

December 2004

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Recommended Citation

King, Ruth and Sen, Ravi, "IT Recruiting Practices as Retention Predictors: Can Recruiters Make a Difference to Potential IT Employees?" (2004). *AMCIS 2004 Proceedings*. 458.

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IT Recruiting Practices as Retention Predictors: Can Recruiters Make a Difference to Potential IT Employees?

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ABSTRACT

The initial interaction between recruiters and potential employees can make a significant difference in not only whether these potential employees will join this particular company but how they project their duration of stay at this particular company. 278 potential IT employees who are graduating from a major Midwest university in the United States were asked to evaluate 40 commonly presented human resource practices during the recruitment process such as their future job nature, training and opportunities for advancement. The results show that among all practices, competitive salary ranks the highest while opportunities for professional growth, and high respect and fair treatment come second and third, respectively. The results also demonstrate that age, performance measurement and training are statistically significant and positively related to their duration of intended stay in this job; compensation and personal factors are also statistically significant but negatively related to the duration of intended stay in that job.

KEYWORDS

IT human capital management, recruiting practices, retention

INTRODUCTION

The Employment growth of IT professional (e.g. systems analysts and scientists) has been strong in the last decade (<http://www.go4it.gov>). Their importance to organizations is evident by the belief that shortage of IT professional has at least a moderate negative impact on businesses (<http://www.ita.org>). Given the trend that IT labor market demand continues to exceed supply, and turnover among IT professionals remaining high, hiring and retaining IT professionals has become an important issue with organizations. Organizations have realized the strategic importance of information and require advanced systems to collect, manage and use this information. Therefore, IT professional have become a critical capital asset to organization. This is true even when the economy is soft because IT can enable major change and turn company around and sustain organization competitiveness (e.g. Copeland 2002).

There is a large body of research that identifies, analyzes and suggests improvements to existing strategies for recruiting and retaining IT professionals (e.g. Stokes 2000; Jiang 1999; Agarwal *et al.* 1999). These studies, however, have analyzed the issue from organization's point of view. Studies on new IT professionals entering the labor market have concentrated more on the skills needed by these professionals to succeed (e.g. Cheney *et al.* 1990) and to some extent on their career orientations (e.g. Igarria *et al.* 1985; Igarria *et al.* 1993), but there has been no recent empirical investigation of factors affecting an IT professional's choice of her employer and her intention to remain with that employer. A recent study by Agarwal *et al.* (1999) summarizes the current practices implemented by employers to hire and retain IT professionals. Although it is a useful exercise to collect all recruiting practices used by many firms, this unqualified list can easily become overwhelming to employers when consider which practices works best among various groups of potential new hires.

Given this strategic and operational importance of IT professionals, there are myriad of job opportunities open to them, more specifically job offers with other organizations and/or competitors. Therefore, retention of IT professional becomes an important human resource management's objective. It is not farfetched to say that to manage the IT retention is to manage the IT recruitment. The recruitment practice can help set the stage and expectation for the new hires to stay for a long time or to exit soon after they arrive. The goal of this paper is to examine the impact of the IT human resource practices on new hires. The IT human resource practices, used in this paper, have been used by many successful companies who have high retention rate or low turnover rate. More specifically, the paper addresses the following research questions:

- a. What are the most important IT recruiting practices perceived by the new hires?
- b. What specific IT recruiting practices will impact the duration of stay for the new hires?

This study intends to improve our understanding of the issue by empirically investigating the expectations and perceptions (about their potential employers and job) of new IT professionals entering the labor market and comparing it to the actual hiring and retention strategies of organizations. Findings from this study should help organizations to improve upon their existing hiring and retention practices for IT professionals so as to bring them in line with the expectations of IT professionals and decrease their turnover rate by doing so.

RESEARCH DESIGN

323 potential employees who have received one to six job offers were requested to answer the questionnaire. 278 questionnaires were returned and useful resulting an 86% response rate. There are 34.53% female and 65.47% male in the sample. Out of total respondents 14.7% are graduates (i.e. MBA students with information technology concentration) and the rest 85.3% senior college graduates with major in management information systems located in business school or computer sciences. All respondents are from Midwest of the United States. The profile of the study is listed on Table 1.

