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Understanding turnover intentions and behavior of Indian information systems professionals: A study of organizational justice, job satisfaction and social norms

Vidya V. Iyer

University of Missouri-St. Louis, vidya.iyer@umsl.edu

Understanding Turnover Intentions and Behavior of Indian Information Systems Professionals: A study of Organizational Justice, Job Satisfaction and Social Norms.

Vidya. V. Iyer

M.S. in Information Systems, Texas A&M International University, Laredo, Texas. 2003
M.B.A., Indore University, India. 2000

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Advisory Committee

Dr. Mary Lacity (Co-Chair)

Dr. Dinesh Mirchandani (Co-Chair)

Dr. Fred Niederman

Dr. Joseph Rottman

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ABSTRACT

Despite the phenomenal growth projected for the Indian information technology[1] (IT) industry, one of the biggest challenges it faces is the high rate of turnover in offshore supplier firms based in India (Everest Research Group 2011). According to recent estimates, turnover rates among Indian information systems (IS) professionals have been reported to be between 30%[1] and 45% per year (Ribiero 2011; Sengupta and Mishra 2010). In spite of the seriousness of this problem, only a few studies have addressed the determinants of turnover among Indian IS professionals (Bhal and Gulati 2006; Lacity *et al.* 2008).

In this dissertation, we further explored three determinants of turnover that emerged as potentially important predictors of turnover intentions in our prior study (Lacity *et al.* 2008)- social norms, job satisfaction and job attributes. Though the construct of organizational alternatives was not supported in our previous study, we decided to test it as a predictor of turnover intentions to see if it has any impact in changing market conditions. Also, the model used in the study incorporated a new construct called supervisory focused organizational justice as a potential determinant of turnover intentions. It is a second order latent construct reflected and measured by four first order justice dimensions (distributive, procedural, interpersonal and informational justice). By including supervisory, environmental, and individual variables in the model, we addressed the cross level influence of IT context (Joseph *et al.* 2007) affecting an individual's turnover intentions and behavior.

The research design was longitudinal to assess turnover behavior and its relationship with turnover intentions. Telephonic interviews were conducted with 75 Indian IS professionals based in India. These IS professionals included people working in the Indian ITeS (Information Technology enabled Services) sector (and not in call centers of Business Process Outsourcing BPO sector) with job titles ranging from software engineer, analyst, consultants to program and project managers from 8 different cities in India. Ten months later the respondents were contacted again to determine their actual turnover behavior. The interview questions had two parts- questions asking the

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[1]Information systems and Information technology are used interchangeably.
[2] www.indiaattrition.com reports it to be between 20-30% http://www.indiaattritionstudy.com/index.htm

respondents to rate their responses on a 5-point Likert scale, followed by an open ended "why" question letting the respondents explain their rating and rationale behind it.

Data was quantitatively analyzed using structured equation modeling tool- PLS graph. Qualitative analysis using content analysis was also performed to gain deeper insights into understanding the responses, and examine why some hypotheses were not supported. The qualitative analyses further helped uncover some emerging constructs not measured and tested in the model-organizational satisfaction, work-life-balance, and stress. Though these variables are not new in the literature of turnover, they have yet to be tested as predictors of turnover intentions in Indian settings. Stress and work-life-balance are especially important variables to be examined in India to see the impact of hard deadlines and accommodating geographical time differences dictated by global outsourcing IT industry.

Seven out of the 11 hypothesized relationships were supported. As far as the four first-order dimensions of justice are concerned, 3 out of the 4 dimensions were found to be significantly and negatively related to turnover intentions- distributive, procedural and informational justice. Also, the second order latent construct of overall organizational justice was found to be negatively related to turnover intentions. The hypothesized relationships between social norms and turnover intentions, and between organizational alternatives and turnover intentions were not supported. Job attributes for tasks not involving client interaction (programming, testing and project management tasks) were found to be negatively related to job satisfaction, verifying practitioner literature claims that a major cause of job dissatisfaction for Indian IS professionals comes from doing low end tasks of the software development life cycle (SDLC). Finally, turnover intentions was found to be positively related to turnover behavior explaining 29% of variance in turnover behavior.

We made important contributions to the literature of turnover by being one of the few studies actually measuring turnover behavior and not adopting the prevalent approach of using turnover intentions as a surrogate for turnover behavior. A major gap in the turnover literature is lack of studies in diverse cultural settings, and we addressed this by studying Indian IS professionals working in India. Also, Joseph *et al.* (2007) in their meta-analysis emphasized the need to look at different turnover theories than the prevalent March and Simon model. We addressed this need and contributed to theory by

testing a model of turnover that had new constructs not tested before, like supervisory organizational justice (second order) and supervisor focused four first-order justice dimensions, and social norms. By focusing on the supervisor as the source of justice, our study incorporated the newest thinking on organizational justice that advocates distinguishing the source of justice (Rupp et al. 2007). Our study is also the first one to measure all four dimensions of supervisory justice simultaneously.

For future research, a revised model of turnover relevant for Indian IS professionals is proposed based on what emerged from the data. This involves adding new constructs like work-life-balance, stress, organizational satisfaction and removing constructs that did not find support in Indian contexts like organizational alternatives and social norms. As far as practitioners are concerned, we addressed the problem plaguing clients and suppliers of global offshore outsourcing industry by focusing on understanding turnover intentions and behavior of Indian IS professionals. We made some recommendations on how the quality of work of IS professionals can be enriched, and human resource (HR) practices targeted specifically towards them.

Keywords: organizational justice, social norms, turnover behavior, Indian IS professional

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1. INTRODUCTION

India is considered the global leader in the information technology (IT) outsourcing market (NASSCOM 2011; Potter 2008; Krishnan and Singh 2010) wherein many Western firms engage with offshore IT service providers located in India to help develop and maintain their IT applications (Apte and Mason 1995; Carmel and Agarwal 2002; Oshri *et al.* 2007; King and Torkzadeh 2008). Offshore outsourcing to India has been an attractive proposition for the Western client firms because it provides an opportunity to reduce costs (Dossani and Kenny 2007; Harrison and McMillan 2006; Lewin and Peeters 2006), access a global pool of personnel and expertise (Lewin *et al.* 2008), and leverage their talent (Gupta and Wang 2007; Lewin and Couto 2007), and spur innovation (Lacity *et al.* 2003; Rottman and Lacity 2006; Sobol and Apte 1995). For example, an innovative software application like "Google Finance," was, for the most part, developed by Google's Indian subsidiary (Padmanabhan 2006). High-technology firms like Microsoft, Yahoo!, Google, and IBM have moved parts of their strategic research and development activities to India (Levina and Vaast 2008) for the above mentioned advantages offered by Indian IT market. A decade ago, it was estimated that more than 185 of the U.S. Fortune 500 firms engaged in offshore outsourcing to India (Carmel and Agarwal 2002) and the number has continued to grow in the last few years. According to the Indo-American Chamber of Commerce, about 250 of the Fortune 500 firms were clients of Indian IT companies in 2005 (Kundu 2005). Today, India accounts for 55% of the global industry in offshore IT (NASSCOM 2011), rising from 51 percent in 2009. According to research firm Gartner, India's IT services market is forecast to grow to US$10.73 billion by 2011, at a five-year compound annual growth rate of 23.2 percent. For 2012, the Indian software and services growth is expected to grow at 16-18% and aggregate revenues of USD 68-70 billion (Ribiero 2008).

Despite the phenomenal growth of Indian IT industry, one of the major challenges it faces is that of turnover among IS professionals (Upadhya and Vasavi 2006; Arora 2008; Everest Research Group 2011) wherein employees voluntarily quit their current

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companies to join other companies (Chiamsiri *et al.* 2005). In India, despite salary increases averaging more than 10-15% annually in the IT industry (Rathi 2010), turnover rates among young professionals can go as high as 50 to 60% (Doh *et al.* 2008, Chiamsiri *et al.* 2005) with an industry average of 15% to 30% per year (Acharya and Mahanty 2007; Ribiero 2011). These figures are very high compared to the annual 10% turnover in IT outsourcing companies in Eastern Europe and between 7.5 and 15% in China (Rai 2005). Based on extensive field research over a four year period, Kuruvilla and Ranganathan (2008) found every software firm in India reported increase in turnover rates in recent years (ranging from 15% to 20% per year) with an average of 20% turnover rates annually.

In early 2011, turnover rates in top 5 Indian IT companies were reported to be at a three year high (Everest Research Group 2011). In the year 2010, major Indian software suppliers like Tata Consultancy Services (TCS) reported an annual turnover rate of 14.1% while at Infosys it was 17.1% in the second quarter of 2010 (Economic Times 2010). In the same year, Wipro, another major supplier reported annual turnover rates of 23% (Ghosh and Das 2010). The turnover rates were slightly lower before 2009. For the last quarter of 2008, the annual turnover rates for TCS, Wipro and Infosys were 11.9%, 11.9% and 11.8 % respectively (Kumar 2009). Switching companies has become so acute that some IT firms are finding it hard to include turnover rates in their quarterly performance reports (Tejaswi 2010).

The turnover problem is aggravated by the fact that smaller Indian IT companies are facing even higher turnover rates than the big IT suppliers like Wipro, TCS and Infosys (Acharya and Mahanty 2007; Rai 2005). The problem of turnover is intensified for mid-sized and smaller companies as a consequence of the massive recruitment drives undertaken by their larger rivals. Large companies are able to attract employees from smaller rivals through better pay packages and other incentives (Iyer and Sengupta 2010). Annual turnover rates in small and medium sized IT companies in India are now in the range of 25-30% (Tejaswi 2010) with some mid-sized firms battling with turnover rates as high as 40% among their project managers (Sengupta and Mishra 2010).

Increasing the salaries of IS professionals has not reduced the turnover rates significantly. Indian software salaries have increased faster than those in the U.S. (Arora

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and Gambardella 2004). Athreye (2005) presents data which suggest that whereas U.S. salaries for a variety of software occupations such as programmer, project leader, quality assurance specialist and systems designer increased by about 21% between 1995 and 1999, salaries of their Indian counterparts increased by nearly 45%. In recent years, this problem has become more acute. There has been news of 100% hike being offered by rival firms for the right candidate. One such incident was of an Oracle employee quitting Wipro, an Indian IT service provider to join Accenture (a Non-Indian IT service provider) at an enormous 100% hike. Though Wipro offered 40% hike to him to stay back, the person chose to change company for better pay (Muthukrishnan 2010). Rising salaries and attrition rates of IT personnel have raised concerns because these factors are likely to affect cost competitiveness and ability to deliver the quality of service that many customers have come to expect from India-based IT service providers (Mithas 2008; NASSCOM McKinsey Report 2005).

