

THE EFFECT OF JOB SATISFACTION ON IT EMPLOYEES TURNOVER INTENTION IN ISRAEL

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Abstract: Employee voluntary turnover is very costly for companies, particularly for the Hi-Tech sector, where the costs of their IT labor force is expensive. Employees' voluntary turnover has substantial negative impacts on the companies especially costs, potential loss of valuable knowledge, skills and organizational knowledge. That is why it becomes a critical issue to take address. Studies have been carried out *on the reasons which lead to this tendency*, however the ability to explain and predict it remains restricted. The objective of this paper is to present *the reasons for* voluntary turnover of employees in the IT sector in Israel *from the IT employees' perspective*. A broad analysis of the field literature led to the following groups of causes affecting voluntary turnover: organizational causes: Human Resource Management (HRM) related, organizational culture, job related, leadership and internal marketing related; extra organizational causes: individual and, respectively, labor market related causes. This could be approached as in light of this review this article will focus on one of the extra organizational causes of voluntary turnover, i.e. the effect of job satisfaction on voluntary turnover intention among IT employees in Hi-Tech companies in Israel. This correlation was researched in an extensive empirical study among two population groups: IT employees and IT managers and by using mixed method research (combination of quantitative and qualitative research). The findings that supported the literature show *job satisfaction* has a negative effect on voluntary turnover intention among IT employees in Hi-Tech companies in Israel. Additionally, it was found that job satisfaction indirectly affects voluntary turnover intentions and that emotional variables such as commitment, motivation and loyalty mediate voluntary turnover intention. This finding is supported partially in the literature which only pointed out commitment as a mediating factor in the relationship between job satisfaction and voluntary turnover intention. The finding in this research should be *adopted* by IT organizations and managements who should develop a way *to prevent voluntary turnover among IT employees and develop a route to increase their employees' job satisfaction and from that point to reduce voluntary turnover intention and retain this expensive IT human resource in Hi-Tech companies*.

Key Words: Voluntary turnover intentions; commitment; IT sector employees in Israel; Job satisfaction; internal marketing (IM); loyalty (NPS)

JEL Classification System: J2 , M13, M14 M31, M15, O14

Introduction

Employee voluntary turnover remains a critical issue for managements because of its negative implications for organizations. Yet fewer studies have been done about the reasons for employees voluntarily leaving the IT sector. Thus, researchers' ability to explain and predict employee's voluntary turnover remains limited. In light of this the question that arises is why employees voluntarily leave their jobs in IT sector in Israel? After a widespread analysis of the field in the literature, we arrived at the following clusters of causes affecting voluntary turnover intention: 1) *organizational causes*: Human Resource Management (HRM) related, organizational culture, job related, leadership and

internal marketing related; 2) *extra organizational causes*: individual and, respectively, labor market related causes (Kessler-Ladelsky and Catana, 2013).

This article will focus on one of the extra organizational causes of voluntary turnover, i.e. the effect of job satisfaction on voluntary turnover intention among IT employees in Hi-Tech companies in Israel.

Literature Review and Hypotheses

Judge and Hullin (1993), organizational behavior researchers, argued that employees' job satisfaction is linked to eight rudiments. Among them absenteeism and turnover rate (Judge & Hullin, 1993). Researchers agree that the lack of employee job satisfaction in an organization leads to problems of absenteeism, lack of commitment and an increase in turnover rate. Employee job satisfaction was found to be a good predictor of retention of a highly skilled and experienced labor force in an organization (Alexander, Lichtenstein, & Hellman, 1998; Hellman, 1997). A certain study revealed that the job satisfaction variable is negatively related to voluntary turnover intentions (Carmeli, 1991; O'Reilly et al., 2005). Moreover, it was found that it is one of the variables determining voluntary turnover (Borda & Norman, 1997). Turnover models suggested a multifaceted process, indicating that job satisfaction is related first and foremost to turnover intentions. In other words, if job satisfaction is sufficiently low, the employee will develop an intention behavior of job withdrawal (Yeith Chen et al., 2004; Appelbaum et al., 2003; Freund, 2005). The intention may lead to a search for alternatives (Mano-Negrin & Tzafrir, 2004), which may result in actual turnover, if yielding the desired outcomes (Spector, 1977). Based upon the above literature findings, the following hypothesis was formulated:

Hypothesis 1: It will be found that employee job satisfaction is associated negatively with voluntary turnover intentions.

