

The World IT Project: Exploring Antecedents and Consequences of Job Satisfaction of IT Professionals in Canada

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Abstract. This paper is part of a larger study titled the World IT Project. Its purpose is two-fold. First, it explores the interplay among four individual-level IT constructs: job insecurity, job satisfaction, organizational turnover intentions, and IT occupation turnover intentions. Second, it tries to understand whether the structural relationships within the proposed model are moderated by the employee's previous exposure to involuntary IT job termination (i.e., lay-off). Based on the analysis of a dataset from 311 IT employees in Canada, the findings indicate that job insecurity has a positive impact on organizational turnover intentions and IT occupation turnover intentions. Job satisfaction has a negative effect on both organizational and occupational turnover intentions. IT workers who have never been laid off from an IT position exhibit a negative relationship between job insecurity and intentions to leave their occupation, whereas this relationship does not exist for those who already experienced this event but managed to secure another IT position.

Keywords: IT World Project, Job Insecurity, Job Satisfaction, Turnover, Moderator

Introduction and Purpose of the Study.

This study represents part of a larger line of research titled *the World IT Project* and is based on the dataset obtained from 311 IT professionals in Canada. The overall objective of *the World IT Project* is to understand the role of culture in the contemporary IT work environment.

Particularly, the goal is to generate descriptive findings for each country and to understand relationships among various constructs that may be of interest to both researchers and practitioners.

The purpose of the present study is two-fold. The first goal is to explore the interplay among four individual-level IT constructs: job insecurity, job satisfaction, organizational turnover intentions, and IT occupation turnover intentions. The second objective is to understand whether the structural relationships within the proposed model are moderated by the employee's previous exposure to involuntary IT job termination (i.e., lay-off). Overall, this study analyzes a small part of the dataset collected for the World IT Project in order to contribute to theory, propose avenues for future research, and attract attention to this important large-scale study.

Theoretical Background and Hypotheses.

Since the classic Hawthorne studies in the 1930s (Roethlisberger & Dickson, 1956), management researchers have been interested in the people's perceptions of their workplaces and their effect on important organizational outcomes. Job satisfaction, which reflects an employee's overall assessment of all aspects of his or her job (Spector, 1997), has been recognized as one of the most important, yet controversial constructs in the management literature (Judge et al., 2001; Judge & Ilies, 2004). Of particular interest have been antecedents and consequences of job

satisfaction because it is commonly believed that satisfied employees better contribute to meeting organizational goals and thus positively impacting organizational performance.

Job insecurity, defined as the degree to which an individual perceives a potential loss of his or her current employment position, is an important antecedent of job satisfaction. It ranges from the loss of some subjectively important attributes of the job to a complete termination of the job (Greenhalgh & Rosenblatt, 1984). Perceptions of job insecurity are affected by various factors, including downsizing, business process re-engineering, merges & acquisitions, globalization, increased competition, and economic conditions. As a predictor of employee attitudes, the job insecurity construct becomes of parsimonious importance in the IT sector, which is characterized by shortening product life-cycles, exponential growth of knowledge base, and constant skills obsolescence.

The effect of job insecurity on job satisfaction has been established in various contexts. For example, Heaney et al. (1994) concluded that job insecurity, caused by uncertainty, ambiguity, and other stressors, decreases job satisfaction of automobile industry workers. Similarly, Theodossiou and Vasileiou (2007) empirically demonstrated that job insecurity also negatively affects job satisfaction of workers in the European Union countries. By conducting a comprehensive conceptual meta-analysis of job insecurity research, Sverke et al. (2002) confirmed the negative relationship between job insecurity and job satisfaction. In addition, they also posit that job insecurity has an effect of employees' perceptions of various short- and long-term attitudes and behaviors, including organizational commitment and turnover intentions, which are especially important in the knowledge-intensive IT field.

Job insecurity acts similar to other stressors – it creates the perception of ambiguity, uncertainty, and risk about the future. Individuals in turn respond to the stressor by adjusting their perceptions

and actions because they want to avoid or at least minimize the magnitude of the stressor. They may rationally assess the situation and, if they believe that the loss of their job is likely to happen, they may take proactive measures by trying to leave their current organization and look for opportunities elsewhere – in other organizations within the same or even other industries. As such, perceptions of job insecurity reduce their psychological attachment to the employer. Moreover, if the probability of finding a comparable position within the same industry is low, people may become open to change and start looking for opportunities in other sectors of the economy and start a new profession when necessary.