High turnover rates among IS professionals have a negative influence on firms' ability to serve overseas clients effectively (Levina and Vaast 2008). When an employee leaves, an offshore IT firm must incur several kinds of costs to make up for his/her move. To begin with, the firm must incur a cost of hiring to find a suitable replacement. Once the new employee is hired, he/she cannot be expected to be as productive as his/her predecessor since he/she has not yet learnt the nuances of the job, nor is he/she informed about the offshore client specific relationships. Thus, there is an opportunity cost of losing an employee. Finally, in order to make the new hire more productive the firm may have to provide some combination of technical, domain and process oriented training, all of which are an expensive proposition (Bapna *et al.* 2008). Not only that, but it also affects the efficiency of team members still with the firm. Experienced team members must divide attention between their core tasks and socialization and training of new members, while novices spend time learning the job and gaining experience (Hasausknecht *et al.* 2009). Moreover, another problem of turnover is that the best (or at least perceived best) employees leave with the less talented ones remaining with the organization (Neiderman 2011).

Also, the turnover problem is of enormous concern to the clients outsourcing their work to Indian IT companies. According to the CEO of Offshore Insights, an Indian IT

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service provider, the quality of service by Indian IT service providers has been dropping for a few years because of staff issues (Ribiero 2011). In a recent study conducted by Everest Research Group in 2011, it was found that overseas clients of Indian IT suppliers were increasingly highlighting service delivery concerns related to the lack of quality of resources (employees) deployed on their engagements. Customers abroad reported that some Indian IT firms were sending staff with lesser experience than before to customer sites, leading to delays and poor quality (Ribiero 2011).The prime reason Everest Research Report (2011) cites for these complaints is elevated turnover levels at the Indian supplier side that is destabilizing client delivery teams. The impact is especially severe with large scale exits in the middle management level at Indian supplier companies (Everest Research 2011). Interviews with U.S. based clients of Indian software firms by Arora *et al.* (2001) revealed how clients are concerned about turnover in Indian project teams. The clients interviewed commented on the delays due to entire project teams leaving in the midst of the project in response to a more lucrative offer. Such delays are particularly troubling for smaller clients and for product focused clients with a need to shorten product development cycles (Athreya 2005). In their case study of six off-shored projects to India, Dibbern *et al.* (2007) found that once the knowledge transfer (which initially occurred onsite) was completed, the IT supplier staff was often either transferred to other clients or left the supplier company for good. This then forced the client to repeat the knowledge transfer with the replacement staff which led to increased effort. To avoid turnover, the client had to more closely observe the IT supplier's recruiting and personnel management, which led to increased control and coordination effort. They concluded that personnel turnover is a supplier related characteristic that may lead to extra costs for the clients. Clearly there is enough evidence to point to the gravity of the turnover problem amongst Indian IS professionals affecting client success. The problem of turnover amongst Indian IS professionals is so serious that it may cause the ultimate irony for multinational clients: Due to the high cost of hiring and retraining, they may not be able to reap the cost savings that led them to India in the first place (Weinstein 2008).

This study investigated empirically the research question: **Why do Indian IS professionals leave their organizations?** As mentioned earlier, the IT outsourcing industry is beset by high turnover rates at Indian supplier side affecting both clients and

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suppliers alike**.** However, the literature on IT outsourcing has mainly focused on customer perspective, and there is a need to study both the customer and supplier side of the relationship (Rajkumar and Mani 2001; Koh *et al.* 2004; Power 2011). As far as supplier side issues are concerned, a recent review on outsourcing literature by Lacity *et al.* (2009) found "IS human resource management capability" to be the most important capability for suppliers to concentrate on (e.g., Gopal *et al.*, 2003; Beulen and Ribbers, 2003; Rao *et al.*, 2006; Oshri *et al.*, 2007). The review concluded that clients achieved higher levels of information technology outsourcing success when supplier staff turnover was low. By investigating turnover amongst Indian IS professionals, we hope to focus on the supplier side of relationship and addressing one of their top concerns.

There is a rationale for studying turnover amongst Indian IS professionals as a distinct group even though there already exists an enormous literature on turnover of IS professionals. Turnover among IS personnel has been studied extensively, but these studies have focused predominantly on Western countries. Research shows that turnover studies undertaken in the West cannot be generalized to other countries (Chang 2009; Lacity *et al.* 2008; Uzoka 2011). For example, Lacity *et al* (2008) found that organizational commitment which is the second most studied antecedent of turnover intentions (Joseph *et al*. 2007) was not significantly related to turnover intentions amongst Indian IS professionals. Further, in the same study, they discovered that most of the Indian IS professionals interviewed had a hard time understanding and relating to that construct. Since Indian IS professionals form a significant portion of the global IT workforce, there is a need to identify a turnover model that applies to them specifically instead of using models based on Western countries. Therefore, in this study, we explored in detail various issues that an Indian IS professional faces that influences his/her intentions to quit by collecting data through semi-structured interviews.

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2. LITERATURE REVIEW

This section starts with a review of studies conducted in Western countries on turnover of IS professionals. Then we look at research on IS turnover conducted in other countries, and see how their findings had similarities, and also some differences from the findings of comparable studies conducted in the Western countries. The differences in findings indicate that either the universal knowledge of IS turnover is incomplete, or there are some culture-specific factors that need to be considered in the turnover framework.

Research on IS personnel turnover is extensive. Appendix I shows the different studies conducted on turnover in IS, the determinants studied, and the findings from these studies. The underlying framework for research on IS personnel turnover has been adopted from the management literature. For example, in IS we have studied the validity of turnover theories like the 'March and Simon' model (1958), the 'unfolding model of voluntary turnover' by Lee and Mitchell (1994), the 'career anchors' theory by Schein (1978), the 'met expectations' theory (Porter and Steers 1973), the 'linkage model' by Mobley (1977) and the 'job embeddedness' theory by Mitchell and Lee (2001). Also, some new theories that are context specific for IS personnel have been put forward by researchers. These include the 'threat rigidity' model (Joseph and Ang 2001), 'preferred employment duration' model, and organization and individual centric models (Agarwal and Ferratt 2000) of turnover. For detailed explanation on these theories, refer to Appendix II. We discuss the literature by categorizing the studies into two groups: 1. Studies of IS turnover in Western countries, and 2. Studies of IS turnover in other cultures and countries.

2.1. Studies of turnover amongst IS professionals in Western countries

There is an enormous array of possible influences on turnover, and numerous studies have examined more than a handful of these influences at a time (Refer Appendix I). However it is not known if these influences are universal or contingent upon certain

circumstances and settings. The determinants of turnover among Western IS professionals are as follows:

2.1.1 Job-related factors:

These factors have been tested as primary antecedents to turnover intentions amongst IS professionals, mostly in western countries. These job-related factors can be categorized as role stressors (role ambiguity, role conflict), role behaviors (work exhaustion) and job characteristics (Joseph *et al.* 2007).

2.1.1.1 Role stressors: Baroudi (1985) put forth a model of turnover intentions that includes role stressors (role ambiguity and role conflict) and boundary spanning activities as important antecedents to turnover intentions, mediated by attitudes of job satisfaction and organizational commitment. In a sample of 229 IS personnel working in 9 U.S. companies, Baroudi (1985) found role ambiguity to be the most dysfunctional variable for IS personnel explaining 10.3%. 20.2% and 22.2% of the variance in turnover intentions, commitment, and job satisfaction respectively.

Igbaria and Greenhaus (1992) extended the model to examine the influence of demographic variables (age, tenure and education) and career related variables (promotability, salary and career opportunities) in addition to role stressors on turnover intentions and analyzed the results using partial least square (PLS). In their sample of 464 members from ACM (Associated Computing Machinery) in Delaware, Southern New Jersey and Pennsylvania, they found role stressors to be negatively related to job satisfaction, organizational commitment and turnover intentions. Also, education had a non-significant effect on satisfaction (job and career) but a direct effect on turnover intentions, and career opportunities and salary had positive effect on job and career satisfaction and negative effect on turnover intentions. Similarly, age had a negative relation with turnover intentions.

Igbaria and Guimaraes (1992) explored the antecedents (role ambiguity and role conflict) and consequences of job satisfaction (turnover intentions and organizational commitment) amongst Information Center (IC) personnel in 38 companies from the Ohio region of U.S. They found role ambiguity to be most dysfunctional amongst IC personnel in relation to job satisfaction. In addition, the relationship between role

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ambiguity and some components of job satisfaction were found to be education and age dependent.

Igbaria *et al.* (1994) studied the effect of role stressors on job involvement among IS professionals who were members of the ACM in Delaware, Pennsylvania and Southern New Jersey. They found that job involvement may exacerbate the negative effects of role stressors (especially role conflict) on IS professionals. However, they did find that high levels of job involvement enhanced the beneficial effects of work experiences on the quality of work life (e.g., job characteristics, job/career satisfaction relationship).

Goldstein and Rockhardt (1984) found role conflict and role ambiguity to be significantly related to job satisfaction amongst analysts/programmers in 3 companies in Northeast U.S., and one company in Midwest U.S. Taken as a pair, role conflict and role ambiguity accounted for 30% of the variance in job satisfaction. They advocated for inclusion of role variables in the job characteristics model (JCM) to improve the prediction of job satisfaction amongst IS professionals.

In a sample of IS personnel from 38 companies in Ohio, Guimaraes and Igbaria (1992) found that boundary spanning activities affect turnover intention indirectly via job satisfaction and organizational commitment.

Research has also sought to see how turnover intentions differ among different kinds of IS personnel. For example, Gupta *et al.* (1992) examined the antecedents of turnover intentions amongst information center (IC) personnel working in 30 organizations in Cleveland, U.S. They found that role ambiguity and role conflict were most dysfunctional for them. Guimaraes and Igbaria (1992) investigated if there was a difference in turnover intentions between IS versus IC personnel amongst a sample of personnel from 38 companies based in Ohio. It was found that IC personnel were less satisfied with their jobs and had higher intentions to leave.

Studies in IS literature have also looked into work attitudes amongst non-IS personnel - telecommuters versus non-telecommuters (Igbaria and Guimaraes 1999) and between IS versus non- IS professionals (Igbaria and Greenhaus 1992b). Igbaria and Guimaraes (1999) investigated the difference between tele-commuters and non-tele-commuters in terms of role stressors, job satisfaction and organizational

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commitment. In a sample of 225 salespeople from Southeastern U.S., they found that telecommuters seemed to face less role conflict and role ambiguity and tended to be happier with their supervisors. They were also more committed to their organizations and showed lower satisfaction with peers and with promotion. Igbaria and Greenhaus's (1992b) study empirically compared IS and non-IS professionals and found significant differences in the career plateau status and job performance evaluations between them. However, they did not find any significant differences between MIS and non-MIS personnel in work attitudes, such as job satisfaction, career satisfaction, and organizational commitment.

