

THE RELATIONSHIP BETWEEN JOB SATISFACTION AND TURNOVER INTENTION OF THAI SOFTWARE PROGRAMMERS IN BANGKOK, THAILAND

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Abstract

The main objective of this study was to investigate job satisfaction variables related to turnover intentions of software programmers employed in the IT industry in Thailand. Samples were selected from programmers working for firms in Software Park, Bangkok. Self-administered questionnaires were sent via hyperlink to 800 software programmers; 400 valid samples were used for analysis in this study. The findings showed that 3 factors, benefits, nature of work and supervision were related to turnover intention in terms of the pull factor. For the push factor, only two factors, nature of work and job conditions were associated with turnover intention. Pull factors were shown to have a stronger impact on turnover intention than push factors.

Keywords: Job Satisfaction, Software Programmers, Push Factors, Pull Factors

บทคัดย่อ

วัตถุประสงค์หลักของการศึกษานี้คือ การตรวจสอบความสัมพันธ์ระหว่าง ตัวแปรความพึงพอใจในงานกับความตั้งใจจะลาออกของนักออกแบบโปรแกรมที่ทำงานในอุตสาหกรรม IT ในประเทศไทย กลุ่มตัวอย่างคือนักออกแบบโปรแกรมที่ทำงานให้กับบริษัทที่ตั้งอยู่ในซอฟต์แวร์พาร์คในกรุงเทพฯ แบบสอบถามถูกส่งไปทางอินเทอร์เน็ตให้กับนักออกแบบโปรแกรมจำนวน 800 คน ได้รับแบบสอบถามที่ใช้ได้คือ 400 ชุด ผลการวิจัยพบว่า ปัจจัยด้านผลประโยชน์, ลักษณะงาน และการควบคุมงาน มีความสัมพันธ์กับความตั้งใจจะลาออกในแบบปัจจัยดึงดูด ส่วนปัจจัยผลักดันพบว่า ลักษณะงานและสภาพการทำงานมีความสัมพันธ์กับความตั้งใจจะลาออก ปัจจัยดึงดูดมีผลต่อความตั้งใจจะลาออกมากกว่าปัจจัยผลักดัน

คำสำคัญ: ความพึงพอใจในงาน, นักออกแบบโปรแกรม, ปัจจัยผลักดัน, ปัจจัยดึงดูด

INTRODUCTION

The past decade has been the most volatile period for firms that use or deal in information technology (IT) or use IT services. Most of the problems are related to personnel (Agarwal, Prebuddha & Ferratt, 2001), i.e., demand and supply, selection, recruitment, and more specifically, retention. Since the late 1990s, the labour market for IT professionals has been hit by shortages, and IT levels of compensation have skyrocketed by 15-20% annually. Job hopping has become the standard of the industry, and only eight out of ten IT positions can be recruited and filled with qualified candidates (McNee, Morello, Zidar & Smith, 1998). The problems in the IT market will continue for years to

come, and it is expected that the demand of the markets that need IT skills will continue to exceed supply (McNee et al., 1998).

Turnover can be a concern for all sectors but it is more worrying in the IT industry. The turnover of IT professionals can have disastrous effects on organizations due to the loss of business process knowledge along with acquired technical skills. The rationale model of turnover suggests that job dissatisfaction is the first step toward leaving an organization. Rouse (2001) stated that due to the incredible demand for qualified IT professionals “unsolicited job offers are constantly bombarding members of this group. Even though there is nothing dissatisfying about their current position, the new offer may be too good to forgo” (p.285).

Significance of the Study in the Thai context

Driven by the increasing use of technology in all aspects of society, the information technology industry in Thailand has grown rapidly since 2000, as the ever-expanding diversity of products, lower prices, and wider access to knowledge has encouraged demand in the public, private and civil society sectors (Charoen, 2013). Thailand's ICT market accounts for 11 percent of GDP and is the largest in Southeast Asia with growth projected at 12% for 2010-2014 (NECTEC, 2009). The country's value of spending on all ICT products and services is estimated to reach US\$8.7 billion in 2014. Currently, there are more than 24 million Internet users in Thailand (BOI, 2012). The rapid rise in IT usage has resulted in a shortage of programmers working for these companies (Wannasathop, 2007; SIPA, 2012; Baotham, Hongkhuntod & Rattanajun, 2010) and overseas programmers numbering approximately 20% (SIPA, 2012) have had to be recruited to fill the gap.

