items	factors		
	1	2	3
29	.822		
31	.819		
30	.799		
28	.773		
32	.742		
26		.895	
25		.852	
27		.812	
22			.856
23			.838
24			.728

3.4 Descriptive Statistics Analysis

Table 3 shows the results of descriptive statistics of human capital and the variables of career success.

Table 3 Descriptive statistics

Variables	Numbers of items	Mean	Standard deviation
Human capital	12	3.76	7.37606
Perceived internal competitiveness	3	3.39	2.30436
Perceived external competitiveness	3	3.48	2.28580
Career satisfaction	5	3.35	3.67669

The results show that the average score of human capital and the three factors of career success are above 3, which shows that knowledge workers of the companies have higher human capital level and career satisfaction, and stronger internal and external competitiveness. In addition, the score of perceived external competitiveness is greater than the scores of perceived internal competitiveness and career satisfaction, which shows that knowledge workers pay more attention to their competitiveness outside the organizations.

3.5 Correlation Analysis

Table 4 shows that education, work experience, learning ability and training are all positively correlated to each dimension of career success at the level of 0.01.

Table 4 Correlation analysis of human capital and career success

	Education	Work Experience	Learning Ability	Training
Perceived Internal Competitiveness	.179**	.417**	.384**	.198**
Perceived External Competitiveness	.255**	.286**	.450**	.256**
Career Satisfaction	.202**	.458**	.314**	.278**

[a]** Correlation is significant at the 0.01 level (2-tailed); Pearson Correlation; N=406

3.6Regression Analysis of Human Capital and Career Success

In order to study the prediction effect of human capital on career success, considering the effect of demographic variables on career success, this paper uses the method of hierarchical regression. Firstly, demographic variables as the first layer variables are introduced into the regression equation, and each dimension of human capital are introduced into the equation as the second layer variables. Then, changes caused by R2 between the two layers and the changes' F test value are calculated to examine whether R2 is significantly improved. Demographic variables include sex, age, education, working tenure, work position, work attribute, professional title level, annual salary and workplace nature.

Results from Table 5 show that changes caused by R2 between the two layers are separately 0.185, 0.164, 0.182, and these changes' F test value reach a significant level. After demographic variables are controlled, the variances of human capital predicting different dimensions of career success are increased respectively – variance of predicting perceived internal competitiveness is increased by 18.5%, perceived external competitiveness 16.4% and career satisfaction 18.2%. So, human capital can effectively predict career success.

Table 5 Hierarchical Regression of Human Capital and Career Success

Model		Perceived Internal Competitiveness			Perceived External Competitiveness			Career Satisfaction		
		Unstand-ardized coeffic-ient		Stand-ardized coeffic-ient	Unstand-ardized coeffic-ient		Stand-ardized coeffic-ient	Unstand-ardized coeffic-ient		Stand-ardized coeffic-ient
		B	SE_B	Beta	B	SE_B	Beta	B	Std. Error	Beta
1	Demogr-aphic variables	R2=0.128			R2=0.140			R2=0.094		
2	Demogr-aphic variables	---	---	---	---	---	---	---	---	---
	Educ-ation	-.024	.046	-.025	.090	.046	.097	-.024	.076	-.016
	Work Experi-ence	.302	.048	.319***	.030	.048	.032	.553	.079	366***
	Learn-ing Ability	.321	.054	.294***	.406	.054	375***	.269	.089	154***
	Train-ing	-.071	.048	-.076	-.017	.048	-.018	.067	.078	.045
	F	10.391***			9.971***			8.724***		
	R2	0.313***			0.304***			0.277***		
	R2	0.185 (Sig.F Change= 0.000)			0.164 (Sig.F Change= 0.000)			0.182 (Sig.F Change= 0.000)		

[a]①B the regression coefficients, SEB the standardized errors, Beta the standardized regression coefficients; ②*** Correlation is significant at the 0.001 level; ③The regression coefficients of demographic variables are omitted in the two-step regression.

3.7Variance Analysis of Career Success on Demographic Variables

In order to study differences of career success on demographic variables, with correlation analysis this study makes a preliminary judgment of the impact of demographic variables on career success. The results show that sex is significantly correlated to perceived internal competitiveness at the 0.05 level; age, working tenure and work position are significantly correlated to perceived internal competitiveness and perceived external competitiveness at the 0.01 level; for the part of work attribute, only managerial position is significantly correlated to perceived internal competitiveness and career satisfaction at the 0.05 level; professional title level is significantly correlated to career satisfaction; annual salary is significantly correlated to perceived internal competitiveness, perceived external competitiveness and career satisfaction at the 0.01 level; for workplace nature, state-owned enterprises and oversea-funded or joint venture enterprises are significantly correlated to perceived external competitiveness at the 0.01 level.