The arguments above have received empirical support. Barling and Kelloway (1996) showed that job insecurity facilitates turnover intentions. Ashford et al. (1989) also confirmed that job insecurity perceptions make people seek a new job elsewhere. Blau and colleagues (2006) empirically demonstrated that job loss insecurity has an effect on the intention of medical technologists to permanently leave their occupation. In a similar vein, Laine et al. (2009) showed that job insecurity determines the intention of nurses to leave their profession.

It is generally established that job insecurity has a detrimental effect on the psychological well-being of employees because it develops stress, which in turn makes individuals look for other job prospects within or outside their current occupation. Stress exhibited by IT professionals also has a negative impact on their job satisfaction and may lead to turnover intentions (Tarafdar, Tu, & Ragu-Nathan, 2010), which shows that the discussion above also applies to the context of IT.

Therefore, the following hypotheses are proposed:

H1: Job insecurity has a negative direct effect on job satisfaction.

H2: Job insecurity has a positive direct effect on organizational turnover intentions.

H3: Job insecurity has a positive direct effect on IT occupation turnover intentions.

Literature advocates a negative relationship between job satisfaction and turnover intentions. It is reasonable to assume that people who are dissatisfied with their current position may voluntarily terminate their tenure with their employer and look for a comparable (or better) job in another organization. Some people may be even ready to change their occupation if this may result in a higher level of job satisfaction. In their meta-analysis of 47 studies that included the total sample size of 19,828 employees, Carsten and Spector (1987) identified an average Pearson correlation between job satisfaction and voluntary turnover intentions of -0.26. By using a meta-analytic structural equation modelling technique, Joseph et al. (2007) reached a similar conclusion with respect to IT employees. Therefore:

H4: Job satisfaction has a negative direct effect on organizational turnover intentions.

H5: Job satisfaction has a negative direct effect on IT occupation turnover intentions.

Figure 1 presents the proposed model.

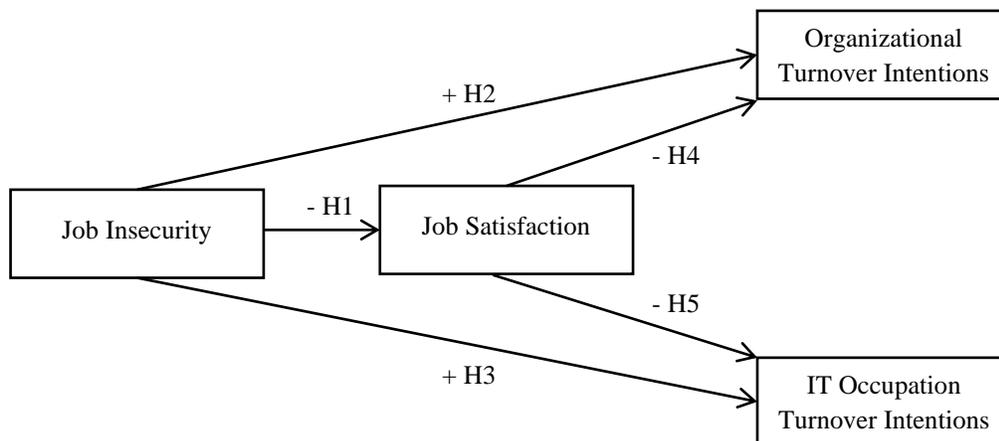


Figure 1. The Suggested Model.

At the same time, research shows that the relationships among the constructs discussed above are more complicated than it was initially thought. Over half a century ago, Weitz (1952) argued that our understanding of the job satisfaction – job behavior relationship would benefit from considering additional interaction (i.e., moderation) effects. Judge et al. (2001) concluded that the strength of the effect of job satisfaction on job performance depends on a number of moderators. A moderator is a variable that affects the strength of the causal relationship between two other variables (Bontis & Serenko, 2007; Sharma, Durand, & Gur-Arie, 1981). In recent years, moderators have gained recognition in various management disciplines, including global IT (Turel et al., 2006).

A number of moderators that affect the impact of antecedent variables on turnover intentions have been proposed. These include the availability of economic alternatives (Carsten & Spector, 1987), attitude towards money (Tang, Kim, & Tang, 2000), education, cognitive ability, and occupation-specific training (Trevor, 2001). Of particular interest is affective disposition (Judge, 1993) which reveals the importance of individual factors developed over a person's lifetime. In this study, the exposure to previous lay-off experience is suggested as a moderator of the hypotheses proposed above. An involuntary job loss is a major stressor that threatens people's self-integrity, self-esteem, self-control, and identity (Wiesenfeld et al., 2001). The negative consequences of job loss may also affect other family members and lead to depression (Howe, Levy, & Caplan, 2004). However, laid-off people who secure new employment are more confident in their job search skills than those who remain unemployed (Kanfer & Hulin, 1985) or than those who never experience such an event. As a result, their organizational and occupational turnover decisions may be influenced by not only job insecurity and job satisfaction but also by other factors. Therefore, it is reasonable to assume that the exposure to a previous involuntary IT

job termination experience may act as a moderator of the relationships within the proposed model. The following research question is suggested:

Are the structural relationships within the proposed model moderated by the employee's previous exposure to involuntary IT job termination (i.e., lay-off)?

