

DEMOGRAPHIC DETERMINANTS OF ATTRITION OF TECHNICAL HUMAN RESOURCES- A STUDY OF THE INFORMATION TECHNOLOGY INDUSTRY IN INDIA

M. Basheer Ahmed Khan

Pondicherry University

Abstract

The Information Technology Industry is the fastest growing Industry in India as well as the most contributing Industry to the Indian Economy. Needless to mention that the growth and contribution of the Industry can be sustained only if the workforce, especially the technical human resources of the industry remain stable. Unfortunately, with the sudden growth of the industry in India as well as the global competition unleashed, the environment posed great challenges to the industry by way of growing attrition. The industry faced attrition of its technical human resources to the extent of 30-40% half a decade ago and it continues to be near 15-20% in 2014. It kindled interest in academics to investigate the phenomenon and in this study, an attempt has been made to analyze the empirical data relating to the demographic determinants of attrition of technical human resources of the information technology industry in India. The paper investigates if the demographic factors like gender, age, educational qualifications influence their intentions to quit the firms or continue to stay. The findings are significant with a view to evolving appropriate attrition management policies of the firms in the industry in India.

Introduction

Information Technology industry in India has shown great promises for the development of Indian economy. IT industry in India includes software services sector, information technology enabled service (ITES) sector and business process outsourcing (BPO) sector. According to National Association of Software and Services Companies, better known as NASSCOM in India, from the past two decades, the Indian IT/ITES and BPO sectors have contributed significantly to Indian economic growth in terms of GDP, foreign exchange earnings and employment generation. The revenue of IT and ITES were reported to be 71.3 billion USD in 2010.

Technical human resources are crucial enablers in Information Technology organizations. There are a number of challenges for the IT industry. The major challenges of the human resources function for the IT industries are Recruitment, Training and Development, Compensation Management and Employee Attrition and Retention. The puzzle facing Indian IT industry is how to stop technically skilled human resources churning out in the midst of the internal and external competition of firms of the industry. The champion of the Indian information Technology Mr. N. R. Narayanamurthy's famous quote is that "our assets walk out of the door each evening. We have to make sure that they come back next morning". The Business Standard (April 10, 2014) carried a story titled "IT Companies battle rising attrition amid demand uptick". The story reports that "even as the Indian Information Technology (IT) services sector cheers the recent spurt in demand, companies are faced with the challenge of rising attrition levels as employees look to tap new opportunities that are now available in the marketplace. Most large size IT companies reported a rise in employee attrition rate during July-September 2013 and experts believe that the trend may continue going forward".

Due to the relatively stable demand in the past couple of years, stability of employees was also seen in the companies. Human Resources companies recruiting technical human resources for Information Technology Organizations foresee an increase in attrition rate by 100-200 basis points in the next few quarters. Attrition rate for Infosys (an Information Technology Major) during July-September 2013 was the highest in more than six quarters. Attrition was 17.3% during this period against the 15% during the same period one year ago and 16.9% in April-June 2013. Information Technology Company like HCL had an attrition rate of 16.1% in September 2013 against 14% a quarter ago. Another Information Technology Leader WIPRO experienced an attrition spurt of 15.4% in September 2013 against 13.0% in April-June 2013. Experts view the rise for attrition due to need for more pay besides other factors. It is viewed that if the employees continue in the current job, the possible pay hike is 5-6% while if the job is kicked, the money hike is to the extent of 15-20%. In the going trend of attrition, Human Resources experts predict an attrition rate of 200-300 basis points over the next few months in India.

Employee retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time. According to Jack J Phillips and Adele O Connell (2008) retention is the percentage of employees remaining in the organization. Retention is thus the opposite of the attrition and it involves compensation, growth, support, relationship and environment. If the employees are not satisfied with their job, surely they will switch over to another job. When the technical human resources of the Information Technology industry leave, losses are in the forms of human, knowledge and social capital. Such loss may cause a decrease in customer services, delays in the projects of

clients' and increases in costs. The costs associated with attrition can be categorized as recruitment costs, selection costs, training costs and separation cost (Dewitt Latimer, 2002).

Hence, in this competitive business environment it is important for the organizations to retain the skilled people. In this context, many Information Technology Organizations in India have introduced suitable attrition management strategies to face the future challenges of the shortage of technical human resources. The attrition management strategies that are designed by Business Process Organizations (BPO) and Information Technology (IT)/Information Technology Enabled Services (ITES) in India for providing benefits to the professionals include among other things, Group media claim insurance scheme, company leased accommodation, Recreation, Cafeteria, ATM, gym, cell phone/laptop, personal health care provision, educational benefits, performance based incentives, Employees Stock Option Plan etc. But who are the technical human resources that desert the organizations? What are their demographic profiles in respect of gender, age, education, job titles and experience? An in-depth understanding of these profiles can help build a suitable strategy for attrition in the information technology organizations. This study is an effort towards this goal.