Most researchers are concerned with voluntary turnover intentions (VTI) in organizations and it is commonly held that VTI is dysfunctional, negatively influencing organizational effectiveness [i.e. the degree to which organizations achieve their objectives] (Hom and Griffeth, 1995). VTI is "a conscious and deliberate willfulness to leave the organization" (Tett and Meyer 1993, p. 262). It is thinking about voluntarily leaving one's current job and it is the best and most immediate predictor of turnover. However, intention to leave the workplace was found to be fully mediated by affective commitment (Hall and Moss, 1998; Hsu, et al., 2000; Steel, et al., 2002).

From the literature described above, the following hypothesis was formulated:

Hypothesis 2: It will be found that job satisfaction effects indirectly on voluntary turnover intentions.

The review of literature for the research topic has revealed that certain factors have led to employee turnover in the information technology workplace. It showed that those factors are emotional intelligence (EI) or emotional quotient factors and in general belong to the emotional content world. For example, Kreisman (2002) found that the following drivers have contributed to employees voluntarily departing from Hi-Tech companies: Lack of respect for communication with management, an agglomeration of indignation based on one or more triggering events, and some ongoing interaction with a manager that has pushed the employee over the edge. Burnes (2006) also identified inadequate management communication as a motivator for voluntary employee turnover among Generation X information technology professionals. Departing IT employees have also cited lack of faith and lack of belief in the company (Burnes, 2006). It seems that leaders of the organizations have failed to promote the "trust, group identity and group efficacy" identified by Cherniss and Goleman (2001, p. 133) as components of Emotional Intelligence or the emotional world of content needed to enhance cooperation, collaboration, and partnership in the company and among IT employees. To be

successful, as Yukl (2006) mentioned, leaders in technical environments need to have EI or emotional skills in addition to theoretical and technical knowledge. Based on a study conducted by Stephens (2007), lack of EI among leaders (and among other populations) appeared to be a factor in IT employee turnover (Stephens, 2007). Leaders have viewed employee turnover as a negative except for the involuntary turnover of low performing employees, leading to the belief that if organizational leaders select the correct frontline leader, they might reduce employee turnover (Stephens, 2007).

From the literature review it appears that emotional components effect voluntary turnover of IT employees. *Thus it can be assumed that the emotional variables might be an intervention variable between voluntary turnover and other variables as follows: job satisfaction reduces voluntary turnover intentions while neutralizing the intervening variable (that was called the emotional variable and includes three variables, loyalty to workplace, motivation to work and commitment to work).*

This three indices might oppose one another. Therefore each of them will be examined as an intervention variable in the relationship between job satisfaction and voluntary turnover intentions as follows:

Hypothesis 2.1: Job satisfaction reduces voluntary turnover intentions while neutralizing the loyalty variable.

Hypothesis 2.2: Job satisfaction reduces voluntary turnover intentions while neutralizing the motivation to contribute variable

Hypothesis 2.3: Job satisfaction reduces voluntary turnover intentions while neutralizing the commitment variable. As follows:

Hypothesis 2.3.1: Job satisfaction reduces voluntary turnover intentions while neutralizing the affective commitment.

Hypothesis 2.3.2: Job satisfaction reduces voluntary turnover intentions while neutralizing the normative commitment.

Hypothesis 2.3.3: Job satisfaction reduces voluntary turnover intentions while neutralizing the continuance commitment.

Methodology

The article is a part of the author's doctoral work in progress which examines the *causes and conditions of voluntary turnover among IT employees in the IT sector in Israel*. The research was mixed method research and carried out among IT employees and IT managers. *This article will refer to the IT employees quantitative research only.*

Research Population

IT employees in Hi-Tech companies in Israel, working in this sector for at least three years prior to the study (programmers, developers, computer engineers, information systems engineers, software engineers, mobile and telecom developers, R&D developers, electronics and hardware engineers, software testers, and IT practical engineers/technicians and so forth).