Methodology.

Data from 311 IT professionals in Canada were collected through an online questionnaire in November 2014. For each respondent, at least 50% of the work in their current job was related to information technology. The respondents were recruited from multiple organizations, and no discriminatory criteria (e.g., age - as long as the respondent was at least 18 years old, gender, location, etc.) were used. A small financial incentive was offered to encourage potential respondents and to obtain high quality data.

The questionnaire instrument was developed and validated earlier as part of the World IT Project. Each construct was measured with three indicators. Examples of items include: Job Insecurity (JI) – “I am concerned that my job may be eliminated soon”; Job Satisfaction (JS) – “All in all, I am satisfied with my current job”; Organizational Turnover Intentions (OTI) – “I will take steps during the next year to secure a job at a different organization”; IT Occupation Turnover Intentions (ITOTI) – “I will take steps during the next year to secure a job outside the IT field.” Two negatively-worded items were included to reduce common method variance (Podsakoff et al., 2003). Each respondent was asked whether he or she has ever been laid off from an IT job (yes/no).

Results.

PLS (Partial Least Squares) was chosen to analyze the model. It is a second-generation data analysis techniques that tests the measurement and structural model simultaneously (Chin, 1998) and is well-suited for testing moderation effects (Chin, Marcolin, & Newsted, 2003). Harman’s (1967) one-factor test was done when all indicators were added to an un-rotated solution with no restriction on the number of factors. Because the first factor accounted for only 36% of the total variance, it was concluded that common method bias was unlikely to exist. Table 1 presents descriptive statistics and reliability assessment. Most items exhibited good psychometric properties. The loadings of two items were slightly below the recommended threshold of 0.7 yet they were retained because average variance extracted and composite reliability measures of their respective constructs were acceptable.

Table 1. Descriptive statistics and reliability assessment (AVE – average variance extracted).

Item	Mean	SD	Item-total correlation	Loading	Cronbach’s alpha	Composite reliability	AVE
Jl1	3.26	1.11	0.61	0.79	0.82	0.894	0.737
Jl2	3.43	1.09	0.72	0.90			
Jl3	3.50	1.13	0.70	0.89			
JS1	2.09	0.91	0.73	0.87	0.78	0.877	0.705
JS2	2.23	0.91	0.69	0.84			
JS3	2.37	1.13	0.48	0.81			
OTI1	3.70	0.93	0.57	0.80	0.65	0.796	0.570
OTI2	3.31	1.08	0.37	0.83			
OTI3	3.19	1.06	0.43	0.62			
ITOTI1	4.00	0.87	0.56	0.79	0.63	0.782	0.549
ITOTI2	3.35	1.06	0.30	0.81			
ITOTI3	3.51	0.95	0.43	0.61			

Jl – Job Insecurity; JS – Job Satisfaction; OTI – Organizational Turnover Intentions; ITOTI – IT Occupation Turnover Intentions.

Table 2 presents the matrix of loadings and cross-loadings. It shows that each item loaded higher on its respective construct than it cross-loaded on other constructs. Table 3 further ensures the

discriminant validity of the constructs because the square root of AVE exceeded inter-construct correlations.

Table 2. Matrix of loadings and cross-loadings.

	Job Insecurity	Job Satisfaction	Organizational Turnover Intentions	IT Occupation Turnover Intentions
J11	0.79	-0.25	0.26	0.30
J12	0.90	-0.31	0.41	0.38
J13	0.89	-0.30	0.41	0.35
JS1	-0.17	0.87	-0.47	-0.30
JS2	-0.13	0.84	-0.47	-0.29
JS3	-0.46	0.81	-0.48	-0.47
OTI 1	0.28	-0.41	0.80	0.42
OTI 2	0.52	-0.50	0.83	0.49
OTI 3	-0.01	-0.35	0.62	0.27
ITOTI 1	0.25	-0.33	0.39	0.79
ITOTI 2	0.45	-0.37	0.48	0.81
ITOTI 3	0.04	-0.26	0.28	0.61

Table 3. Construct correlations (the diagonal values represent the square root of AVE).