In recent studies, researchers have regularly studied the effects of intrinsic and extrinsic rewards on job satisfaction and leaving behaviour (Bodla & Naeem, 2010; Dave, Dotson, Cazier, Chawla & Badgett, 2011; Obaid, Khan & Saeed, 2011). In a more recent survey of 7500 IT professionals conducted in the US by Brost (2013) on behalf of Robert Half Technology, more than one-third (35 percent) said they planned to look for another job in the next year, and another 35 percent were unsure whether they will stay in their current firm. The findings also showed that the contributing factors to IT workers' search for greener pastures are the need for new challenges and a lack of career advancement potential. Another recent study by Goodman-Bhyat (2013) showed that IT professionals are the least satisfied with their jobs. This survey of over 3500 people across a wide range of industry sectors in the US, showed that only 1 percent of senior IT professionals were happy with their jobs and 99 percent were willing to consider a competitive career option.

The purpose of this study is to examine the relationship between job satisfaction factors as predictors of Thai software programmers desire to stay (turnover intention) with their current employer.

The study aims to answer the following research question:

“To what extent are job satisfaction variables related to the turnover intention of software programmers in the IT industry in Bangkok, Thailand?”

Precisely, this study has the following research objectives:

- a) To examine the job satisfaction factors related to the turnover intention of software programmers in the IT industry in Bangkok, Thailand
- b) To study each factor and the strength of its relationship with the turnover intention of software programmers in the IT industry in Bangkok, Thailand
- c) To examine whether push or pull factors have a stronger relationship with the turnover intention of software programmers in the IT industry in Bangkok, Thailand.

LITERATURE REVIEW

There is a paucity of research on job satisfaction and turnover specific to Thailand. Noypayak and Speece (1998) have argued that job satisfaction is the main concern in current Asian businesses, and among the few research studies that can be found, there are none related to information technology professionals.

Job Satisfaction

Job satisfaction is the most widely investigated job attitude, as well as one of the most extensively researched subjects in Industrial/Organisational Psychology (Judge & Church, 2000). There are also many studies related to employees' turnover. Among these, there is a subset of research studies that have focused on the factors affecting the IT worker's turnover. The main ideas from these studies show that job satisfaction is inversely related to IT worker's turnover intention (Baroudi & Igbaria, 1995; Igbaria & Guimaraes, 1999; Poggi, 2010; King, 2010).

Job satisfaction is a significantly-researched work attitude and is commonly defined as “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” (Locke, 1976, p.1304). According to Kerber and Campbell (1987), measurements of job facet satis-

faction may be helpful in identifying which specific aspects of a job require improvements. The results may aid organizations in improving overall job satisfaction or in explaining organizational issues such as high turnover.

There are numerous factors that must be taken into consideration when determining how satisfied an employee is with his or her job, and it is not always easy to determine which factors are most important to each employee. Spector (1997) argued that job satisfaction measures facets such as appreciation, job conditions, communication, co-workers, fringe benefits, nature of the work, recognition, security, organisation's policies and procedures, pay, personal growth, supervisory and promotion. The current study adapts the updated the job satisfaction model proposed by Spector (2004). The following sections discuss each facet of his model.

Recognition

Recognition is defined as acceptance and respect that employees receive in the IT organisation (Spector, 2004). A significant portion of IT professionals' motivation comes from the recognition they get from their supervisors and the sense that they are an essential part of the organization (Agarwal & Ferrat, 1999; Gomolski, 2000).

Communication

Fisher (2000) proposed communication suggestions for managers that would like to retain IT talent. For example, managers should explain not only what needs to be accomplished but also the reason behind it. Smiths et al. (1993) contended IT professionals should be trained in business communication skills. In addition, a supervisor that has good communication with a subordinate will increase the job performance and job satisfaction of the subordinate as well.