2.1.1.2 Job characteristics: Research has also established job characteristics as important antecedents to turnover intentions. Igbaria and Siegel (1992) in a sample of 571 members of ACM from Delaware, Southern New Jersey and Pennsylvania, found that job type (programmer, project manager, analyst) and perceived job characteristics explained the variance in turnover intentions beyond role stressors, demographic variables, career related variables and boundary spanning activities.

Thatcher *et al.* (2002) found job characteristics - task variety, identity, significance, autonomy and feedback (as measured by job diagnostic survey) to be significant predictors of organizational commitment which in turn predicted turnover intentions for a sample of 191 IT workers employed in Southeastern U.S. government.

Thatcher *et al.* (2006) surveyed 228 IT professionals in 34 public agencies in Southeastern U.S. and found that some job characteristics such as autonomy and task variety were predictors of intrinsic motivation (enjoying work itself), which in turn mediated the effect on organizational commitment and turnover intentions.

2.1.1.3 Role Behavior (work exhaustion): As far as role behaviors are concerned, a very important contribution to the IS turnover research was the inclusion of work exhaustion and burnout as potential antecedents to turnover (Moore 2000). In the study of work exhaustion and burnout amongst IT professionals, Moore (2000) found perceived work overload to be the strongest cause of work exhaustion that explained more variance than the other commonly cited antecedents that were tested in the model (role ambiguity and role conflict, fairness of rewards, and autonomy). In a

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subsequent qualitative analysis, the biggest cause of work exhaustion amongst IS professionals was found to be insufficient staff and resources. The study was based on a sample of 252 U.S. members of Association of Information Technology Professionals (AITP).

This work exhaustion model has been validated further by Ahuja *et al.* (2007) and Rutner *et al.* (2008). Building on Moore's (2000) work on turnover intention, Ahuja *et al.* (2007) tested a model that is context-specific to IT road warriors who are IT consultants spending most of their workweek (including overnight) at distant client sites, representing their employer. The study was based on a survey of 171 IT consultants in a Midwestern U.S. city. The model highlights the effects of work–family conflict, fairness of rewards, perceived work overload and job autonomy on turnover intentions among IT road warriors.

Rutner *et al.* (2008) in a sample of 161 IS professionals from Fortune 100 companies, found emotional dissonance of IT professionals as a contributing factor to work exhaustion, job satisfaction and turnover intentions.

2.1.2 Gender

Gender differences across IS professionals and its impact on turnover has also been tested in the IS literature. Baroudi and Igbaria (1995) surveyed a sample of 348 IS professionals from the Mid-Atlantic region of the USA and found that women have higher intentions to leave as they have lower organizational commitment and job satisfaction, are paid less and are employed at lower levels in organizations. Igbaria and Chidambaram (1997) found similar results (with a sample consisting of 348 IS professionals from the DPMA chapter of Mid Atlantic region of USA) that gender differences do exist in the IS field. They found that women were younger, had fewer years of job tenure, were in lower-level positions and were paid less than men. Moreover, women had fewer opportunities to interact with people outside their departmental boundaries and were motivated more by intangible rewards compared to men. However, they did not find any gender-based differences in role ambiguity, role conflict or career outcomes (salary and promotability).

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On the other hand, Niederman and Sumner (2001) found that job satisfaction and career experiences are relatively similar for females and males in the IT field when they surveyed alumni from a metropolitan university in Midwestern U.S.

Ahuja (2002) found that female IT professionals are also likely to perceive less ease of movement because of fewer opportunities or resources to develop their skills and careers, as well as the general stereotype of IT as a male dominated profession (Ahuja 2002; Baroudi and Igbaria 1995; Igbaria and Chidambaram 1997).

Gallivan (2004) used a multi method case study of two firms in the U.S. to study technological adaptation of IT personnel and tested if gender was a moderator. He found that women reported lower job satisfaction on a dimension that captures job stress, and this effect was exacerbated in the firm that expected its IT employees to demonstrate considerable initiative to master the innovation. In contrast, the women at the second firm, while showing no differences in job stress (relative to their male peers), nevertheless exhibited a very different pattern of job skills and performance than the men.

2.1.3 Individual differences

Researchers have also looked at direct effects of individual differences on turnover. Rasch and Harrell (1989) surveyed IS professionals in a Big Eight consulting firm in the U.S. They found IS professionals with high achievement need, the Type A personality, and influence orientation are likely to experience less work stress, greater job satisfaction and lower rates of voluntary turnover than their contemporaries.

Mourmant and Gallivan (2007) used Myer-Briggs personality types (MBTI) to show why the sample in Niederman and Sumner (2003) study of decision paths diverged from the original decision paths conceptualized by Lee and Mitchell (1999).

Wingreen *et al.* (2002) looked into individual factors of self-efficacy and locus of control as trainee characteristics and the fit with training climate, and how a better fit determines turnover intentions amongst IS personnel. This was based on a sample of IS professionals in Tampa Bay region of the U.S.

Gallivan (2004) investigated the relationship of two personal attributes- openness to experience and tolerance of ambiguity, to job attitudes in the face of adapting to technological change. His sample was IS professionals in two U.S. companies. He found the two variables to be positively related to job satisfaction and job performance and

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negatively related to turnover intentions. Individual differences have also been used as control factors in investigating turnover intentions of IS professionals. For example, Moore (2000) in her study of work exhaustion of IT professionals controlled for negative affectivity. Agarwal *et al.* (2007) controlled for 'propensity to stay' in their study of effects of interaction between risk and variety on turnover intentions among new entrants in IT. The sample consisted of seniors with majors in MIS at two U.S. universities.

2.1.4 Career anchors

Another stream of research into turnover has looked into diverse career orientations/anchors of IS professionals, and how a fit between career orientations and job can determine one's intentions to stay or quit. Igbaria *et al.* (1991) in a survey of 517 ACM members from Delaware, Pennsylvania and Southern New Jersey, found employees whose career orientations were compatible with their job setting reported high job satisfaction, high career satisfaction, strong commitment to their organization, and low intentions to leave their organization.

Sumner and Yager (2004) and Sumner *et al.* (2005) surveyed graduates of the undergraduate program in MIS at a comprehensive state university in the Midwest U.S. to study the different career anchors that IS personnel have. They found organizational stability, variety, managerial competence, and geographic security to be most relevant for organizational commitment, explaining 38% of variance in organizational commitment. The compatibility/discrepancy between 'career wants' (career anchors) and 'career haves' has also been modeled as 'discrepancy model' by Jiang and Klein (1999). They examined the relationship of such a discrepancy with career satisfaction and intentions to leave for entry level IS employees who were members of AITP. The study found correlations with career satisfaction only for anchors of variety and service and not with managerial competence, identity, technical competence, geographic security, autonomy, or organizational stability.

2.1.5 Interaction of individual and situational factors

In IS literature, some researchers have taken the interactionist perspective and argued that work attitudes and behavior are results of individual and situational factors. Agarwal and Ferratt (2000) proposed an extension of Rousseau's (1995) theory of psychological

contracts and argued that staying/leaving behavior would be influenced by an IT professional's career motives, conceptualized as consisting of a preferred employment duration, career anchor, and career stage.

In later work, Agarwal *et al.* (2002) suggested that preferred employment duration with a specific organization is jointly determined by career anchor, life stage, and competencies. They sampled IS personnel from the corporate office of a Fortune 500 company in U.S.

Agarwal *et al.* (2007), in line with the interactionist perspective, argue that risk and variety represent two important situational characteristics with matching individual preferences for ri sk and variety that are relevant to IT workers' turnover intentions. They tested this for new entrants in the IT industry (sample of 63 senior management information systems (MIS) majors at two U.S. universities) with an experimental design and found support for the model.

2.1.6 Control variables

IT turnover studies have typically examined age and marital status as control variables and hence are silent on their theoretical linkages with turnover intention (e.g., Ahuja *et al.* 2002; Gallivan 2004; Guimaraes and Igbaria 1992; Igbaria and Siegel 1992; Moore 2000). Other control variables across IS turnover studies include education, IT tenure, and organization tenure (Igbaria and Greenhaus 1992; Moore 2000). These variables have been studied across different samples of IS professionals in U.S.

2.1.7 Organizational determinants

Organizational determinants of turnover have been studied extensively in IS literature and include human resource management (HRM) practices, reward system, social support and socialization process within the organization.

2.1.7.1 HRM practices: As far as internal environment is concerned, an important area of focus in IS turnover research has primarily been the organizational HRM practices that help retain employees. The HRM practices, rules, and policies have also been referred to as internal labor market strategies (ILM) (Ang and Slaughter 2004). Agarwal and Ferratt (1999, 2002a) list out some of the effective retention strategies that medium to large size companies employ: from performance management,

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development and training opportunities, quality of leadership and sense of community, recognition and compensation, and lifestyle accommodation to organizational stability and security. These findings were based on recruitment and retention strategies in 32 organizations from a wide range of industries in the U.S. Agarwal and Ferratt (2002b) also conducted field work in a corporate office of a Fortune 500 company at multiple levels of analyses and with two theoretical perspectives to understand the relationship between HRM and intentions to quit for IT employees. They found that the enacted HRM system which is perceived by each individual employee explains turnover intentions better than the strategic HRM perspective. Finally, Ferratt *et al.* (2005) and Agarwal *et al.* (2006) came up with five configurations (or mindsets) of HRM practices based on literature of strategic HRM, and a survey of 106 IT organizations in the U.S.: task focused archetype on one extreme with highest turnover rates and human capital focused (HCF) archetype on the other extreme with lowest turnover rates. In between the two are secure, utilitarian and incented technician archetypes. Consistent with the configurational view of HRM practices as proposed by Agarwal *et al.* (2006), Ang and Slaughter (2004) found different organizations adopt distinct ILM strategies for different IT jobs, and that these strategies relate to differential turnover rates. These findings were based on rigorous multiple case studies conducted in 41 organizations (study does not mention where these organizations were located). Pare *et al.* (2001) surveyed 394 IS professionals who were members of Canadian Information Processing Society in Quebec, and identified multi-dimensional set of HRM practices like distributive justice, competence development, empowerment and recognition to be especially relevant to IT professionals, and negatively related to turnover intentions. They showed the effect to be mediated by organizational citizenship behavior and organizational commitment.