The population of interest consists of employees of 500 Hi-Tech companies in Israel with more than 50 employees (no startup companies) and some global companies (like Microsoft).

Research Procedure

A pilot questionnaire was developed for the employees population. An employee questionnaire (completing time 25-45 minutes) was administered to 30 randomly selected IT employees. The distribution of the the population (including Skewness and Kurtosis

indices) and reliability indices showed that the sample of IT employees had normal distribution and supported parameter tests.

Data Collection

IT employees: 350 questionnaires were submitted, as follows:

- 50 to IT employees working in IT companies (access to them was by mail, at the company's address). The response rate was 90%.
- 100 to IT employees known through personal connections and networking. The response rate (via mail) was 25%
- 200 questionnaires delivered to students in computer science, business administration with specialization in computers, software engineering, and computer engineering / science in the second or third year of undergraduate studies and postgraduate levels, already working as IT employees in development roles in Hi-Tech companies (delivered in the classes and by email). 50% of the questionnaires were completed and returned.

It has to be mentioned that it was decided to use students in the sample due to the difficulty and delay in obtaining approval to deliver questionnaires from Israeli IT companies (domestic and international). Using part of the working day to fill in the questionnaire involved high transaction costs (high hourly salary of this type of worker) at the employer's expenses.

170 completed questionnaires were returned in two stages: November 2012 to December 2013 and February 2013 to July 2013.

Data Analysis

Hypotheses testing for fitting to normal distribution were done with Kolmogorov - Smirnov test. Skewness and Kurtosis indices were found to be smaller than $+3/-3$. Hence it was concluded that the dependent variable was normally and symmetrically distributed and therefore parametric tests were conducted (GLM Univariate linear regressions). In comparison to the employees' sample results, in the managers' sample it was found that almost all the answers were not normally distributed and thus non-parametric statistics was carried out in order to test the hypotheses (Mann Whitney test that compares the distributions and results between groups). The empirical data was processed for both samples with SPSS 21 and for the IT employees only also in AMOS 21 (structural equations models, SEM).

With regard to the structural equations (SEM) the research model was partially supported by regression and correlation tests which were done by SPSS on the IT employee sample. The validation of the theoretical model and the relationship between all the variables were tested by structural equations - SEM and by AMOS 21 on the IT employee sample only. Thus, from all hypotheses reinforced in SPSS, the SEM model was built, with the variables normally distributed.

Measures

The Dependent Variable

Voluntary turnover intention Questionnaire (Based on Price, 2001)

Three items of four (Q11.1-Q11.4) in the voluntary turnover intention questionnaire (Q11.4 was dropped after pilot) were used for measuring the voluntary turnover intention (from Price, 2001). An example is, "I would like to quit my job at [Company]". The scale moved from 1 - "strongly disagree" to 5 - "strongly agree".

The internal consistency for this scale (after pilot) in Timmerman et al.'s study (2003) was 0.85. The internal consistency in the current study of the 3 item scale was 0.8.

Two additional items were added to the above mentioned ones to measure the employee intention to voluntarily leave the organization: Q27 "I intend to remain in my profession

but leave the organization at or before the end of this year" (Alfa Cronbach coefficient for inter item reliability was 0.93) (Nunnally, 1978) and Q26 "What are the chances that you will remain in the profession but leave the organization at or before the end of the year?" (5-point scale: 1=no chances; 5 =100% chance; Alfa Cronbach coefficient for inter item reliability was 0.83 (Nunnally, 1978).

Item Q26 was deleted after the reliability test. Without the deleted item the scale showed the same reliability. Namely if one of the items was deleted the Alfa Cronbach coefficient would rise from 0.1 to 0.6. This pointed to the fact that these two items have the same meaning. That is why one of them was deleted. Between the remaining items, reliability testing was carried out and the internal consistency value was 0.9. The mean of the items was calculated and the new variable was called *Voluntary Turnover_Co*.

Independent Variable

Job satisfaction – was measured by questions adopted from *Job Satisfaction Questionnaire* (Based on Price, 2001)

Six items were used to measure job satisfaction from Price's (2001) 6-item job satisfaction scale (JbSS). Examples of items include, Q12.1 "I am fairly well satisfied with my job" and Q12.4 "I am often bored with my job" (reverse scored). Timmerman et al. (2003) reported an internal consistency for the JbSS of 0.83. In the current study the internal consistency of the 4-item scale (after pilot) was 0.8. After reliability testing was done a mean was calculated and the new variable called *Job_Satis* was determined.