According to the above results, the paper studies differences of career success on sex, age, working tenure, work position, professional title level and annual salary. Analyses reveal that different sex has obvious difference on perceived internal competitiveness , but perceived external competitiveness and career satisfaction don't have significant differences. Males have stronger internal competitiveness than females. different age has obvious difference on perceived internal competitiveness and perceived external competitiveness, but career satisfaction doesn't have significant difference. Employees aged 36 and over have stronger internal competitiveness than employees aged 26-30, and employees aged 31-35 have stronger external competitiveness than employees aged 30 and younger. Perceived internal competitiveness and perceived external competitiveness have obvious difference at different working tenure. Employees over 11 years working experience have stronger internal competitiveness than employees for 4 to 6 years working experience, and employees over 7 years have stronger external competitiveness than employees less than 7 years. The three factors of career success have obvious difference at different work position. With the promotion of work position, employees' internal competitiveness increases gradually, and senior managers have stronger external competitiveness and higher career satisfaction than general employees. Perceived external competitiveness and career satisfaction have obvious difference at different professional title level, but perceived internal competitiveness doesn't have significant difference. Employees with middle-level and senior professional titles have stronger external competitiveness than those with primary professional title; there is no significant difference at external competitiveness between the employees with middle-level and senior professional titles; employees with senior professional title have higher career satisfaction than those with non-professional title and only primary professional title; there is no significant difference at career satisfaction between the employees with middle-level and senior professional titles. The three factors of career success have obvious difference at different annual salary. 11-15 million employees of yearly income have stronger internal competitiveness than below 11 million employees, and above 16 million employees have stronger internal competitiveness than below 5 million employees; over 11 million employees have higher external competitiveness than below 11 million employees, and there is no significant difference at external competitiveness between the employees with 11-15 million and over 16 million of yearly income; above 6 million employees have higher career satisfaction than below 6 million employees.

4. Conclusion

Table 5 has verified hypothesis 1—human capital is positively related to career success (perceived internal competitiveness, perceived external competitiveness and career satisfaction).

Table 6 has verified hypothesis 2—human capital can predict career success effectively (perceived internal competitiveness, perceived external competitiveness and career satisfaction).

Hypothesis 3 is partly gained verification—different demographic variables have significant differences in various dimensions of career success. The results of the study indicate that for knowledge workers, males have stronger internal competitiveness than females; older and longer working tenure employees have stronger internal and external competitiveness than younger and shorter working tenure employees, but there is no significant difference at career satisfaction between them; senior managers have stronger internal and external competitiveness and career satisfaction; the higher professional title, the stronger external competitiveness of the employees, and they have higher career satisfaction; the higher income employees have stronger internal and external competitiveness and career satisfaction.

In the era of protean and boundaryless career, knowledge workers' human capital not only is positively correlated to career success but also acts as a predictor of career success, which fully demonstrates the value of human capital. From this study, knowledge workers can get following inspirations: in the age of protean career and boundaryless career, one must pay much attention to his/her value of human capital, increase his/her own human capital investment, actively adapt to changes of the environment, try to get work promotions, gain rich work experience, improve learning ability, in order to improve oneself internal and external competitiveness, follow his/her inner yearning career goal, and increase personal career satisfaction, ultimately achieve career success.

References

[1]   D. T. Hall, Careers in organizations, Glenview, IL: Scott, Foresman, 1976.

[2]   M.B. Arthur, The boundaryless career: a new perspective for organizational inquiry, Journal of Organizational Behavior, 1994, vol. 15, pp. 295-306.

[3]   S.E. Sullivan, The changing nature of careers: A review and research agenda, Journal of Management, 1999, vol. 25, pp.457-484.

[4]   J.P. Briscoe, D.T. Hall, The interplay of boundaryless and protean careers: Combinations and implications, Journal of Vocational Behavior, 2006, Vol.69, pp.4-18.

[5]   D.T. Hall, The protean career: a quarter-century journey, Journal of Vocational Behavior, vol. 65, no. 1, August 2004, pp.1-13

[6]   M. Fugate, Employability: A psycho-social construct, its dimensions, and application, Journal of Vocational Behavior, 2004, vol. 65, no.1, pp.14-38.

[7]   S.E. Seibert, J.M. Crant, M.L. Kraimer, Proactive personality and career success, Journal of Applied Psychology, 1999, vol. 84, pp.416-427.