2.1.7.2 Reward system: An important aspect of the HRM strategies that has been shown to have a strong influence on turnover of IS professionals is reward system or fairness of rewards. Moore (2000) found strong support for fairness of rewards to be negatively related to turnover intentions among a sample of U.S members of AITP. Igbaria and Siegel (1992) found organizational rewards (like working on projects

leading to advancement, respect by top management, power and influence, promotability, substantial annual salary increase and work on organizationally important projects) were negatively related to turnover intentions among a sample of ACM members from U.S. Similarly, Igbaria and Greenhaus (1992) found rewards like salary, career opportunities and promotability to be negatively related to turnover intentions among ACM members from three states in the U.S. - Delaware, Southern New Jersey and Pennsylvania. Igbaria and Chidambaram (1997) investigated the relationship between tangible (money and promotions) and intangible rewards (motivation in terms of job challenge, autonomy, achievement and responsibility) and turnover intentions for 350 IS employees from 20 Mid Atlantic Chapter of Data Processing Management Association (DPMA), in U.S. They found rewards, tangible and intangible, to be negatively related to turnover intentions for both men and women.

2.1.7.3 Other organizational factors: Apart from HRM strategies, some research has looked into other organizational factors like social support, culture within the IS department, socialization tactics and professional development activities provided by the organization, as determinants of turnover intentions. Kym and Park (1992) proposed that turnover can be explained as a misfit between the corporate culture and that of IS department. Career-path and the status of IS department, job security, social relationship, and management control mechanism were proposed as the factors that can affect the level of cultural fit/misfit in this conceptual paper. King and Xia (2001) studied the effect of different socialization tactics on retention of new IS employees in an organization. They surveyed IS employees from 93 organizations in the Midwest and 3 in the East Coast area in the U.S. The results showed that various socialization tactics affected new IS professionals differently. The social aspects of socialization (investiture and serial tactics) were most important in influencing new IS professionals' role adjustment and organizational attachment and consequently negatively related to intentions to leave. Mahatanankoon (2007) found professional development activities (in-house/vendor training and attending various seminars, continuing education, etc) contributed to progress in IT careers for IT professionals

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among a sample of U.S IS professionals. Such findings need to be incorporated in socialization procedures in an organization.

2.1.8 External environment

As far as external environment is concerned, Thatcher *et al.* (2002) examined the effect of perceived competition for pay and found it to have a weak effect on job satisfaction among IS employees of a Southeastern U.S. state government agency. In addition, they investigated the impact of perceived job alternatives as another external market condition affecting turnover intentions amongst IS professionals and found a significant relationship between the two.

The Unfolding Model of Voluntary Turnover or 'shock theory' as proposed by Lee and Mitchell (1994) offers a new perspective that takes into account such external factors, such as unsolicited job offers that are often available to information technology professionals - particularly in times of high market demand for specialized IT skill sets. Lee *et al.* (2008) studied the importance of unsolicited job offers and how they are better indicators of the ease of movement for employees than the traditional unemployment rates. They concluded that ease of movement and labor market conditions do play an important role in turnover decisions. This study was not conducted on IS employees but is important to be mentioned as it highlights the importance of job offers in turnover process. The 'shock theory' (Lee and Mitchell 1994) suggests that IT professionals who are well-satisfied with their current positions can still leave their jobs if they get a better offer (Niederman *et al.* 2006). In a study that applied the Unfolding Model of Voluntary Turnover to IT professionals, Niederman and Sumner (2003) found that the decision paths taken by IT professionals differed from the paths taken by the Lee *et al.* (1999) sample. The sample used by Niederman and Sumner (2003) included alumni from two metropolitan universities in the U.S. They concluded that IT professionals who are satisfied with their jobs may still leave once they experience a "shock" (job offers in a volatile market) and evaluate alternatives.

Laumer and Eckhardt (2010) studied the effect of economic crisis on IS personnel turnover with a sample of 380 IS employees in Germany. This crisis in 2008-09 started as a major problem solely for banks and other financial institutions but evolved over time as a large challenge for companies in every industry all over the world. They compared the

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individual items of the major IT turnover constructs – job satisfaction, organizational commitment, perceived alternatives and turnover intention – for two groups of German IT professionals before (data gathered in May/June 2008) and after the bust of Lehman Brothers (June 2009). The results showed that IT workers in Germany just changed their perception of job alternatives during these twelve months. They reported similar job satisfaction, organizational commitment and turnover intention in 2008 and in 2009.

2.1.9 Entrepreneurial path to turnover

Mourmant *et al.* (2009) addressed an important type of IT personnel turnover: IT entrepreneurship. They developed a comprehensive model that focuses on factors and processes that influence turnover behavior of nascent IT entrepreneurs. They used three streams of research to develop their model: model of turnover, the entrepreneurship literature and attributes of IT industry and its personnel. This model remains to be tested with a real sample from the population of IT personnel.

2.1.10. Off- the-job factors

Apart from these influences, certain off-the-job factors have also been studied in IS literature as antecedents to turnover. Taylor and Chin (1997) found congruence of fit between the job and the person's quality of life goals to be a better predictor (than job satisfaction) of various measures of turnover decision (i.e., thoughts of quitting, expectation of quitting, and intention to quit) with an average explained variance of 0.50. The sample consisted of 135 IS workers from an independent school district in the U.S.

Ahuja *et al.* (2007) found work-family conflict to be an important source of work exhaustion and stress for IT employees (termed as "IT road warriors"). These 'road warriors' were IT consultants from a Midwestern city in the U.S.

However, Sumner (2008) found that the 249 IT employees from the St. Louis metropolitan area she surveyed did not report high levels of work-family conflict based on the 6 measures of work-family conflict (WFC) and family work conflict (FWC). These off-the-job factors resonate well with the job embeddedness theory by Lee and Mitchell (2001).

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2.1.11 Turnaway from IS profession

Researchers have also studied how IT professionals may not just quit their organization but may also turn away from the IT profession. Joseph *et al.* (2005) put forward a new career path for IS professionals apart from the traditional dual career paths - the protean path where movements are ad-hoc reflecting interweaving moves in and out of the IT profession. IT professionals in a protean career make inter-organizational as well as inter-occupational transitions (i.e. turnaway), where they move from an IT job to a non-IT job in their career path. Joseph and Ang (2001) proposed the threat-rigidity model where threat professional obsolescence or not being up-to-date with current technology may cause an employee to leave the organization or turn away from the IT profession.

In yet another exploratory study by Downey *et al.* (2011), the authors sought to understand with qualitative analysis why computer/software engineering graduates abandon their careers in software and pursue radically different paths.

2.1.12 Meta-analysis of turnover literature

An important contribution to the literature of IS turnover has been the narrative review with meta-analytic techniques to yield insights about existing research on turnover on information technology professionals by Joseph *et al.* (2007). The narrative review of 33 studies shows that the 43 antecedents to turnover intentions of IT professionals could be mapped onto the distal-proximal turnover framework developed by March and Simon (1958). Also meta-analytic structural equation modeling shows that proximal constructs of job satisfaction (reflecting the lack of desire to move) and perceived job alternatives (reflecting ease of movement) partially mediate the relationships between the more distal individual attributes, job-related and perceived organizational factors, and IT turnover intentions.

2.2. *Studies of turnover of IT professionals in other cultures*

Many scholars have suggested that culture is an important element that is missing in the turnover literature (Maertz 2004; Miller *et al.* 2001; Posthuma *et al.* 2005). In fact, after examining factors that led to reduced turnover in multinational companies, Miller *et al.* (2001) concluded that all turnover theories reflected a strong Anglo-American bias and need to be modified and refined to make them applicable to other countries. For example,

Western studies on turnover have typically placed a strong emphasis on an individual's fit with the job, and multiple studies have found job fit to be a predictor of intention to quit in the U.S. (Cable & Judge 1996; Lauver & Kristof- Brown 2001). Kristof-Brown *et al.* (2005) conducted a meta-analysis of organization fit studies (primarily done in the US) and found a stronger negative correlation between turnover intentions and person-job fit than between turnover intentions and person-organization fit. However, research in India has *not* found a lack of fit between underlying job preference and job choice to be associated with low job satisfaction (Leong *et al.* 1998). Similarly, Gupta and Tracey (2005) found that even within the US, Americans of Indian origin had lower job preference-job choice congruence than Americans, suggesting that job-fit might be less important in predicting turnover for Indians as compared to Americans.

Even in the literature on turnover of IS professionals, different cultural settings have yielded varied results. Some results have been different from the findings of parallel studies in Western countries. This section highlights the limited research on turnover among IS professionals in other countries and how the results have not always been consistent with the findings based on studies conducted in Western countries.

2.2.1 Singapore: Some studies on IS turnover has been conducted in Singapore. These are discussed below:

Lee (2000) studied the effect of growth need strength (need for challenge and achievement), role ambiguity, and role conflict on job satisfaction and turnover intentions among IS professionals in Singapore. Based on a survey of 403 IS professionals in Singapore, the results showed that job satisfaction mediated the relationship between role ambiguity and growth need strength and turnover intentions. However, role conflict was found to be statistically insignificant. These results are consistent with studies conducted in Western countries in that they found role ambiguity to have an indirect effect on turnover intentions through job satisfaction. The results are different in that role conflict was not a significant predictor of job satisfaction. Studies in western countries have found role conflict to be a significant predictor of turnover intentions by having an indirect effect through job satisfaction (Igbaria and Greenhaus 1992), and work exhaustion (Moore 2000; Rutner *et al.* 2008).

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In a survey of 309 subscribers of ComputerWorld (Singapore edition), Lee (2002) found professional plateau (defined as the point where employees find their job unchallenging and providing few opportunities for professional development and future employability) to be positively related to turnover intentions amongst IS professionals in Singapore. Studies in Western countries have not explored this construct of professional plateau in relation to turnover intentions amongst IS professionals.

Tan and Igbaria (1993) examined the link between turnover rates and salaries of IT professionals through a survey of 4362 IS professionals in Singapore. Also, they found external competition for remuneration and lack of career opportunities within the company to be a significant factors leading to turnover. They found a gap in salaries between male and female IT professionals in Singapore, especially at senior management levels. These findings are consistent with the results of studies in Western countries. Existence of job opportunities outside the current company has been proven to be significant predictor of turnover intentions amongst IS professionals (Thatcher *et al.* 2002). However, contrary to the study by Tan and Igbaria (1993), Thatcher *et al.* (2002) found perceived competition for pay to have a weak effect on job satisfaction among IS employees.