Findings and Discussion

The proposed hypotheses were:

Hypothesis 1: It will be found that employee job satisfaction is associated negatively with voluntary turnover intention.

SPSS Findings

To test hypothesis 1 reversal was done for the scale values of questions 12.3-12.5 which are part of the index of the *employee job satisfaction at work*. These were found to be in a negative direction so that they would be in the direction of the other scale questions/items in this index (insofar as *job satisfaction at work* was higher, then the value of voluntary turnover intention would be more positive). Then the influence of *job satisfaction at work* on intentions for voluntary turnover was tested. At the first stage this influence was tested without the controlled intervening variables and a significant negative correlation was found ($B=-0.344$, $P=0.00007/P<0.001$). In other words as *job satisfaction at work* increased then voluntary turnover intentions decreased. Thus Hypothesis 1 was confirmed.

Hypothesis 2: It will be found that job satisfaction effects indirectly on voluntary turnover intentions.

This hypothesis was examined in two stages. the first stage was conducted to test hypothesis 1 a where a significant negative correlation was found ($B=-0.344$, $P=0.00007/P<0.001$). following the findings related to of hypothesis 1, was conducted the second stage. In order to test whether there was an indirect connection between *job satisfaction at work* and intentions for voluntary turnover, correlations were first examined between the variables "loyalty", "motivation", "commitment", intentions for voluntary turnover and *job satisfaction at work*. Analysis of the findings indicated that there are no very strong correlations and all the correlations are small. Nevertheless since there is a strong correlation between independent variables such as "normative commitment" and "motivation" ($r=0.458$) and between *job satisfaction at work* and "motivation" ($r=0.432$) and also between *job satisfaction at work* and "normative commitment" ($r=0.343$) and between "affective commitment" and "loyalty" ($r=0.295$) entering the variables into one model can

create a problem of multicollinearity and so theoretically the model should be analysed with regard to each variable separately. Thus it was assumed that:
Job satisfaction reduces voluntary turnover intentions while *neutralizing* the intervention variable that was called the emotional variable (which includes: loyalty to work, motivation to work and commitment to work) while three sub hypotheses refer to this as follows:

Sub-Hypothesis 2.1 posited that: Job satisfaction reduces voluntary turnover intentions while neutralizing the loyalty variable.

Sub-Hypothesis 2.2: posited that: Job satisfaction reduces voluntary turnover intentions while neutralizing the motivation to contribute variable.

Sub-Hypothesis 2.3: posited that: Job satisfaction reduces voluntary turnover intentions while neutralizing the commitment variable.

Table 1 presents the correlations between the dependent variable and the independent variables in the regression equation.

Table 1: correlations between the dependent variable and the independent variables in the regression equation

	<i>Voluntary turnover</i>	<i>Loyalty</i>	<i>Motivation</i>	<i>Affective commitment</i>	<i>Normative commitment</i>	<i>Continuance Commitment</i>
<i>Loyalty</i>	-0.26*	-----	0.144	0.295**	0.295	0.083
<i>Motivation</i>	-0.317**	0.144	-----	0.458	0.458**	0.070
<i>Commitment</i>						
<i>Affective commitment</i>	-0.19**	0.295**	0.458	-----	0.293***	0.002
<i>Normative commitment</i>	0.495**	0.295	0.458**	0.293***	-----	0.090
<i>Continuance commitment</i>	0.109	0.083	0.070	0.002	0.090	-----
<i>Job satisfaction</i>	-0.345**	0.142	0.432	0.233**	0.343*	0.030

Source: computed by author

* $p \leq 0.05$ ** $P \leq 0.01$ $p \leq 0.001$ ***

Continuance to the multicollinearity problem that was described above (and can be also seen in Table 1 above) actually the difficulty in including these variables (commitment, loyalty and motivation) within the equation exists if it involves independent variables and does not exist when the inclusion of these variables into the model is as part of the intervening variables. Therefore it is possible to include them in the model under this definition (as intervention variables) despite the fact that there is multicollinearity (between them if they were considered as independent variables. Namely, all the above variables enter the regression GLM model as a single unit and this is together with the controlled variables.