Co-workers

Co-workers are defined as others who work with an employee. Building allies across the organization helps employees accomplish their work goals and their organization's goals. Forming positive relationships at work may make the workplace and work more enjoyable and increase job satis-

faction and engagement. An organization that creates a work environment based on teamwork and mutual respect between workers will improve the commitment, honesty and integrity (Zurier, 2000).

Benefits

Benefits are defined as employees' fringe benefits, medical, housing, education assistance, training, pension, and welfare (Hansen, 2007). Meares and Sargent (1999) found that when an employer has an increase in a benefit based on performance, e.g. house rental, or dental and medical allowance, there will be a significant increase in job satisfaction.

Job conditions

Job conditions are related to employees working in a good atmosphere, with safe and supportive equipment in the IT organization (Spector, 1997; 2004). Igbaria et al., (1991) confirmed the dissatisfaction that stems from a poor fit between work orientation and the work environment. Conversely, firms that have effectively reduced IT turnover have generally been proactive in creating a pleasant working atmosphere and an environment that fosters innovation, challenge, and fun (Zetlin, 2001). Challenging and stimulating assignments are important in many surveys of IT workers. According to these surveys, it was not the salary that took first place, but challenge, responsibility, and the work atmosphere that were important to job satisfaction (Westlund & Hannon, 2008).

Nature of work

The nature of work is defined as the type of work or task that employees are currently doing, including the work-life balance (Spector 1997; 2004). People can be motivated by the intrinsic nature of job tasks; when work is interesting and enjoyable, people will like their jobs, be highly motivated, and perform well. Mobley (1982) has suggested that employee perceptions and evaluation of job content are among the more consistent correlates of turnover. It can be difficult for employees to remain motivated, satisfied and engaged with their jobs if their work is not stimulating. Fisher (2000) and McGee (1996) consider workload pressure as a source of job dissatisfac-

tion for IT professionals.

Operating Procedure

Operating procedure is defined as the procedures, rules, and regulations imposed by the organization (Stewart, 2007). The organizational policies and procedures influence an employee's attitude toward that organisation. In addition, fair procedures for allocating rewards in the organisation should underpin commitment to a company and thereby bolster participation in the organization. Fairness of organizational policies and procedures regarding pay, rewards, recognition, etc. improve satisfaction, which in turn reduces intention to quit.

Supervision

Supervision is defined as employees' superiors who are in a reporting relation with the employee based on the chain of command (Spector, 1997; 2004). Hacker (2003) has claimed that IT employees seem to change jobs more quickly when they do not feel comfortable with their supervisors. The relationship employees have with their supervisors is directly connected to their success and growth at work. Supervisors who develop a positive relationship with employees may be more likely to learn their employees' strengths and weaknesses, making it easier for supervisors to use their employees' talents for the good of the organization.

Pay

Pay is defined as employee payment or salary for their work (Spector, 1997; 2004). With regard to payment, status and high salary have long attracted IT workers. In 2012, six out of 10 US employees indicated that compensation was very important to their overall job satisfaction, putting it only three percentage points below opportunities to use skills and abilities and only one percentage point below job security. Compensation, along with job security, has consistently remained on the list of the top five job satisfaction factors most important to employees (SHRM Report, 2012).

Promotion

Promotion is defined as employees' growth and advancement in a career (Framingham, 2001). The

IT professionals who are managerial-oriented in technical jobs and technically-oriented IT professionals in managerial jobs have revealed several kinds of negative work attitudes, including low satisfaction and shortage of commitment to the organization. This study asserts that employees with a managerial orientation react positively to managerial jobs because they understand the opportunities for advancement, money, respect from top management, and power that these jobs offer.

Push and Pull Factors

The "Push" factors relate to the reasons of dissatisfaction that employees use as principal motivators to sever the relations with the company. Push factors are aspects that push the employee towards the exit door. In the literature it is also called controlled factors because these factors are internal and can be controlled by organizations. The "Pull" factors are those reasons that attract the employee to a new place of work. In some studies, pull factors are named as uncontrolled factors because they are out of the control of organizations. Various pull factors derived from literature are: high salary, career advancement, new challenge and interesting work, job security, good location of company, better culture, life-work balance, more freedom/autonomy.