Review Of Literature

Besides the nature of job and work environment, there are individual variables which influence the retention of employees. Demographic factors such as age, education, job level, and tenure with an organization are the most common predictors in retention (Koos Kotze and Gert Roodt , 2005). It is commonly accepted that younger and better educated employees are more likely to leave than older and less qualified employees. Also those who have limited education, tend to remain on the job for longer periods of time than those who have higher degree of education. To empirically verify the syndrome and the parameters associated with it, several studies had come up investigating various aspects of the phenomenon from various individual scholars in India. Ritu Agarwal and Thomas W Ferraat (2001), S. Padmanabhan (2003), Aisha Khan and Ruchi Chaturvedi (2004), Narendra Agarwal et. al. (2006), Gosh Piyali and Geetika (2006), Venugopal and k. Sasidharan (2006), Pankaj Tiwari et. al. (2008), S. Poornima (2008), Punia and Priyanka Sharma (2008), Santhosh Guptha and Aayushi Gupta (2008), Atanu Adhikari (2009), Mohan Thite (2010), M B A Khan et. al (2010, 2011), Haridas, P.K.(2013) are all some such studies in India. Besides several studies have been reported from abroad as well.

Punia and Priyanka Sharma (2008) studied the influence of organizational procurement practices on employee retention on the basis of personal and positional variables of employees. The study highlighted that the influence of age and employee position as a significant factor in employee attrition.

Anupama D Raina (2006), made a study on Employee attrition and retention. The first objective of this research was to know the problems and effects of attrition on call centers and the second objective of the research was to study the retention measures adopted by the call centers to retain employees. From the analysis, it was found that attrition was more common between the age group of 20-25 years and within three months of joining the organization. Qualification wise, the employees leave the organization for career growth and higher studies.

Maureen Hannay and Meltssa Northan (2009) made study about employee retention. For the study, data were collected from 188 working employees. After analyzing data, four variables were found to be significant predictors of employee attrition: perceived future opportunities, employee's age, employee expectations and employee tuition assistance programs.

Objectives Of This Study

This study, in this context, aims to achieve the following limited specific objectives:

1. To analyze the gender difference in respect of the intention to quit,
2. To analyze the role of age in respect of intention to quit,
3. To analyze the role of education in respect of intention to quit,
4. To analyze the role of job titles in respect of intention to quit,
5. To analyze the role of experience in respect of intention to quit.

Methodology Of The Study

A descriptive survey design was adopted. The population for this study comprised of technical human resources from Bangalore, Chennai, and Thiruvanthapuram, the three southern states of India like Karnataka, Tamil Nadu and Kerala. Convenient and purposive sampling techniques were used to gather data from the respondents. The data were collected from the technical human resources through questionnaire. The total respondents of the questionnaire were 400, which was pre fixed as a quota sample.

To measure the intention to stay, which will reduce attrition, seven items were used. These items were rated on a five point scale range from '1' strongly disagree to '5' strongly agree. Respondents were to indicate the level of agreement on items such as "I feel like I am a good match for this organization", "I plan to work at present job for as long as possible", "With this company, my work gives me satisfaction", "I see a future for myself within this company", "Thoughts about quitting my job cross my mind", "I will most certainly look for a new job in the near future", "I do not have any intention to resign from this organization with in a shorter time".

ANOVA tests and t-test were conducted to determine the influence of demographic variables on intention to quit.

Hypotheses

The following five null hypotheses have been formed for testing with a view to achieving the objectives:

- H1: There is no significant difference between male and female technical human resources with respect to their intention to quit the organization
- H2: Age does not affect the intention of technical human resources to quit the organization
- H3: There is no significant relationship between the education level and the intention of the technical human resources to quit the organization
- H4: There is no significant difference between the Job titles and the intention of technical human resources to quit the organization
- H5: There is no significant relationship between Experience and the intention of the technical human resources to quit the organization

Data Analysis And Results

Demographic Profile of Employees

The majority of the respondents (60%, n=238) were males and 40% (n=162) were females.

Of the respondents 32% (n=128) were aged less than 25 years, 32.3% (n=129) were in the age group 25-29 years, 22% (n=80) were between 30-34 years, 5.8 % (n=23) fell in the age group 35-39 years and 10% (n=40) were more than 40 years old.

Of the respondents 6% (n=24) had PhD, 3.50 % (n=14) were MTech holders, 16.50% (n=66) were BTech holders, 13% (n=52) were MBA holders, 13.50 % (n=54) were MCA, 26.50% (n=106) were PG, 18.8% (n=75) had UG and 2.3% (n=9) were diploma holders.