Thus initially the independent variable *job satisfaction at work* was included and the variable “intentions for voluntary turnover” without the controlled variable and the result was found to be significantly negative ($B = -0.344$, $p = 0.00007$). With the inclusion of the intervening variables (types of organization commitment, loyalty and motivation) a significant negative correlation was found ($B = -0.438$; $p = 0.000000$ / $p < 0.001$) between *job satisfaction at work* and voluntary turnover intentions and the strength of the correlation also increased. It also emerged from the data that since these variables are mediators

because they increase the strength of the correlation they decrease even more the voluntary turnover in comparison with other models. In general it was found that the variable "commitment" further enlarged turnover in comparison with the two other intervening variables and in both cases the result was a significant reduction in voluntary turnover. Thus hypothesis 2 with its three sub-hypotheses was confirmed.

SEM Findings - special findings

In SEM analysis a significant effect of job satisfaction on voluntary turnover intention was not found however in terms of the explained variance of the variables turnover intentions among IT employees it was found that the latent variable which was called the IT employees' emotional dimension (and included the variables commitment, loyalty and motivation) explained 25% of the explained variance of the variables turnover intentions. That is because they effect indirectly on the variable turnover intentions. That is to say, the loyalty and commitment to the work place explained most of the voluntary turnover intention variance among IT employees in Israeli Hi-Tech companies. It also emerged that voluntary turnover intention and development of voluntary turnover intention relate mainly to the latent emotional factor/variable. Namely, voluntary turnover of IT employees was affected by the emotion factor. The variables that were found in SEM analysis to affect the emotional variable/dimension were found to relate to job satisfaction with a covariance of 0.25 and continuance commitment with a covariance of 0.22.

To summarize, it was found that the emotional dimension variable may be explained by all these factors (job satisfaction, organizational culture, economic reliance etc.) connected to in accounting for voluntary turnover intentions.

Results of all hypotheses tests are shown in Table 2 as follows:

Table 2: Summary of the impact coefficients of the IT employees in Hi-Tech companies regarding voluntary turnover intention prediction and summary of the hypotheses which confirmed or rejected:

	<i>Dependent Variable</i>	<i>Voluntary Turnover intention (VTI) IT Employees (Test and results)</i>				<i>Summery of the hypotheses</i>
<i>The hypothesis</i>	<i>Independent variables</i>	<i>SPSS- GLM Univariate linear regressions - second stage</i>		<i>SEM by AMOS</i>		<i>Hypothesis Accepted/ rejected</i>
		<i>B standardize</i>	<i>P</i>	<i>B Standardize</i>	<i>P</i>	
<i>H1</i>	<i>job satisfaction</i>	-0.344	P=0.00007/P<0.001***	-0.34	1.000 ¹	Accepted in SPSS

H2 Job satisfaction reduces VTI while neutralizing emotional variable. H2 consists of sub hypotheses (H2.1, H2.2, H2.3)	<i>job satisfaction</i>	-0.438	P=0.00007/P<0.001			Accepted in SPSS
R ² of VTI by emotional variable (commitment, loyalty and motivation)				25%		
N		170	170	170	170	170

Source: computed by author $p \leq 0.05^*$ $P \leq 0.01^{**}$ $p \leq 0.001^{***}$ ¹ In Amos significant has to be $P < 0.05$

The Correlation to the Literature

The employees sample findings with reference to *Hypothesis 1* support the literature according to which job satisfaction was found to be linked to absenteeism and turnover rate (Judge & Hullin, 1993) and that the lack of employee job satisfaction in an organization leads to problems of absenteeism, lack of commitment and an increase in turnover rate. A certain study revealed that the job satisfaction variable is negatively related to voluntary turnover intentions (Carmeli, 1991; O'Reilly et al., 2005). Moreover, it was found that it is one of the variables determining voluntary turnover (Borda & Norman, 1997). Turnover models suggested a multifaceted process, indicating that job satisfaction is related first and foremost to turnover intentions. In other words, if job satisfaction is sufficiently low, the employee will develop an intention/behavior of job withdrawal (Yeith Chen et al., 2004; Appelbaum et al., 2003; Freund, 2005).