2.2.2 Taiwan: Some studies conducted in Taiwan amongst IS personnel is discussed below:

In a study by Chang (2010), 353 IS professionals in Taiwan were interviewed to identify their career anchors and motivation for job change. The result indicated the value of exploring a new category of anchor—"learning motivation". The result also suggested that the anchor of greatest concern for these professionals was lifestyle, followed by organizational stability and learning motivation. The finding of this study differs from those made in U.S. context, where service is ranked at the top. Comparison between the Taiwan-based study and those conducted in the U.S. context revealed that MIS professionals in these different cultures emphasize different career anchors. This study provides evidence that national culture, indeed, influences MIS professionals' career anchors.

There have been studies in Taiwan that had similar results compared to studies in western countries. For example, Chen (2008) examined how socialization and pre-entry experience can affect turnover intentions amongst IS professionals in Taiwan. Based on a survey of 136 Taiwanese IS professionals, the study found that establishing relations during socialization has a positive influence on job satisfaction and organizational commitment and is negatively related to turnover intentions.

Tseng (2009) looked at retention factors like financial compensation, training and development, promotion, recognition, challenging work, innovation and creativity, leadership style, autonomy, work-life balance, and job satisfaction and their effect on turnover intentions amongst IS professionals in Taiwan. Ten factors were significant for software engineers. However, challenging work was not significant for the project leaders, and both financial compensation and challenging work were not significant for the assistant managers.

2.2.3 Malaysia: Studies conducted in Malaysia are discussed below:

Samad (2006) examined the relationship of job characteristics, demographic variables and job satisfaction with turnover intentions with a sample of 292 IT staff in Telecom Malaysia (TM). The results showed that job satisfaction, job characteristic factors and demographic variables are negatively and significantly related to turnover intention. The results resonate well with findings in the Western countries (Igbaria and Greenhaus 1992)

2.2.4 Botswana: There has been only 1 study of IS professionals in Botswana.

Uzoka *et al.* (2011) surveyed IT professionals in Botswana to examine the factors that affect the IS employees' intention to leave their current jobs using the Igbaria and Greenhaus's (1992) model. The results of the study showed that role ambiguity had a negative effect on career satisfaction, while supervisor support and growth opportunity had a positive effect on job satisfaction. Turnover intention was influenced negatively by internal growth opportunity, supervisor support, and job satisfaction. Some of the results obtained in this study are not in consonance with the results obtained by Igbaria and Greenhaus (1992) upon which the study was based. For example, Igbaria and Greenhaus (1992) identified that role stressors affect turnover intentions indirectly through job

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satisfaction. This study found that role stressors (role ambiguity and role conflict) have non-significant negative effects on job satisfaction, whereas, job satisfaction had significant negative effect on turnover intention.

2.2.5 India and Sri-Lanka: Studies conducted in Sri Lanka and India are discussed below:

Wickramasinghe (2010) examined the mediating effect of job satisfaction on the relationship between time demands of work and turnover intention of software developers in offshore outsourced software development firms in Sri Lanka. Using a sample of 232 IS professionals in Sri-Lanka, they found that the time demands of work significantly negatively associated with job satisfaction while significantly positively associated with turnover intention. Further, job satisfaction significantly negatively associated with turnover intention. These findings are consistent with the literature that suggests that job satisfaction and turnover intentions have a negative relationship (Joseph et al. 2007), and that time based conflict has a negative relationship with job satisfaction (Judge and Colquitt 2004).

In an exploratory, interpretive study, Adya (2008) interviewed 30 IT professionals with 16 women having country of origin from South Asia (India, Pakistan and Sri Lanka) and 14 women from the USA. The turnover intentions among South Asian women was significantly lower in comparison to the American counterparts, and the main reason cited by South Asian women for turnover intentions was to have a better work-family balance. Interviews revealed that while most women from South Asia did not identify career genderization in the workplace, American IT professionals perceived greater stereotyping and discrimination.

Bhal and Gulati (2006) explored the impact of leader-member exchange, interpersonal justice and voice on turnover intentions. They surveyed 295 IS professionals across India and found that leader-member exchanges led to interpersonal justice through voice and that interpersonal justice predicted the employee outcomes of satisfaction and commitment, which in turn influenced turnover intentions. In a

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subsequent study, Bhal and Gulati (2007) found procedural and distributive justice to be positively related to pay satisfaction among Indian IS professionals.

Recently, in a qualitative study, we investigated the turnover intentions of Indian software professionals (Lacity et al. 2008). In our interview with 25 IS professionals in India, we found strong support for negative relationship between job satisfaction and turnover intentions. This is consistent with the findings from various studies on IS professionals in western countries that have found job satisfaction to be the most frequently studied determinant of turnover intentions (Joseph et al. 2007). However, the results did not support organizational commitment and organizational alternatives as predictors of turnover intentions. This is contrary to the findings of studies in Western countries – in a meta-analysis of studies of turnover of IS professionals, it was found that organizational commitment is the second most frequently studied variable in relation to turnover intention and is a significant antecedent to turnover intentions (Joseph et al. 2007).

Dhar and Dhar (2010) explored the causes of stress and how job stress affects turnover intentions amongst Indian IS professionals. They interviewed a sample of 26 software professionals working in 3 different IT companies. They found that IT professionals in India were facing a huge amount of work stress mainly caused by heavy work load, inadequate staff along with role ambiguity affecting their family life. However, it was also seen that intentions to leave their organizations were not purely due to stress problem.

In a recent study by Krishnan and Singh (2010), consequences of turnover intentions are explored. They surveyed a sample of 533 Indian IS professionals and found that higher intentions to quit leads to less performance orientation, higher organizational deviance and less organizational citizenship behavior.

2.2.6. Iran: One study on IS professionals in Iran is discussed below:

SharifHeravi et al. (2010) sampled 83 IS employees in Iran to study the relationship between leadership styles (transformational and transactional) and turnover intentions in IT companies in Iran. Transformational leadership had a significant relation in decreasing

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personnel turnover intention. Among the four factors of transformational leadership style, individual consideration was proven to be the most important factor. Another study in non IT context has found similar results. Using a sample of 402 employees from the banking and finance sectors in China and India, Walumbwa et al. (2004) found that transformational leadership is positively related to organizational commitment and job satisfaction, and negatively related to job and work withdrawal. Amongst studies of IS professionals in Western countries, this link between leadership style and turnover intentions is yet to be explored.

2.2.7 South Africa: Studies conducted in South Africa are discussed below:

Igbaria et al. (1995) tested the career orientations of IS personnel in different cultural and geographical settings of South Africa and found the IS personnel there being predominantly service and security oriented. These results are different from the studies conducted in Western countries where the most prevalent career orientations of IS personnel have been managerial and technical (Igbaria *et al.* 1991).

Smith and Speight (2006) replicated the findings from Jiang and Klein's (2002) study of the discrepancy model in a sample of IS personnel in South Africa. They found the assumption that IS professionals hold either a technical or managerial orientation (Igbaria et al 1991; Ginzberg and Baroudi 1992) to be invalid for South African IS professionals. Also, they found that South African IS professionals had a high service need, which was not found in the study by Jiang and Klein (2002) whose study was based on respondents in the U.S. These findings highlight local social trends affecting turnover intentions that cannot be generalized across countries. They found correlations with career satisfaction only for anchors of variety and service and not with managerial competence, identity, technical competence, geographic security, autonomy, or organizational stability in the sample of South African IS professionals. These results are different from the results obtained by studies in Western countries (Igbaria et al. 1991). The authors conclude that though it is acknowledged that South Africa has a unique and diverse society, yet majority of research conducted in the IS industry is based on underlying theories and principles that were developed in Western countries.

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Based on the review of studies conducted in different countries, we see that there are some universal factors that transcend geographical boundaries and affect turnover intentions significantly. The most important one is job satisfaction affecting turnover intentions negatively. Any turnover framework would probably be incomplete without this variable. Also, the link between job characteristics as predictors of turnover intentions (through job satisfaction) seems to hold true across different nations.

Also, there are some factors of turnover that have been identified by Western studies, but may not be relevant in relation to turnover in other cultures, or may produce different findings in different countries. For example, career anchors for IS professionals in different countries are different and reflect each country's unique and diverse population. Organizational commitment is another construct that, though considered universal predictor of turnover intentions (Joseph *et al*. 2007), may not be significant in other countries like India and Botswana (Lacity *et al* 2008; Uzoka *et al*. 2010). Caution needs to be used when designing and testing a framework of turnover in different countries. With the IT workforce getting more global and diverse, current theories and practices on managing turnover of IS professionals should be evaluated for their cross cultural applicability. A cultural perspective to understanding IS turnover process will provide knowledge of turnover factors that are culturally sensitive.

2.3. Gaps in Knowledge

Based on the narrative review and meta-analysis of IT turnover studies, Joseph *et al*. (2007) highlight three significant gaps in knowledge, which open opportunities for future research to contribute to our collective understanding of the IT turnover phenomenon. Specifically, they suggest that future IT studies could: (1) examine actual turnover behavior and its relationship with turnover intentions, (2) employ contemporary theories of turnover to enrich our current understanding of the IT turnover phenomenon, and (3) consider and incorporate the IT context into generic turnover theories. We have addressed all these three issues in our study. In addition to that, we believe that another gap in the study of IS turnover studies is the lack of studies in different cultural settings, especially India. We address that concern by studying turnover among Indian IS professionals.

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2.3.1 Lack of studies measuring actual turnover behavior: A major gap in the vast literature on IS turnover is the lack of studies measuring actual turnover behavior (Moore 2000; Joseph *et al.* 2007). This is true not only for IS studies on turnover but also for referent fields (Griffeth *et al.* 2000). Very few studies in IS have measured actual turnover behavior as can be seen from Appendix I. One such study has been by Bartol (1983) that examined the voluntary turnover behavior amongst data processing (DP) personnel. The study by Bartol (1983) revealed that professionalism and rewarding employees for professional behavior can lead to increased organizational commitment and reduced turnover. Joseph and Kauffman (2003) incorporate human capital theory from economics to form an alternative theoretical perspective for understanding IS professionals' separation and retention. Using a large pool of IS professionals in a U.S. company, they tested new constructs like the pressure to separate, separation threshold, and retention frontier constructs using a new method and metric, the pre-implementation assessment metric (PRIAM).

The paucity of IS turnover research examining turnover behavior is an important gap in the literature, for both methodological and theoretical reasons. Methodologically, the use of self-reported turnover intention tends to produce inflated relationships with other self-reported constructs because of percept-percept bias. Theoretically, the strength of the relationship between intention and behavior has been found to vary across situations and groups. Empirically, the unique pattern of several relationships in the current findings on IT turnover intentions vis-à-vis general turnover research may suggest that the link between turnover intentions and actual turnover found in prior turnover research may not generalize to the IT context. Therefore, using turnover intention as a proxy for turnover behavior can result in weak or inaccurate inferences at times, and point to the importance of assessing actual turnover behavior (Joseph *et al.* 2007). We address this gap in knowledge by measuring both turnover intentions and turnover behavior of Indian IS professionals, and investigating the correlation between them in our study.