Of the respondents 4.3% (n=17) are software development managers, 6.50% (n=26) are software developers, 17.5% (n=70) System Analyst, 18.5 % (n=74) are system administrator, 7.8% (n=31) are web designers, 5.5% (n=22) are project leaders. 4.8% (n=19) are project trainees, 28% (n=112) are programmers and 7.3% (n=29) are technical assistants.

Of the respondents 51% (n=204) had up to 5 years of experience, 30.3 % (n=121) respondents had experience between 6-10 years, 11.8 % (n=47) had experience between 11-15 years and 7% (n=28) respondents had above 15 years experience.

Reliability

The Cronbach's coefficient was used to get the reliability. Cronbach's alpha was 0.7 for intention to quit and it is acceptable.

Descriptive Statistics of Intention to Quit

Table 1: Table showing the intention to quit

Intention to quit	N=400	Mean	Standard Deviation
		3.45	0.66

Source: Primary data

The table shows the descriptive statistics of the variable of the study (Intention to quit). From the table, it can be seen that the respondents (mean=3.45, SD=0.66) on five pointscale for intention to stay indicates that the most of the technical human resources are dilly dallying about their intention to quit the current organization.

Intention to quit -Comparison of Respondents' Perceptions by their Demographic Factors

In this, the views of the respondents were studied regarding the demographic factors with respect to their intention to quit. The validity of the results obtained was also tested on the 5% and 1% levels with the help of appropriate statistical tools.

Intention to quit and Gender

Table 2: Table showing the Gender wise Intention to Quit

Variable			Intention not to quit			
			Mean	S.D	t-Value	Significance Level
Sex	Male	N=238	3.47	0.63	0.868	0.352
	Female	N=162	3.41	0.69		

Source: Primary data

It can be seen from the above table, mean scores on the opinion of male employees about their intention to stay is almost same as that of female counterpart. Therefore, there is not much difference in the mean score between male and female respondents. Gender, per ce, does not influence attrition.

From the observation of 't' value, which is not significant, it is apparent that the status of intention to stay or quit is similar between two groups.

Intention to quit and Age

Tabel 3: Able showing Age wise Intention to quit

Variable			Intention to quit			
			Mean	S.D	F-Value	Significance Level
Age	< 25 years	N=128	3.235	0.643	11.96	.000**
	25 - 29 years	N=129	3.379	0.571		
	30 - 34 years	N=80	3.596	0.619		
	35 - 39 years	N=23	3.975	0.753		
	>= 40 years	N=40	3.753	0.591		

**Significant at .01% level

Source: Primary data

From the above table it can be seen that mean scores of intention to quit for the age group less than 25 years is 3.235, for the age group 25-29 years is 3.379, for the age group 30-34 years is 3.596, for the age group 35-39 is 3.975 and for the age group more than or equal to 40 years is 3.753 respectively. The standard deviation values are 0.643, 0.571, 0.619, 0.753 and 0.591 respectively with respect to five age wise categories.

To verify the significance of the difference F-test was carried out. The f- value is found to be 11.960 at significant level 0.00. The result revealed that the difference among the age groups of the sample was statistically significant. Hence, it can be said that there is a significant difference between given five age groups regarding their intention to quit from the organization. From the table it can be seen that the age group more likely to quit are 30-34 and 35-39 years.

Intention to quit and Education

Table 4: Table showing Education wise Intention to quit

Variable			Intention to quit			
			Mean	S.D	F-Value	Significance Level
Education	PhD	N=24	3.238	0.405	3.96	.000**
	MTech	N=14	3.438	0.432		
	BTech	N=66	3.68	0.619		
	MBA	N=52	3.442	0.723		
	MCA	N=54	3.624	0.652		
	PG	N=106	3.272	0.653		
	UG	N=75	3.37	0.63		
	Diploma	N=9	3.73	0.648		

** Significant at .01 level

Source: Primary data

From the above table it can be seen that mean scores , of intention to quit for different education qualifications are 3.238(PhD), 3.438 (M.Tech), 3.370 (B.Tech). 3.442(MBA), 3.62(MCA), 3.272(PG), 3.680(UG) and 3.730 (Diploma) and standard deviation values are 0.405, 0.432, 0.630, 0.723, 0.652, 0.653, 0.619 and 0.648 respectively in the same order with respect to the eight specified education categories.