	Job Insecurity	Job Satisfaction	Organizational Turnover Intentions	IT Occupation Turnover Intentions
J1	0.858			
JS	-0.335	0.840		
OTI	0.429	-0.569	0.755	
ITOTI	0.401	-0.441	0.540	0.741

Figure 2 shows the structural model. All the hypotheses were supported at $p < 0.05$. As expected, job insecurity has a negative effect on job satisfaction and a positive effect on organizational as well as occupational turnover intentions. Job satisfaction has a negative impact on organizational and occupational turnover intentions.



Figure 2. The Structural Model (all relationships are significant at $p < 0.05$).

In the collected sample, 92 respondents have ever been laid off from an IT job and 219 have not. The dataset was split into two sub-sets, each containing only those respondents who have or have not been exposed to involuntary termination from an IT position. Table 4 shows the differences in betas and R-squared values.

Table 4. The Moderating Effect of Employee’s Previous Exposure to Involuntary IT Job Termination (all relationships are significant at $p < 0.05$ unless indicated otherwise).

Have you ever been laid off from an IT job?	H1	H2	H3	H4	H5	R ² Job Sat.	R ² Org. Turnover	R ² IT Field Turnover
Yes	-0.39	0.30	0.04ns	-0.44	-0.42	15.2%	39.0%	23.2%
No	-0.39	0.25	0.31	-0.48	-0.36	15.5%	38.3%	31.4%

The most interesting fact is that those who have been laid off from an IT job do not exhibit a relationship between job insecurity and the intentions to leave the IT profession. As such, H3 was not supported with respect to this category of IT professionals.

Discussion, Limitations, and Conclusion.

The purpose of this study was two-fold. The first was to develop and test a causal model explicating relationships among several important constructs, such as job insecurity, job satisfaction, and organizational as well as occupational turnover intentions. The second objective was to understand whether previous exposure to involuntary IT job termination may moderate the structural relationships within the developed model. For this, data from 311 IT professionals in Canada were collected and subjected to structural equation modelling analysis in PLS. Several important findings were observed that warrant elaboration.

First, this study emphasizes the importance of job insecurity perceptions among IT employees. It shows that job insecurity decreases job satisfaction ($\beta = -0.34, p < 0.05$), which is generally considered one of the most important organizational variables because, under certain condition, it impacts productivity. The issue of job insecurity is especially important in the IT industry that is characterized by a fast pace of technological changes, requirements for lifelong learning, and constant uncertainty. As the present investigation reveals, job insecurity has a positive impact on organizational turnover intentions ($\beta = 0.27, p < 0.05$) and IT occupation turnover intentions ($\beta = 0.29, p < 0.05$). When IT employees feel that their present job may be threatened, they reduce their loyalty to their current employer and start seeking alternate positions in the IT sector and even beyond.

Second, job satisfaction has a negative effect on both organizational and occupational turnover intentions. This relationship is stronger at the organizational ($\beta = -0.48, p < 0.05$) than occupational ($\beta = -0.35, p < 0.05$) level. Unsatisfied IT employees may find it easier and less stressful to seek a new job in the same (i.e., IT) industry rather than to completely change their

occupation. Overall, this study confirmed that the well-established organizational behavior concepts also apply in the context of IT.

Third, individuals who have never been laid off from an IT position exhibit a positive relationship between job insecurity and intentions to leave their occupation ($\beta = 0.31, p < 0.05$). In contrast, this relationship does not exist for those who already experienced this event but managed to secure another IT position ($\beta = 0.04$, not significant).

Why does this effect take place? It is possible that after been laid off from an IT job, some people made a conscious decision to stay in their profession. They are not only aware of a potential threat of losing their job but also experienced this event in the past. On the one hand, they still exhibit a negative relationship between job insecurity and organizational turnover intentions ($\beta = 0.31, p < 0.05$). When they feel their job is threatened, they are ready to start looking for IT positions elsewhere. On the other hand, due to their prior IT job search experience, their loyalty to the IT profession is not affected by the possibility of losing their job again; their occupational turnover decisions may be driven by other factors, e.g., personal interests, family, etc. Thus, it is recommended that future researchers focus their attention on the role of previous involuntary job termination in employee behavior.

Despite its potential contribution, this study has several limitations. First, because the data were collected in Canada, the findings may not generalize to other countries. Second, there may be other variables that may also moderate the structural relationships within the proposed model. Third, this model may be extended further because literature presents many important antecedents and consequences of job satisfaction.

As we accelerate into the information age, the average IT professional will no longer dream of a “job for life” as her predecessor once did several decades ago. With ever-increasing competition and continuous requirement of skill and domain knowledge renewal, IT professionals will continue to face anxiety with the stress of potential layoffs and/or outsourcing. This research study provides some initial insight on how this tumultuous workplace environment will wreak havoc on the perceptions and expected behaviors of such working conditions.

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