The employees sample findings with reference to *Hypothesis 2* support the literature. According to it, voluntary turnover intention (VTI) is the best and most immediate predictor of turnover and job satisfaction effects indirectly on voluntary turnover intention. However they only partially supported the literature on the point that intentions to leave workplace were found to be fully mediated by affective commitment (Hall and Moss, 1998; Hsu, et al., 2000; Steel, et al., 2002). This intervention variable belongs to emotional intelligence (EI) / Emotional quotient (EQ) variables that in general belong to the emotional content world [for e.g. Kreisman, 2002; Stephens, 2007]. However in the results, it was shown that voluntary turnover intention (VTI) is mediated by commitment and it was found, as the variable was

extended voluntary turnover intention was also influenced by other emotional variables such as loyalty and motivation.

Conclusion

The research findings offer specific answers to the hypothesis presented above:

The findings lead to the conclusion that the reason for IT voluntary turnover intention is mainly at the extra organizational cluster of reasons and hence exists at the extra organizational level.

The results support the literature in which it was noted that job satisfaction related negatively to turnover intentions. The results also pointed out the fact that job satisfaction affected indirectly on voluntary turnover intention (VTI), but only partially supported the literature according to which VTI is mediated by the commitment variable only. The fact is that it was found that VTI is mediated by variables belonging to emotional intelligence (EI) / Emotional quotient (EQ) variables that in general belong to the emotional content world included loyalty and motivation. That lead to the conclusion that was found in SEM analysis on the employees sample that the emotional dimension (variables) related to job satisfaction and explained 25% of the VTI variance. The SPSS findings also indicated the fact that there is a clear negative effect of job satisfaction on VTI. This lead to the conclusion according to which, if an organization wants to prevent IT employees voluntary turnover or retain IT human resource in the Hi-Tech sector, it has to invest efforts in making the employee more loyal, committed and motivated and more satisfied with their work, namely to harness IT employees from the emotional aspect. This would be through leadership development of managers in every position or by creating policies which would draw the IT employee to the organization and create a dual relationship of supplier and customer. Such policies might be internal marketing policies or service marketing policies.

This research limitation is that it was carried out with a sample of 170 IT employees only and this may create problems with external validation. The reasons for such a limited sample was the lengthy approval processes required in Hi-Tech companies for distribution of the questionnaire and completion by IT employees because of the cost to the company. As the wage costs of IT employees are high this can be expensive for the company. To overcome this limitation, the hypotheses and model were also tested on 140 IT managers in IT companies (and in this case, too, it took time to get permission to administer questionnaires and was achieved only with the assistance of the Israeli Research Unit of the Ministry of Economy).

Beyond the limitation, the findings offer new theoretical and practical insights into the causes of IT voluntary turnover intention and IT human capital retention for researchers, Human Resources and organizational development managers and consultants. They illuminate the fact that voluntary turnover intentions are influenced by and dependent upon emotional components and that if companies want to harness their IT employees and prevent voluntary turnover intentions and actual turnover it has to make the employee more committed, loyal and raise their motivation and this can be achieved, for instance, by implementing internal marketing policies.

Future study, In light of the results described above it is important to conduct future research that examines if internal marketing is a moderating variable of voluntary turnover and of the relationship between job satisfaction and voluntary turnover. Namely does job satisfaction decrease voluntary turnover intention if an organization or its IT department adopts an internal marketing policy in comparison to those that do not. This should be researched within the larger IT population in Israel as well as overseas Hi-Tech companies.

That is in order to compare results and generalize the findings to other countries that might have to deal with IT employees' voluntary turnover in their organizations and hence enable the development of prevention policy mechanisms.

Finally, it is believed that organizational problems are internal, not external and therefore, if organizations want to raise employees' job satisfaction in order to decrease voluntary turnover they must do so through the strengthening of the emotional component (commitment, loyalty, motivation) and this must be accompanied by mechanisms or policies that create the opportunity to harness employees' commitment, and increases staff retention. The policy suggested but requires further research is internal marketing.

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