2.3.2 Lack of theories to explain turnover: Another major gap in current IT literature on turnover is the lack of alternative theoretical perspectives to explain IT turnover (Joseph *et al.* 2007). Most of the studies have relied on March and Simon's

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organizational equilibrium model to explain turnover (Igbaria and Greenhaus 1992; Thatcher *et al* 2002; Thatcher *et al.* 2006). Some work has been done to understand turnover using newer theories like the unfolding model of turnover. For example, Niederman and Sumner (2005) explore the various decision paths taken by IS professionals and how job offers can be one of the "shocks" they encounter. We investigated turnover phenomenon using the framework of organizational justice that incorporates the latest thinking in organizational justice- entity based justice perceptions (or multi-foci identifying multiple sources of justice) (Hollensbe *et al.* 2008; Rupp *et al.* 2007) and measuring all four dimensions of justice (Colquitt 2001). In this study, we chose the source of justice across four dimensions to be the supervisor. This approach is novel in the study of turnover and helped us understand how fairness perceptions stemming from one important source- the supervisor affects turnover intentions. Also, dimensions of justice like interpersonal and informational justice have not received much attention as antecedents to turnover (Colquitt *et al.* 2001; Charash-Cohen and Spector 2001). We address this issue by examining them as antecedents of turnover intentions. Further, we have used the latest definitions of interpersonal and informational justice which is a broader conceptualization of the construct (Colquitt and Shaw 2005; Bies 2005). Another construct in our model as an antecedent to turnover is social norms which is defined as the pressure by 'important others' such as family and friends to stay in the current company. This construct resonates well with job-embeddedness theory by Mitchell *et al.* (2001). The job-embeddedness theory looks at off the job factors like community ties, fit and sacrifices to explain turnover. We explored personal factors like family and friends as sources of influence on an Indian IS employee to stay/quit the current company.

2.3.3 Lack of attention to IT context: A third major gap in IT turnover research is the lack of attention to the IT context (Joseph *et al.* 2007). Context, defined as the surroundings associated with a phenomenon that help illuminate that phenomenon (Cappelli and Sherer 1991), typically refers to factors at a higher level of analysis than the unit of analysis under investigation (Mowday and Sutton 1993). Context is critical because it exerts important influences on individual behaviors (Cappelli and Sherer 1991) by providing constraints or opportunities (Johns 2001). Hence, turnover studies that

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ignore the IT context risk having inadequate, or worse, mis-specified theories to explain the turnover of IT professionals. We address this issue by studying the multiple layers an IS professional is embedded in- job, supervisor and environment. We examined environmental variables like organizational alternatives and social norms, individual variables like job satisfaction and turnover intentions, supervisor related variables like supervisory organizational justice and job related variables like job attributes. This multi-layered framework covers the context that an IS professional is embedded in.

2.3.4 Lack of empirical studies on Indian IS professionals: Sumner and Franke (2007) contend that with the increased diversity in the IT workforce, it is important to understand the mindsets and motivations of such a workforce to manage them well. This requires empirical studies across diverse cultural and national settings. However, Niederman and Moore (2000) in their summary of research on IS personnel in the last decade concluded that the bulk of the research has been conducted in the U.S. The few studies on turnover of IS personnel in Indian settings is sparse (see Appendix I). We address this issue by focusing on the turnover intentions and behavior of Indian IS professionals working in India.

As repeatedly stressed by academicians (Baroudi 1985; Goldstein and Rockhardt 1986; Agarwal *et al.* 2007; Niederman *et al.* 2006) and practitioners (Luftman 2005; Luftman 2008; Luftman and McLean 2004) alike, retention of IS personnel is very important for any organization. From the extensive literature review on turnover among IS personnel, we can see that the issue has been given due focus and that researchers have used extensive theories and explored a wide range of antecedents to turnover. However, there are some gaps in the knowledge requiring further research in this area. The IT profession is undergoing major paradigm shifts (Niederman *et al.* 2006) due to continuous evolution of IT jobs, changing patterns of enrollments among "feeders" of the IT industry (Niederman and Mandviwalla 2004), and diversity in IT workforce (Sumner and Franke 2007). This has created a need to explore the **new** issues of IS professionals today that have not been looked at in the past by researchers. With a global IT workforce, models of turnover developed and tested in western countries may not yield accurate results for IT professionals in other cultural settings like India. Therefore, there is a need to study

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turnover in different cultural settings. The aim of this study was to test the hypotheses quantitatively and gain a deeper understanding of the relationships between the constructs using qualitative analyses.

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3. RESEARCH MODEL

In this section, we introduce the model of turnover intentions and behavior of Indian IS professionals that was empirically tested. The model is influenced by the literature review on the determinants of turnover intentions. The constructs in the model include job satisfaction, social norms, organizational alternatives, and supervisory organizational justice (first order justice dimensions and second-order overall organizational justice) as determinants of turnover intentions of Indian IS professionals. In addition, we have job attributes as a determinant of job satisfaction, and turnover intentions as a determinant of turnover behavior.

This is a universal model and we want to see the applicability and relevance of this model in Indian settings. Most constructs included the model have been proven to be strong determinants of turnover intentions in the extant literature. In addition, we have expanded the existing model of turnover intentions by adding new constructs not tested before- like supervisory organizational justice and social norms as determinants of turnover intentions. These new constructs may be especially relevant in Indian settings. For example, our rationale for including organizational justice was guided by the studies of turnover amongst Indian IS professionals that show that justice is an important determinant of turnover for Indian IS professionals. Also, the decision to choose supervisor as the source of justice (and not organization, clients, or co-workers) was driven by what is most suitable in Indian IT industry. With India being high on power distance on the cultural index (Hoefstede 2001), the hierarchical structure of IT companies may put the supervisor in a critical role controlling an Indian IS professional's work, work environment, rewards and resources at work. This may, in turn, influence his/her desire to quit or work with the current company. Also, since some studies have found that Indian IS professionals find it hard to relate to organizational variables like organizational commitment (Lacity *et al.* 2008), we chose not to focus on organization as the source of justice.

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Similarly, we used a novel approach to examine the impact of job attributes on turnover intentions of IS professional. So far, the current literature on IS turnover has predominantly characterized job attributes based on Hackman and Oldham's (1976) five core dimensions- autonomy, feedback, task variety, task identity, and task significance (Thatcher *et al* 2002, 2006; Lacity *et al*. 2008). Lacity *et al* (2008) found that as far as job attributes are considered, Indians seek such job attributes that give them opportunities to interact with overseas clients. Therefore, we adopted a new approach and categorized job attributes based on time spent by Indian IS professional in tasks that involve no client interaction (including programming, testing, and project management) and those that involve client interaction (system analysis and design, maintenance and production support, client interaction).

Further, Indians are shown to have a familial identity and value the opinions of their kith and kin (Roland 1988). Hence, acknowledging and incorporating the inputs of social reference groups (family and friends) might provide more useful insights in our study of turnover.

The model is shown in the figure below:
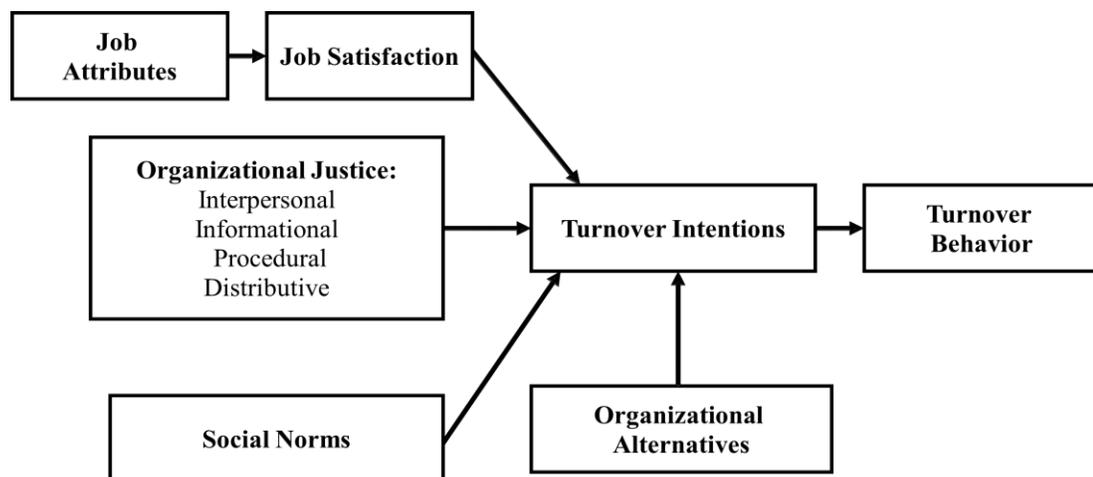
Figure 1. Model of Turnover Intentions and Behavior

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This is the initial model which may be subject to change based on what emerges from our analysis. The definitions of the constructs are summarized in Table 1 below.

Table 1: Definitions of constructs

CONSTRUCT	DEFINITION USED FOR THIS RESEARCH	REFERENCES
Turnover Intentions	The extent to which an employee anticipates to leave the organization	Igbaria and Greenhaus (1992); Kim *et al.* (1996); Sujdak (2002)
Turnover Behavior	Employee actually leaving his/her current organization.	Bartol (1983)
Job Satisfaction	The extent to which an employee likes his/her current job.	Carsten and Spector (1987); Spector (1996)
Organizational Justice	Second-order latent construct reflected by the four first-order justice dimensions. It is the extent to which fairness is taken as a consideration in workplace.	Colquitt and Shaw (2005); Greenberg(1990b)
Supervisory Interpersonal Justice	The extent to which an employee believes that his/her supervisor treats the employee with dignity, respect and courtesy.	Bies and Moag(1986); Bies (2005); Byrne (1999)
Supervisory Informational Justice	The extent to which an employee believes that his/her supervisor shares relevant work related information with employees and adequacy of information provided by supervisor to employees regarding procedures.	Colquitt *et al* (2001); Bies (2005)
Supervisory Procedural Justice	The extent to which an employee believes that his/her supervisor is fair in policies and procedures used to determine the rewards and outcome distribution.	Leventhal (1980); Bryne (1999); Rupp and Cropanzano (2002)
Supervisory Distributive Justice	The extent to which an employee believes that his/her supervisor is fair in outcome distribution.	Colquitt (2001); Byrne (1999), Rupp and Cropanzano (2002)
Organizational Alternatives	The extent to which an employee perceives availability of equal or better jobs outside the current organization.	Allen and Meyer (1990); Van Dam (2005)
Social Norms	The employee's belief that family and peers think that he/she should remain with his/her	Lacity *et al.* (2008)

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	current organization.	
Job attributes involving client facing tasks	The percentage of time spent on client facing activities like system analysis and design, production support and maintenance, and client interaction.	
Job attributes for tasks involving no client interaction	The percentage of time spent on tasks that do not require client interaction like coding, testing, and project management.	