Turnover Intention

Turnover intentions are identified as the immediate predecessor to turnover behaviour. They also refer to the probability that an employee will leave an organization at some point in the near future (Tett & Meyer, 1993). Lee and Mitchell (1994) found that voluntary turnover involves three main components. First, job dissatisfaction initiates leaving the job. Second, the employee searches for new job alternatives prior to leaving the organisation. Third, the employee will "weigh-up" between the existing job and the new job alternative, but then select the better one.

Research Framework

Figure 1 depicts the research framework for the current study.

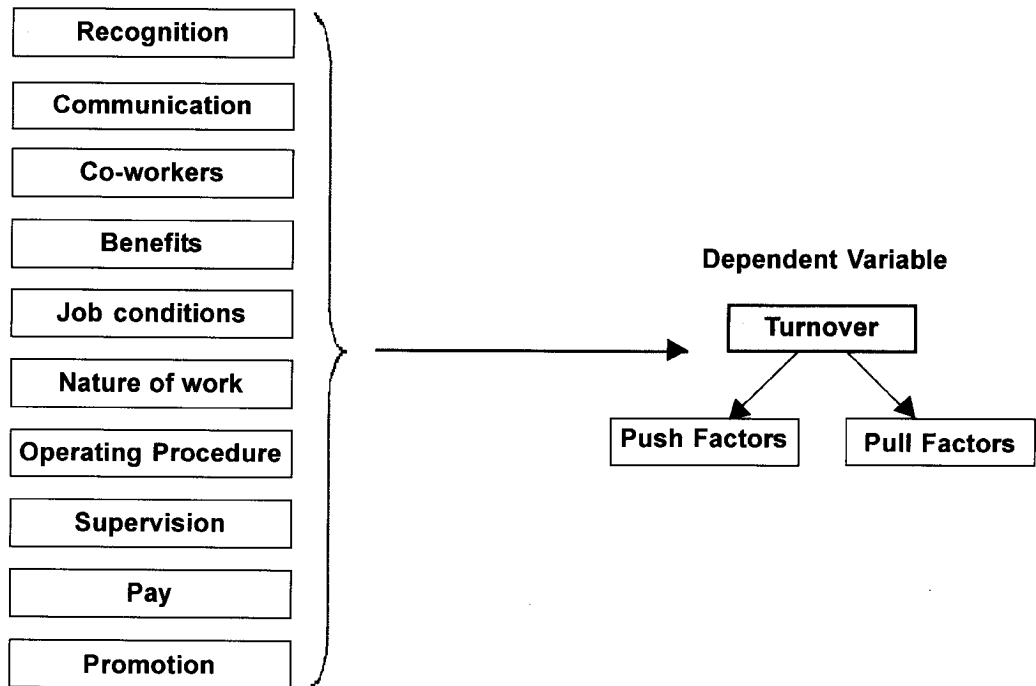


Figure 1: Research Framework

Hypotheses

In order to examine the factors influencing software programmers' turnover in the IT industry in Bangkok, Thailand, the following hypotheses were formulated for the present study:

H1: There is an association between job satisfaction facets (recognition, communication, co-workers, benefits, job conditions, nature of work, operating procedures, supervision, pay and promotion) and software programmers' turnover intention.

H2: Push factors will have a stronger relationship with software programmers' turnover intention than pull factors

RESEARCH METHODOLOGY

The target population was the entire group of software programmers employed in the IT industry in Thailand. According to SIPA (2012) it was found that there are approximately 1200 local IT software organizations in Thailand, with 38,000 programmers. Of these, 30,400 or 80 percent worked in the Bangkok area (SIPA, 2012; Wanasathop, 2007). Therefore, the sample of programmers in Bangkok was chosen as it is the centre of the IT industry in Thailand.