To verify the significance of the difference an F-test was carried out. The F- value is found to be 3.960 at 0.00 significance level. The F test result revealed that the difference among the designation groups of the sample was statistically significant. Hence it can be said that there is a significant difference between given nine educational qualification groups regarding their intention to quit the organization. Based on the mean value from the table, the IT professionals those who are technically qualified like BTech , MCA and Diploma have a tendency to quit the job.

Intention to quit and Designation

Tabel 5: Table showing Job Tile wise Intention to Quit

Variable			Intention to quit			
			Mean	S.D	F-Value	Significance Level
Designation	Software Development Managers (01)	N=17	3.966	0.596	4.287	.000**
	Software Developers (02)	N=26	3.208	0.875		
	System Analyst (03)	N=70	3.244	0.525		
	System Administrator (04)	N=74	3.494	0.523		
	Web Designer (05)	N=31	3.608	0.637		
	Project Leader (06)	N=22	3.441	0.742		
	Project Trainees (07)	N=19	3.744	0.657		
	Programmers (08)	N=112	3.372	0.627		
	Technical Assistants (09)	N=29	3.67	0.761		

** Significant at .01 level

Source: Primary data

From the above table it can be seen that mean score of intention to quit for different respondents with different job title variables are 3.966(01), 3.208(02), 3.244(03), 3.494(04), 3.608(05), 3.441(06), 3.744(07), 3.372(08) and 3.670(09). The job titles are numbered in ascending order and are given in the brackets. The corresponding standard deviation values for the same categories respectively are 0.596, 0.875, 0.525, 0.523, 0.637, 0.742, 0.657, 0.627 and 0.761 with respect to the nine job title groups.

To verify the significance of the difference F-test was carried out. The F- value is found to be 4.287 at 0.00 significance level. The F test result revealed that the difference among the different groups holding different job titles of the sample was statistically significant. Hence, it can be argued that there is a significant different between given nine job title groups regarding their intention to quit from the organization.

Based on the mean value, it can be seen that, software development mangers, and web designers have a tendency to stay in the current organization and the other technical employees like system analysts,

software developers and programmers have more tendency to quit the job.

Intention to quit and Work Experience

Table 6: Table showing Experience wise intention to quit

Variable			Intention to quit			
			Mean	S.D	F-Value	Significance Level
Expe rience	Up to 5 years (01)	N=204	3.465	0.67	1.341	0.261
	6-10 years (02)	N=121	3.37	0.628		
	11-15 years (03)	N=47	3.586	0.601		
	above 15 years - 4	N=28	3.428	0.671		

** Significant at .01 level

Source: Primary data

From the table it can be seen that mean score of intention to quit are 3.465(01), 3.370(02), 3.586(03) and 3.428(04). The different categories experience wise are numbered in ascending order and shown in the brackets. The corresponding standard deviation values are 0.670, 0.628, 0.601 and 0.671 respectively for these four work experience groups.

To verify the significance of the difference F-test was carried out. The F- value is found to be 1.341 and which is not significant. The F test result revealed that the difference among the designation groups of the sample was statistically insignificant. Hence, it can be said that there is no significant different between given four experience groups regarding their intention to quit from the organization. Human resources with any experience can quit based on other factors.

Conclusion

The study analyzed the intention of the technical human resources in respect of their intention to quit or not to quit the organizations in which they are currently working which reflects on the attrition in the Information Technology industry in India. This intention has been investigated with respect to such demographic factors like gender, age, education, designation and experience. The study has shown that gender and experience have no significant impact on the attrition of technical human resources in the information technology industry in India. Hence, null hypothesis H1 and H5 are accepted. Further it has been proved that

age, education and job title have an impact on the attrition of technical human resources. Hence, null hypothesis H2, H3 and H4 are rejected.

With respect to age, it has a direct impact on employee's intention to quit. This means that younger IT employees feel they have more openings available to kick jobs in the IT market than older IT workers to get alternative jobs as well as promotion opportunities. Level of education also had a significant influence on IT employee's attrition. This means IT employees with lower level of education have a greater tendency to stay than those with higher levels of technical education. With respect to positional level, it appears that technical human resources with high positional level have a greater tendency to stay with the current organization than the lower positional level employees.

The finding also revealed that the technical human resources have a clearer mind in respect of their intentions to either quit or stay. The study has revealed that while gender and experience are not the demographic determinants of attrition, determinants like age, education, job titles among others do influence attrition. This is understandable because in respect of self interest, gender and age are by and neutral. Other determinants are part of the self interest. Hence, the organizations can better evolve effective attrition management policies taking into consideration these determinants. An appropriate architecture of Compensation Management by focusing on the vulnerable groups who are identified through this study can be the basis for such an attrition management effort. The Compensation Management architecture has to pay attention to the Ten Ps (M. Basheer Ahmed Khan, 2014) of Compensation to be effective.

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