The key constructs of the model and their hypotheses are explained below:

3.1. Job satisfaction

It is the extent to which an employee likes his/her current job (Carsten and Spector 1987; Spector 1996). Job satisfaction has been extensively studied since the 1930s, with more than 12,400 studies published on the topic by the year 1991 (Lacity *et al.* 2008). Substantial evidence from several meta-analyses has found that job satisfaction is negatively related to turnover intentions (Cotton and Tuttle 1986; Hom *et al.* 1992; Tett and Meyer 1993). Within the IS literature, the basic model of turnover intentions shows the proximal variables of organizational commitment and job satisfaction directly affecting turnover intentions (Goldstein and Rockhardt 1986; Igbaria and Guimaraes 1992; Niederman *et al.* 2002; Niederman and Sumner 2003). Joseph *et al.* (2007) conducted a meta-analysis of IS turnover research among IS professionals and found that job satisfaction was the most frequently studied determinant of turnover. In the 16 IS studies that used this construct, all 16 found a negative relationship between job satisfaction and turnover. Also in the turnover studies of Indian IS professionals, job satisfaction has been an important determinant of turnover intentions. Lacity *et al.* (2008) conducted two statistical tests (Somer's d, and Kendall's tau) and found job satisfaction to be negatively related to turnover intentions in their sample of 25 Indian IS professionals. Bhal and Gulati (2006) found job satisfaction affecting turnover intentions through organizational commitment in their study of Indian IS professionals. We included the construct of job satisfaction in the model considering that it has been the single most important proximal variable shown to be consistently having a negative relationship with turnover intentions across studies in diverse cultural settings.

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H1: Job satisfaction is negatively related to turnover intentions amongst Indian IS professionals.

3.2. Organizational Justice

It is the extent to which fairness is taken as a consideration in workplace (Greenberg, 1990). Efforts to explain the impact of justice on effective organizational functioning have come under the rubric of organizational justice (Colquitt *et al.* 2001). In particular, justice in organizational settings can be described as focusing on antecedents and consequences of two types of subjective perceptions: (a) the fairness of outcome or resource distribution, which is called *distributive justice* (Adams 1965; Levanthal 1976), and (b) the fairness of the procedures used to determine outcome distributions or allocations which is called *procedural justice* (Leventhal, 1980; Thibaut and Walker, 1975). Bies and Moag (1986) introduced the most recent advance in the justice literature by establishing the importance of interpersonal treatment people receive when procedures are implemented. Labeled as *interpersonal justice*, it reflects the degree to which people are treated with politeness, dignity and respect by authorities or third parties executing procedures or determining outcomes (Bies and Moag, 1986; Colquitt, 2001; Greenberg and Colquitt, 2005). The fourth dimension of organizational justice, labeled as *informational justice*, reflects on the explanations given to people that convey information about why procedures were used in certain way or why outcomes were distributed in certain fashion (Colquitt *et al.* 2001).

There is general agreement that justice perceptions have attitudinal, behavioral and organizational impacts (Ambrose 2002) but there is less clarity on which dimension influences which outcome and the strength of such an influence (Fortin 2008). In a recent review, Conlon *et al.* (2005) differentiated between the good, bad and ugly effects of organizational justice- good effects are compliance and task performance; bad effects include turnover and absenteeism and ugly effects are instances of counterproductive work behavior. In this study, we focus on the bad effects of justice in IS settings- the turnover intentions of Indian IS employees.

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Organizational behavior literature suggests that organizational justice is an important determinant of turnover intentions. Cohen-Charsh and Spector (2001) in their meta-analysis found distributive and procedural justice to be to be equally, strongly and negatively related to turnover intentions (r= -0.40) with interpersonal justice to be related to a lower extent with turnover intentions (r=-0.24).

In the IS literature, there has been a lack of attention to all four dimensions of justice as determinants of turnover intentions. As stressed by Cohen-Charsh and Spector (2001) and Colquitt *et al.* (2001) in their meta- analyses, different dimensions of organizational justice may have differential relationship with dependent variables like turnover and therefore should be studied individually. Among the four dimensions of organizational justice, the most commonly studied determinant of turnover intentions for IS professionals has been distributive justice. Salary, promotability (Baroudi and Igbaria, 1995; Igbaria and Chidambaram, 1997; Igbaria and Greenhaus, 1992) and fairness of rewards (Moore 2000; Ahuja *et al.* 2007) which are aspects of distributive justice have been studied to have indirect effect on turnover intentions through job satisfaction and organizational commitment.

Based on the few studies on Indian IS professionals, organizational justice has emerged as an important antecedent to turnover amongst Indian IS professionals. Bhal and Gulati (2006) found interpersonal justice to be an important antecedent to turnover intentions among Indian IS professionals. They surveyed a sample of 295 IS professionals across India and found that interpersonal justice affected turnover intentions through voice and participation. They measured interpersonal justice through a nine-item scale developed by Niehoff and Moorman (1993) which assessed the degree to which employees felt their needs were considered, and adequate explanations were made for job decisions. In another study by Bhal and Gulati (2007), procedural and distributive justice were found to be positively related to pay satisfaction and negatively related to turnover intentions. All these studies examined different dimensions of justice, but not overall organizational justice as a second-order latent construct.

We addressed some important issues of organizational justice that have been left unexplored in these studies. For example these studies have not looked at all four dimensions of justice perceptions simultaneously, or specified the source of justice. The

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IS studies have not looked at or measured the effect of informational justice on turnover; they have not looked into all aspects of interpersonal justice (dignity, respect and refraining from improper comments - Bies and Moag 1986) and not measured the effect of second-order latent overall organizational justice on turnover intentions. We explored organizational justice in greater detail with the most contemporary approach in organizational justice: entity based justice perceptions (Hollensbe *et al.* 2008 or multi-foci framework of justice that distinguishes different sources of justice (Rupp *et al.* 2007). Also, we used the broader conceptualization of interpersonal and informational justice as proposed by researchers (Bies 2005; Colquitt and Shaw 2005) in our framework.

For the purpose of this study, overall organizational justice is a second order latent construct measured by all four dimensions of organizational justice- distributive, procedural, interpersonal and informational justice. Since studies have shown that different dimensions of justice have a negative relationship with turnover intentions, we believe that the second-order latent construct of organizational justice will exhibit similar pattern. This leads to the hypothesis:

H2: Organizational justice is negatively related to turnover intentions amongst Indian IS professionals.

Dimension of Organizational Justice:

Justice researchers of late have lobbied the research community to carefully consider and measure not only the type of justice (i.e., distributive, procedural, etc.), but also to specify its source. This approach has been termed the multi-foci approach (Cropanzano *et al.*, 2001), or entity based justice perceptions (Hollensbe *et al.* 2008). This approach argues that justice stems from multiple foci within the organization, including supervisors, the organization as a whole, coworkers, customers, etc. Indeed, employees might be treated quite fairly by one source, but rather unfairly by another – hence, failing to specify the source of justice in justice measures, or averaging across sources, could at worst lead to spurious results, or at best yield justice effects that are difficult to interpret (Rupp *et al.* 2007).

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In this study, we have focused on the source of justice as supervisor. As stressed by proponents of multi foci justice, employees assess the fairness not only of events, but also of social entities like supervisors, and coworkers that they interact with, and the organization that they work in. In terms of fairness perceptions, we adopt the perspective of Byrne (1999), Rupp and Cropanzano (2002), Liao and Rupp (2005) and Hollensbe *et al.* (2008) who have argued that employees can potentially attribute various types of justice (i.e., procedural, interpersonal, informational and distributive) to each source/entity of justice. In particular, we chose the source of justice to be the supervisor across all four dimensions of justice (procedural, distributive, interpersonal and informational).

Supervisors act as agents of the organization who have the responsibility for directing and evaluating subordinates' performance, and have the power to determine work and work environment in which a subordinate works. Managers and supervisors play a key role in the life of an IT professional (Major *et al.* (2007). People may leave even after they have the best HR policies and are given the best pays and career development opportunities because of bad supervisors (Cappelli 2007; Mathew 2006). In one of the largest studies undertaken by the Gallup Organization, over a million employees and 80,000 managers were surveyed. The results were published in a book called "First Break All the Rules". It came up with this surprising finding that was corroborated by Azim Premji, CEO of Wipro, which is one of the leading IT suppliers in India: immediate boss is the reason people stay and thrive in an organization, and the reason why people leave (Mathews 2006).

The limited literature on Indian IS professionals highlights the important role played by supervisors in the lives of Indian IS professionals. In a study on employee turnover in India, Yiu and Saner (2008) found that supervisor was one of the most frequently cited reasons for turnover. In another study in Indian IT settings, HR Connect (a magazine by NASSCOM) conducted a survey of the HR heads of 22 IT companies, in an effort to determine what practitioners thought about turnover in their companies (NASSCOM 2006(b)). The study found that the topmost reason why employees quit was dissatisfaction with supervisor. Also, in the study by Lacity *et al.* (2008), a strong theme that emerged was that many participants' (64%) justified their feelings for organizations

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based on their supervisors and relationship with them. Besides, organization as the source of justice is better suited to predict outcomes related to attitudes towards organizations like organizational commitment (Bryne 1999; Rupp *et al.* 2007). Our framework did not include organizational commitment as a predictor of turnover intentions, which was another reason why we decided to examine supervisor and not the organization as the source of justice.

In the section below, we explain in detail the different dimensions of justice and then how each justice dimension is important for IS employees in relation to their supervisor and how, in turn, they are related to turnover intentions.

3.2.1 Distributive justice

The perceived fairness of outcomes is referred to as distributive justice and has its roots in research on equity theory (Adams 1965). Distributive justice in general is about equity. As it is a social comparison process, equity judgments may be based on comparisons between one's own outcomes and inputs relative to those of relevant others in one's organization, such as coworkers, with whom one is in a relationship (Greenberg *et al.* 2007). Equity judgments also may be based on comparisons with external standards— others, either known specifically or generalized, who are outside one's organization (Greenberg *et al.* 2007). Distributive justice is a significant predictor of work outcomes and behaviors. In the meta-analysis by Cohen-Charsh and Spector (2001), distributive justice is shown to be strongly and negatively related to turnover intentions with a weighted mean r=-0.40.