The sample was chosen from among program-

mers working in the IT organizations in Bangkok for Software Park Thailand. Software Park Thailand is a government agency under the National Science and Technology Development Agency founded in 2002 and was established to stimulate the development of Thailand's software industry. At present, 400 firms are members of the Software Park. From the 400 firms which have membership in the Software Park Thailand, the researcher randomly selected a total of 80 firms. The names of all firms were pasted on an EXCEL spreadsheet and the researcher used a sampling fraction of $f = n/N = 80/400 = .20$ or 20%. Based on telephonic interviews with the HR managers in the 80 firms, it was found that the majority of them employed approximately 10-15 programmers. The HR managers were requested to provide a list of software programmers' email addresses so the questionnaire could be sent through hyperlink to the sampled respondents. Once the email addresses were received from HR managers, an email was sent to all software programmers at the selected organizations to complete the survey.

Research Instrument

The questionnaire consisted of 4 sections. The first section contained questions related to respondents' personal data. Section 2 contained 40 questions which measured the 10 facets of job satisfac-

tion as shown in the Research Framework. The questions were adapted from the Job Satisfaction Survey (JSS) by Spector (1994; 2007) and a 7-point Likert scale was used, ranging from 1 to 7, with 1 = Disagree Strongly, 2 = Disagree moderately, 3 = Disagree slightly, 4 = Neither Agree nor Disagree, 5 = Agree slightly, 6 = Agree moderately, 7 = Agree Strongly. Eleven questions were used to measure the Pull and Push Factors in Section 3. These were adapted from the work of Kim, Price, Mueller, and Watson (1996), Igarria (1993), and Rouse (2001). Three questions were used to assess respondents' turnover intention. These were: *Continue to work until I find a better job*, *Work until retirement*, *Undecided*.

Validity and Reliability

An analysis of validity and reliability was conducted to determine whether the survey questions were generalizable and indicative of what they were intended to measure. Four research experts employed as HR consultants checked the survey tool for content validity. The pilot test was conducted with a sample of 30 respondents in order to assess the reliability of the measures. The researcher distributed 30 sets of questionnaires to the programmers in 3 companies in the Software Park Thailand. Cronbach's coefficient alpha was used in order to test the reliability of the multi-point scaled items. From the results of the test, the alpha scores for all variables were greater than 0.8; this implies that the questionnaire used for the study was reliable (Sekaran, 2000). Multiple regressions were applied for ten factors of job satisfaction which were associated with turnover intention. In addition, a paired-sample t-test was used to find the relationship of the pull and push factors.

FINDINGS

Of the 800 questionnaires sent via hyperlink, 400 questionnaires were valid and used for the analysis of this study. The 50% response rate is not surprising as one major concern is online surveys' typically low response rates (Archer, 2008; Miller & Smith, 1983; Wiseman, 2003). On average, online survey response rates are 11% below mail and phone surveys, and rates as low as 2% have been reported (Petchenik & Watermolen,

2011).

Out of the total sample, 52 percent were male programmers and another 46 percent were female programmers. The majority of programmers were aged from 26 to 30 years (52 %), followed by 20 to 25, and 31 to 35, at 24.5 percent and 18 percent, respectively. The majority of respondents had monthly income between 20,001 to 30,000, and 10,001 to 20,000 Baht, at 34.8 percent and 24 percent, respectively. The largest group of respondents (71.3 percent) had a bachelor degree, 27.5 percent a master's degree, and about 1 percent a diploma. The majority the group were full-time programmers (90%), with experience as programmers mainly from 1 to 3 years (42.3%), 3-5 years 26.8 percent, 5 to 10 years at 26.5 percent, and approximately 4.5 percent of the respondents had experience as programmers for over 10 years. Figures 2 and 3 show the hypotheses test results on push and pull factors based on multiple regression analysis.

DISCUSSION

Extant literature supports the idea that pay and promotion are important factors impacting turnover; however, as per the findings of the current study, the only significant factors are supervision, nature of the work, benefits, and job conditions. Pull factors had a stronger relationship with software programmers' turnover intention than push factors. This finding is surprising because in western studies, reward, recognition, and feedback were mentioned as important strategies for retaining IT talent (Tulgan, 2000; Zemke, 2000; Zetlin, 2001). In the IT industry in Thailand, responding software programmers might not be very concerned about pay as a factor impacting job satisfaction, because they get salaries which are generally higher than other occupations (BOI, 2012).