Table 1: Sample characteristic (n=278)

Resident	US	243	91.0%
	Non-US	35	9.0%
Degree	Undergraduate	237	85.3%
	Graduate	41	14.7%
Major	MIS	140	50.36%
	Computer Science	138	49.64%
Gender	Female	96	34.53%
	Male	182	65.47%
Age	Minimum	19	
	Maximum	34	
	Mean	21.98	
Job held previously	Minimum	0	
	Maximum	7	
	Mean	2.377	

Table 2: Correlation and Statistics of 11 scales

Variables	N	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1.Jobnature	278	5.82	.75	(.83)										
2.Training	278	5.60	.99	.68	(.78)									
3.Compensation	278	5.89	.88	.46	.42	(.67)								
4.Performance Measurement	278	5.63	1.01	.61	.57	.41	(.59)							
5.Career Advancement	278	5.95	.95	.60	.54	.44	.63	(.57)						
6.Stability	278	5.44	.99	.59	.56	.47	.58	.55	(.76)					
7.Connection	278	4.04	1.31	.22	.34	.11	.29	.16	.40	(.77)				
8.IT leadership	278	5.46	1.02	.56	.45	.35	.51	.43	.51	.30	(.83)			
9.Personal factors	278	4.95	1.12	.37	.39	.23	.30	.23	.37	.43	.30	N/A		
10.Flexibility	278	5.44	1.43	.34	.35	.40	.25	.29	.41	.24	.37	.25	N/A	
11.Sense of Community	278	5.26	1.44	.50	.53	.36	.51	.44	.45	.28	.38	.32	.34	N/A

Correlation is significant at the 0.01 level (2-tailed) if $CC \geq 0.159$.

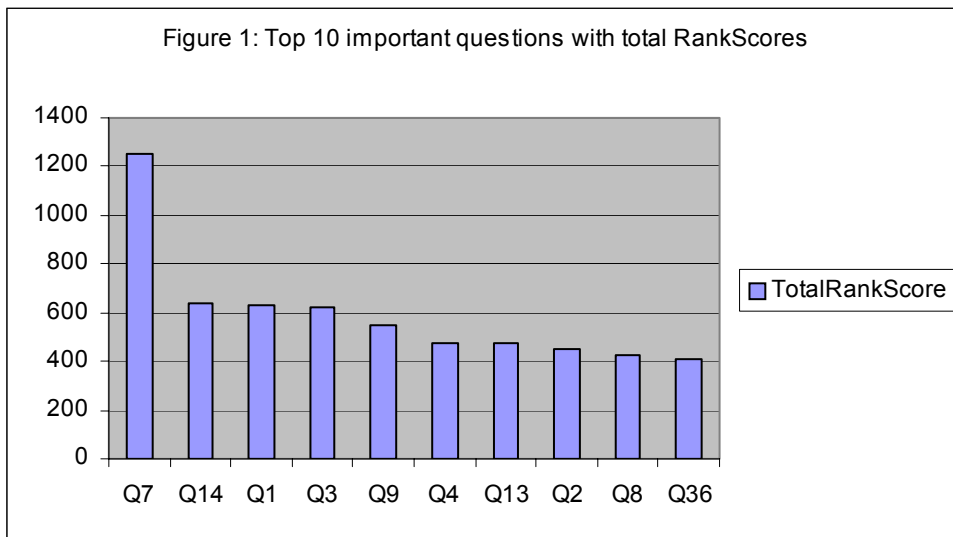
The diagonal cells are alphas for the 11 scales.

The questionnaire asks 40 most commonly used recruiting practices and respondents were asked to rank the top ten most important recruiting practices among the 40 listed. We later grouped items according to the categories of Agarwal *et al.* (1999) and the Cronba alphas (listed in table 2) for all these categories are mostly acceptable (beyond 0.60).

RESULTS

Respondents were asked to rank the 10 most important recruitment related practices that affected their choice of an employer, are as follows (Please refer to Figure 1 for their weighted scores):

1. High/competitive salary (Q7).
2. Opportunities for professional growth and development in the job (Q14).
3. High respect and fair treatment from supervisor (Q1).
4. Very friendly co-workers/team members (Q3).
5. Good fringe benefit (retirement, sick leave, paid vacation, child care...) (Q9).
6. Opportunities to learn new things from the work (Q4).
7. Opportunities for personal growth and development in the job (Q13).
8. Great job security (Q2).
9. Future compensation is based on performance not on seniority (Q8).
10. Company is young but has great potential (Q38).