[8]   S. Niu, W.-C. Guo, Exploration of the relationship between career adaptability and career success in the era of boundaryless career, Journal of Dalian University of Technology(Social Sciences), 2009,vol.30, no.1, pp.34-39.

[9]   Z.-J. Wang, L.-R. Long, Exploration of the relationship between human capital and career success in knowledge-based economy era, Foreign Economies and Management, 2005, vol.27,no.2, pp.18-23.

[10]   P.F. Drucker, Landmarks of Tomorrow: A Report on the New"Post-Modern"World, New York: Harper&Row, 1959.

[11]   F. Horibe, Managing Knowledge Workers: New Skills and Attitudes to Unlock the Intellectual Capital in Your Organization, Canada: John Wiley & Sons Canada Limited. 1999.

[12]   C. Woodruffe, Winning the talent war: Winning the Talent War: A Strategic Approach to Attracting, Developing and Retaining the Best People, Chichester, UK: John Wiley & Sons. 1999.

[13]   X.-C. Wang, J.-C. Lu, Y.-Z. Xu, Knowledge economy, Beijing: China Economic Press,1998.

[14]   J.-F. Peng, W.-J. Zhang, How to encourage knowledge workers, Human Resource Development of China,1999, vol.9, pp.12-14.

[15]   T.W. H. NG, L.T. Eby, K.L. Sorensen, D.C. Feldman. Predictors of Objective and Subjective Career Success: A Meta-Analysis. Personal Psychology. 2005, vol.58, no.2, pp. 367-408.

[16]   J.-C. Fu, P. Fu, Study of the Relationship between human capital and occupational mobility: the role of human capital. Chinese Journal of Ergonomics, 2008, vol.l4, no3, pp.36-40.

[17]   E.A.W. Boxman, P.M. De Graaf, and H.D. Flap,The impact of social and human capital on the income attainment of Dutch managers, Social Networks, North-Holland, 1991, vol.9,no.13, pp.51-73.

[18]   K.B. Keeton. Characteristics of successful women managers and professionals in local government: a national survey .Women in Management Review, 1996, vol.11, no. 3, pp. 27-34.

[19]   E.L. Thorndike, The Prediction of Vocational Success, Oxford University Press, New York, NY, 1934.

[20]   T.A. Judge, C.A. Higgins, C.J. Thoresen, & M.R. Barrick, The big five personality traits, general mental ability, and career success across the life span ,Personnel Psychology, 2006, vol.52,no.3, pp.621-652.

[21]   M.B. Arthur, S.N. Khapova, C.P.M. Wilderom, Career success in boundaryless career world ,Journal of Organizational Behavior, 2005, vol.26,no.2, pp.177-202.

[22]   L.T. Eby, M. Butts, A. Lockwood, Predictors of success in the era of boundaryless careers,Journal of Organizational Behavior, 2003, vol.24,no.5, pp. 689 -708.

[23]   J. H. Greenhaus, S. Parasuraman, W. Wormley, Effects of race on organizational experiences, job performance evaluations, and career outcomes , Academy of Management Journal, 1990, vol.33, pp.64-86.

[24]   G. Dreher, R. Ash, A comparative study of mentoring among men and women in managerial, professional, and technical positions, Journal of Applied Psychology, 1990, vol.75,no.5, pp. 539-546.

[25]   P. Tharenou, S. Latimar, D. Conroy, How to make it to the top? An examination of influences on women's and men's managerial advancement, Academy of Management Journal, 1994, vol. 37,no.4, pp.899-931.

[26]   C. Kirchmeyer, Determinants of managerial career success: evidence and explanation of male/female differences, Journal of Management, 1998, vol.24,no.6, pp.673-692.

[27]   S.J. Wayne, R.C. Liden, M.L. Kraimer, and I.K. Graf, The role of human capital, motivation and supervisor sponsorship in predicting career success, Journal of Organizational Behavior, 1999, vol.20,no.5, pp. 577-595.

[28]   H.I. Ballout, Career success: The effects of human capital, person-environment fit and organizational support, Journal of Managerial Psychology, 2007, vol.22,no.8, pp.741-765.

[29]   F.S. Hall, and D.T. Hall, The Two-Career Couple, Addison-Wesley, Reading, MA, 1979.

[30]   G. Gould, and L.E. Penley, Career strategies and salary progression: a study of their relationships in a municipal bureaucracy, Organizational Behavior and Human Performance, 1984,vol. 34, pp. 244-265.