Despite pay being a factor that was not significantly linked to turnover intention in this study, benefits were significantly related to the participating Thai software programmers' turnover intention. It implies that these Thai software programmers might be satisfied with their current salary but they were looking for benefits that could provide them with better security in the long term. Aiken (2001) suggested that an innovative compensation and benefit package can increase job

Figure 2: Hypotheses Test Results showing Job Satisfaction and Turnover Intention of Software Programmers in the IT Industry in Bangkok, Thailand - Pull Factors

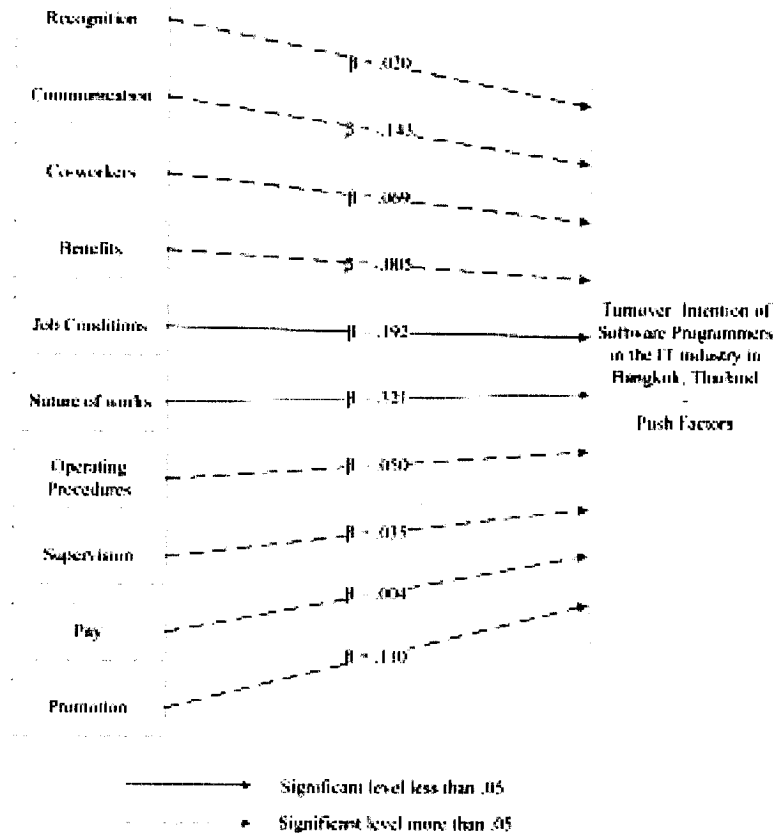
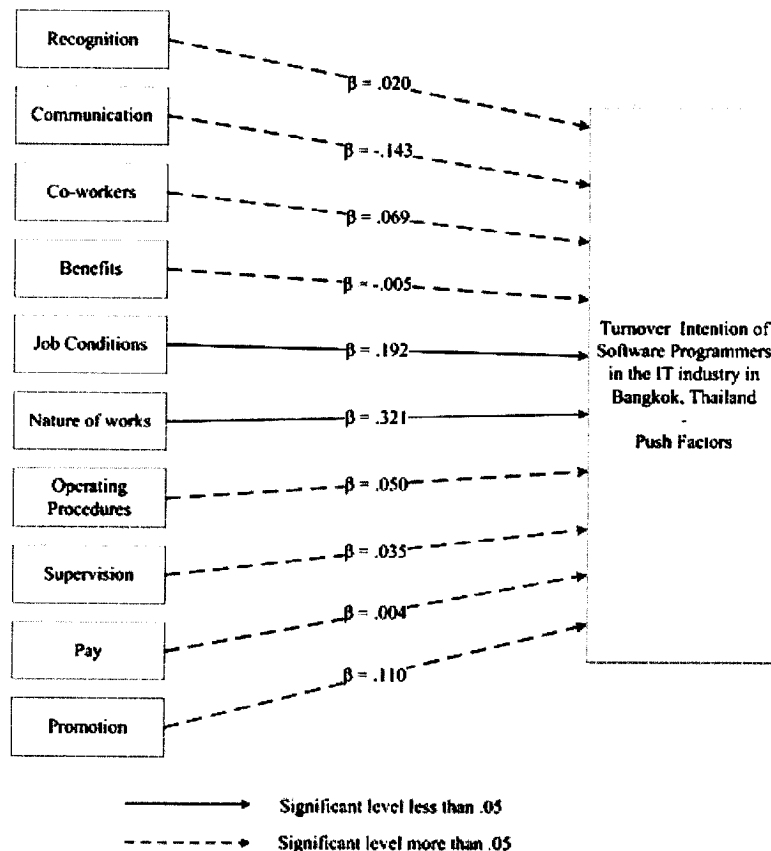