If we map these findings onto the *strategic star* suggested by Agarwal *et al.* (1999), for ideal hiring and retention strategies, we find that Compensation (e.g. salary, fringe benefits) figure prominently in an IT professionals' decision criterion. Career development and job security (i.e. Q2, Q4, Q13), concern for individual development (i.e. Q14, Q3), and concern for productivity (i.e. Q8, Q14) as important aspects of their *strategic star* strategy, also validated by our results. One surprising deviation from employers' expectation is concerning skills sought in an IT professional. IT professionals themselves do not give much importance to the match between their skills and the ones sought by their potential employers. One reason could be that they are confident of adapting themselves as they go along in their careers by learning new skills. This might also explain their emphasis on opportunities to learn when deciding on their potential employer.

We tested a linear regression model where:

1. Dependent variable is LOGCARR, defined as the number of years a new IT recruit expects to stay with his first employer.
2. Predictor variables are AGE, GEND (i.e. gender), PERF (i.e. performance measures), COMP (i.e. compensation), PERS (i.e. personal factors) and TRAINING (i.e. training opportunities)

$$\text{LOGCARR} = \beta_0 + \beta_1 \text{GENDER} + \beta_2 \text{AGE} + \beta_3 \text{PERF} + \beta_4 \text{COMP} + \beta_5 \text{PERS} + \beta_6 \text{TRAINING}$$

Where

- AGE: Age of the respondent
- GEND: Gender of the respondent
- PERF: Expected Performance evaluation by the employer
- COMP: Expected compensation from the employer
- PERSONAL: Personal reasons
- TRAINING: Expected training during employment

The linear regression model obtained after estimating the coefficients (Table 3) is as follows:

$$\text{LOGCARR} = 0.032 + 0.01\text{GEND} + 0.025\text{AGE} + 0.045\text{PERF} \\ - 0.054\text{COMP} - 0.04\text{PERS} + 0.048\text{TRAINING}$$

The ANOVA output of the regression model is shown in figure 2.

Figure 2: ANOVA for Lack of Fit Test

ANOVA^f

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.623	2	.311	5.278	.006 ^a
	Residual	14.159	240	5.900E-02		
	Total	14.782	242			
2	Regression	.951	3	.317	5.475	.001 ^b
	Residual	13.832	239	5.787E-02		
	Total	14.782	242			
3	Regression	1.337	4	.334	5.917	.000 ^c
	Residual	13.445	238	5.649E-02		
	Total	14.782	242			
4	Regression	1.606	5	.321	5.778	.000 ^d
	Residual	13.176	237	5.559E-02		
	Total	14.782	242			
5	Regression	1.960	6	.327	6.014	.000 ^e
	Residual	12.822	236	5.433E-02		
	Total	14.782	242			

a. Predictors: (Constant), AGE, GEND

b. Predictors: (Constant), AGE, GEND, PERF

c. Predictors: (Constant), AGE, GEND, PERF, COMP

d. Predictors: (Constant), AGE, GEND, PERF, COMP, PERS

e. Predictors: (Constant), AGE, GEND, PERF, COMP, PERS, TRAINING

f. Dependent Variable: LOGCARR

Model	Test Statistics F*	Critical Value (F)	Test	Hypothesis
1	5.278	2.324817672	F*>F	Accept Ha
2	5.475	2.106840924	F*>F	Accept Ha
3	5.917	1.968626151	F*>F	Accept Ha
4	5.778	1.871729438	F*>F	Accept Ha
5	6.014	1.799232763	F*>F	Accept Ha

For $\alpha=0.1$
 Ho: The relationship between independent variables and LOGCARR is not significant
 Ha: The relationship between independent variables and LOGCARR is significant
 Decision Rule: $F^* \leq F$, accept Ho; $F^* > F$, accept Ha

As we can see from Table 2, the test for significant relationship between the independent LOGCARR is significant for all the 5 models.

The output for the regression model is shown in Table 3.