Figure 3: Hypotheses Test Results showing Job Satisfactions and Turnover Intention of Software Programmers in the IT Industry in Bangkok, Thailand - Push Factors



satisfaction and help with retention. In Thailand, social assistance from the government is not sufficient, it is therefore important for Thais to save for old age as a source of income security. The failure of many Thai employers to provide long-term security to their employees encourages neither loyalty nor adequate investment by employers in skills improvement (Beavor, 2012).

The findings showed a significant relationship between supervision and respondents' turnover intention. Previous studies on Thai subordinates have found that support from a boss, fairness, and a caring attitude were regarded as crucial for gaining their trust (Kainzbauer, 2013). This is similar to Jiang and Klein's (1999) study which concluded that IT professionals will gain more satisfaction in their job when the supervisor's support is positive and where the organization offers acceptable series of opportunities that satisfy their career requirements.

The nature of work and job condition were both significantly related to turnover intention in the current study. Igbaria et.al (1991) argued in their study that IT employees have a high need for autonomy and independence. Amabile (1997) confirmed this by stating that the most creative IT teams boast autonomy and cohesion. If the job is not well defined, the work that the programmer does may not create any value. For example, an employee who accepts a job as a senior analyst can expect to work on more complex projects and have more responsibility than a junior analyst.

CONCLUSION AND RECOMMENDATIONS

Whilst studies conducted in the west have found significant correlations between many of the job facets and turnover intention, this study has found that only four variables, supervision, benefits, and nature of work, and job condition are related to software programmers' turnover intention. This implies that HR managers in the IT industry in Thailand need to pay special attention to these factors in order to retain their skilled IT personnel.

IT personnel play a vital role in organizations. This highly specialized group of professionals is often charged with bridging the complexities of technology and organizational business processes and procedures. Finding the right talent is a chal-

lenging and costly endeavour. Given the shortage of qualified personnel and the cost of hiring and training new IT personnel in Thailand, it is paramount that organizations learn ways to retain their most qualified IT personnel. The first step in doing so is to delve into the underlying causes of turnover with the goal of developing and refining appropriate job retention strategies. By taking into account this study's findings, organizations may be able to heighten their awareness of an IT professional's career needs and utilize this knowledge to facilitate a more positive work experience, promote work community balance, and establish good career-management practices.

The current study showed that 44.8% of employees were willing to continue with their current company for 3 years whereas 41% were undecided about leaving their current firms. It was not surprising that the younger respondents, those who had worked for only 1-2 years, were the ones with the strongest intention to shift to another company. The fact that organizations of varying sizes and across industry sectors have effectively reduced turnover through strategies that take into account the preferences of IT professionals clearly show that high turnover is not an inevitable consequence of the technology field but rather a problem that can be successfully addressed by understanding the root causes and adopting proven strategies such as work redesign.

FUTURE RESEARCH

The current study has limitations that can serve as recommendations for future research. First, further research is needed to develop a simplified model to measure job satisfaction and turnover of other professional groups, i.e., system analysts, project managers, employed in the IT industry in Thailand. Second, future studies should have a more diverse sample of participants regarding gender, age, nationality and location. These elements should allow the researcher to compare and investigate the findings across several levels at the national level. Third, researchers should use longitudinal design in order to predict changes in the economy, technology, skills, and other issues which can impact job satisfaction. Fourth, because this study was quantitative and correlational, an evaluation of the impact of cause and effect was not

possible. Conducting a phenomenological study using interviews with IT professionals can offer deeper insights into what IT professionals are looking for in their jobs and why they leave organizations.

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