Table 3: Regression output

		Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9.757E-02	.155		.631	.529		
	GEND	2.597E-03	.011	.015	.233	.816	.999	1.001
	AGE	2.255E-02	.007	.204	3.233	.001	.999	1.001
2	(Constant)	-.156	.187		-.837	.403		
	GEND	5.259E-03	.011	.030	.475	.635	.989	1.011
	AGE	2.446E-02	.007	.222	3.517	.001	.986	1.014
	PERF	3.689E-02	.016	.151	2.380	.018	.976	1.025
3	(Constant)	-7.73E-03	.193		-.040	.968		
	GEND	6.355E-03	.011	.036	.580	.562	.988	1.013
	AGE	2.573E-02	.007	.233	3.735	.000	.981	1.019
	PERF	5.605E-02	.017	.229	3.302	.001	.794	1.259
	COMP	-4.87E-02	.019	-.179	-2.616	.009	.814	1.229
4	(Constant)	8.049E-02	.196		.411	.681		
	GEND	9.210E-03	.011	.052	.842	.401	.974	1.027
	AGE	2.489E-02	.007	.226	3.637	.000	.978	1.023
	PERF	6.497E-02	.017	.265	3.751	.000	.751	1.332
	COMP	-4.37E-02	.019	-.161	-2.349	.020	.801	1.248
	PERS	-3.10E-02	.014	-.144	-2.200	.029	.880	1.136
5	(Constant)	3.192E-02	.194		.164	.870		
	GEND	1.034E-02	.011	.059	.955	.340	.972	1.029
	AGE	2.484E-02	.007	.225	3.671	.000	.978	1.023
	PERF	4.459E-02	.019	.182	2.360	.019	.617	1.622
	COMP	-5.44E-02	.019	-.201	-2.887	.004	.761	1.314
	PERS	-4.02E-02	.014	-.186	-2.791	.006	.826	1.211
	TRAINING	4.835E-02	.019	.200	2.553	.011	.597	1.674

a. Dependent Variable: LOGCARR

We have decided not test for the significance of each of the predictors because of a relatively high degree of correlation among some of the predictors (see table 2), makes it difficult to use the t-statistics required for this test.

The coefficients for various predictors can, however, be interpreted in a straightforward manner. As we can see that all the predictors have more or less similar affect (in terms of magnitude) on the dependent variable LOGCARR. An interesting observation is that compensation and performance evaluation seem to have a negative affect on the value of independent variable. This is surprising since most respondents rank these two issues as important when deciding from among various job offers. Regression output seems to suggest that when future compensation is based on performance (i.e. Q 8), the expected duration of working for the organization is reduced. Another important observation is that the unknown *constant* has the most affect on the dependent variable. This suggests that we need to explore further for factors (not included in this study) that influence an individual's decision to accept an offer and the expected duration of stay with the same employer. Summary of the regression output is shown in Table 4.

Although relatively high values of R-square suggest that the model has moderate predicting power, the low values of adjusted R-square (i.e. stripping away the affect of sample size) suggest otherwise. The model is moderately able to explain the relationship between our predictors and the expected duration, an IT professional expects to stay at her next job, but further studies are required to identify other determinants that affect the decision of an IT professional's choice among various job offers and her expected duration of stay at the next job.

Figure 4: Summary of Regression Output

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.205 ^a	.042	.034	.2429
2	.254 ^b	.064	.053	.2406
3	.301 ^c	.090	.075	.2377
4	.330 ^d	.109	.090	.2358
5	.364 ^e	.133	.111	.2331

a. Predictors: (Constant), AGE, GEND

b. Predictors: (Constant), AGE, GEND, PERF

c. Predictors: (Constant), AGE, GEND, PERF, COMP

d. Predictors: (Constant), AGE, GEND, PERF, COMP, PERS

e. Predictors: (Constant), AGE, GEND, PERF, COMP, PERS, TRAINING

Discussion and Conclusion

Although most of the companies who have successful IT retention practices that create programs such as career paths, stock-option program, signing bonus, not every practices seem equally important to new recruits when they decide which company to choose when they are deliberating the job offers in their hand. It is important for company to keep up with the human resource practices, it is also important to understand what to sell to potential employees, especially young and fresh employees whose needs and desires may be vastly differently from the veterans. For example our data shows that apart from offering good compensation, career development and security, concern for individual and productivity, firms should be prepared to hire professionals with more general IT skills and be prepared to train them in specific skills that are needed on the job.

Findings from the study should be interpreted within the limitations of the methodology. For example, we have used potential employees from one region and the data may not represent the potential employees from other regions such as east and west coasts. Future research can broaden the data collection and to include more regions. Also, more predictors need to be identified to better explain IT professional's choice from among various offers and her expected duration of stay at her

next job. The set of predictors used in our model give us a good start towards understanding this issue, but they not enough to explain all the variance in the model.

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