In IS literature, there have been some studies investigating the impact of distributive justice on different outcomes (not necessarily turnover). For example, Joshi (1989, 1990) studied the influence of distributive justice perceptions on user information satisfaction. Moore and Love (2005) studied the three dimensions of organizational justice (distributive, procedural and interpersonal) and trust, and how it impacts the organizational citizenship behavior (OCB) exhibited by IT people. As far as distributive justice as an antecedent to turnover is concerned, most of the work has been around fairness of rewards as an antecedent to turnover intentions (Moore 2000; Ahuja *et al.* 2007; Bartol 1983; Igbaria and Chidambaram 1997; Pare *et al.* 2001; Rutner *et al.* 2008;

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Thatcher *et al.* 2006). These studies, however, have not distinguished the source of justice: whether it is the organization or the supervisor.

IS professionals may experience inequity of rewards in the following ways.

- Different reward and resource allocation for contractors and permanent employees: With the increasing prevalence of outsourcing and the use of contractors (Ho *et al.* 2003; Koh *et al.* 2004), distributive justice is impacted by differences of rewards and resources for permanent versus contract employees. In a study by Ang and Slaughter (2001) it was examined how the IS permanent versus contract workers differ in terms of rewards and benefits they receive. They found that contractors and permanent employees exhibited different behaviors in terms of organizational citizenship behavior (considered as extra role performance) and job performance (in-role behavior) which was mediated by job design characteristics. In a study of 3M (a fortune 100 company) (Roepke *et al.* 2000) it was recognized that there was an imbalance in the extent of leadership development opportunities presented to the staff versus contractors in the company studied. This is especially relevant to Indian IS professionals who most often work as contractors in client companies and may face these issues.

- Onshore and offshore: Also, pay differences between offshore and onshore employees (working in the same firm or in different ones) doing the same kind of work has been shown to breed feelings of inequity and status differences (Levina and Vaast 2008). They found that the pay scale differences were severe between onshore and offshore employees, and the tendency to treat Indian offshore employees as cheap worker bees very pronounced. Commander *et al.* (2008) found that the wage difference was a major incentive for Indian software employees working offshore to look for opportunities to work onsite in client locations or look for better jobs abroad.

- Differences in career paths: It has also been noted that there are differences in reward systems between technical and managerial career path systems (Ridings and Eder 1999). For example, Slaughter *et al.* (2007) found that IT professionals who stay in technical positions and choose not to progress to managerial positions

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may find that their pay-rate growth decelerates with increased organizational tenure. On the other hand, their peers who take the managerial path may find their pay-rate growth accelerating with organizational tenure. This may cause perceptions of unfair treatment amongst IS professionals who work in technical positions.

- External comparisons: Further, external comparisons may occur. According to Mithas and Krishnan (2008), IT employees employed in IT intensive or IT industries are paid 6% more than firms in non-IT industries. Likewise, firms in IT-intensive industries pay 9% more to IT professionals than do firms in non-IT-intensive industries. They also found that dot com firms pay 5.5% more than brick and mortar firms. Finally, larger firms pay 5.5% more than smaller firms. Since, IT employee pay structure varies across and within the industry; this may cause feelings of inequity when IT employees compare their pay with their counterparts in other firms and industries.

- Many of the young IT professionals feel that they are not fairly compensated for their performance. They feel that the seasoned veterans receive better salaries, vacations, offices and bonuses though they may perform equal or worse than the young IT professionals (Rouse 2001).

As far as supervisor as the source of distributive justice is concerned, we think it is equally important to specify and study its effects on turnover intentions.

Supervisory Distributive justice: It is the extent to which an employee believes that his supervisor is fair in the allocation of rewards and resources (Colquitt 2001; Rupp *et al.* 2007). As far as Indian IS professionals are concerned, supervisors play a big part in distribution of rewards and resources. They are the primary forces in performance appraisals that decide an employee's pay hike, bonus, and promotions and performance. Also, they are responsible for representing employees to upper management for recognitions and awards for good work and unusual contributions (Upadhya and Vasavi 2006). In

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Also, it has been acknowledged by academicians (Bhal and Gulati 2007) and practitioners (HR Connect 2006) that pay satisfaction is a huge determinant of turnover intentions. This implies that supervisory distributive justice is very important for Indian IS professionals because though the compensation and pay is decided by company policies, supervisors can play a vital part in deciding monetary benefits like compensation hikes, bonuses etc. that employees are entitled to every year based on their performance. Since distributive justice has a negative relationship with turnover intentions (Cohen-Charash and Spector 2001), we hypothesize that the relationship between supervisory distributive justice and turnover intentions would follow similar pattern. This leads to the following hypothesis:

H2a: Supervisory distributive justice is negatively related to turnover intentions amongst Indian IS professionals.

3.2.2 Procedural justice

It is the perceived fairness of the process by which outcomes are arrived at (Cohen-Charash and Spector 2001). Individuals often evaluate the fairness of an event by taking into account the allocation process by which an outcome was assigned (Cropanzano et al. 2006). This form of justice is found in procedures that embody certain types of accepted normative principles, such as consistency, bias suppression, accuracy, correctability, representativeness, and ethicality (Leventhal, 1980). Several views explain why fairness of processes and procedures has such powerful effects on individuals. Thibaut and Walker (1975) emphasize that procedural justice matters because process control functions as a guard to people's self-interest. The group-value view of procedural justice argues that such fairness of processes matters because people want to be treated with respect and dignity and as valued members of enduring groups (Lind and Tyler 1988). Procedural justice has a strong negative relationship with turnover intentions according to the meta-analysis by Cohen-Charash and Spector (2001) which was based on 190 studies samples, totaling 64,757 participants.

In IS studies on turnover, procedural justice has been studied primarily as a component of HR (human resource) practices- as a firm level contextual variable (Joseph

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et al. 2007). Two recent IT turnover studies found that internal labor markets (Slaughter and Ang, 2002; Ang and Slaughter 2004) or human resource practices (HRM) (Ferratt *et al.* 2005) influence firms' IT turnover rates. However, in a study by Pare *et al.* (2001), a statistically insignificant relationship was found between procedural justice (part of HRM practices) and turnover intentions. They measured procedural justice with items reflecting procedures to determine pay and promotion. As far as Indian IS professionals are concerned, Paul and Anantharaman (2004) found that HR practices like development oriented appraisals, career development and team based job design significantly predicted organizational commitment in Indian software professionals. They did not test for the impact on turnover intentions. As we can see, procedural justice in general is an important antecedent to turnover intentions. As far as supervisor as the source of procedural justice is concerned, we think it is equally important to specify and study its effects on turnover intentions

Supervisory procedural justice: It is the extent to which an employee believes that his/her supervisor is fair in the policies and procedures used to determine the reward and resource allocation (Leventhal 1980; Lind and Tyler, 1988; Colquitt and Shaw 2005). The supervisor is responsible for following policies and procedures for carrying out supervisory responsibilities, e.g., policies and procedures for hiring, firing, promotions, etc. There are some supervisory decision making procedures that have special implications for IS professionals and their turnover intentions for the following reasons:

- The decision making procedures for sending Indian IS employees on overseas assignments and projects is critical. This is because one of the coveted rewards for Indian IS professionals is onsite assignments (Upadhya and Vasavi, 2006), and has been used as one of the measures that Indian IT companies use to retain workers and limit turnover (Commander *et al.* 2007). Also, Rajkumar and Mani (2001) noted that once placed on client sites, Indian IS professionals are keen on long term placement at customer sites. Lacity *et al.* (2008) in their interviews with Indian software professionals also found that Indian IS professionals preferred client facing on-site activities to offshore maintenance and support work. Not everyone can be sent on overseas assignment because increasingly companies are

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trying to ship as much work as possible offshore, with a typical model being 70:30 offsite/onsite work. Often only one or two team members on a project are deputed to the customer's site (Upadhya and Vasavi, 2006). Procedures for sending people on onsite assignments may be complex and are not well laid out by companies. This is because such assignments may be based on decision making process where inputs are sought from various sources- co-workers, clients and supervisors. Upadhya and Vasavi (2006) found in their study that several informants mentioned incidents in which Indian IS professionals were sent back from onsite just because the customer was dissatisfied with their personal traits. Supervisors and co-workers may decide on who is sent to client locations. Supervisor discretion plays a key role in such decision making procedures and also the perceptions of justice that subordinates make about it.

- Another decision making procedure with special relevance for IS professionals one that decides training opportunities for Indian IS professionals. Supervisors develop training plans with employees to ensure employees have the necessary expertise to carry out their jobs. A study of software professionals in India revealed that key motivators for these individuals are money, work environment, career development, and training ("Software's best employees," 2001). Agrawal (1999) studied HRM practices in Indian software companies based on two large Indian companies—Infosys and Wipro—and identified one of the HRM practices to retain employees to be training. Those working in the field of software development need continuous learning because of the rapid changes in technology. A comprehensive and customized training program gives a sense of confidence to the professionals to venture into new projects and prove their mettle (Paul and Anantharaman 2004). The decision making procedures for training may involve different sources- company, clients, co-workers and most importantly, supervisors. The supervisor may be required to provide inputs on an employee's training needs across different projects and assignments. The decision making procedure used by the supervisor to determine training opportunities for an IS employee is an important aspect of procedural justice that needs to be examined in the context of Indian IS professional.

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- An important aspect of supervisory procedural justice to study is *performance appraisal process*. Even if the company has well laid out policies, supervisor has some leeway to implement and follow the decision making procedures in his/her style and manner. Supervisors set performance standards for tasks, jobs and roles of their employees. They ensure employees have appropriate and realistic job goals. They provide ongoing feedback about the employee's performance. They conduct performance appraisals on a regular basis, including assessing how the employee has performed and what they can do to improve in their jobs. Performance appraisals are very important part of Indian IS professionals because it determines their rewards like promotions, bonus and salary hikes (Upadhya and Vasavi 2006). Perceptions about supervisory procedural justice in relation to performance appraisals require careful consideration when we look at issues that an Indian IS professional deals with at workplace.

- While researchers have tended to focus on physical distance (temporal or spatial) or institutionalized social boundaries (cultural, organizational, or functional), it has been argued that the most salient boundaries are often situated in the practices of collaborating parties, in this case the supplier and the clients (Cramton and Hinds 2007; Walsham 2002). In the IS offshore outsourcing scenario, the performance appraisal process may be difficult when clients and co-workers in a global virtual team are from different organizations and perhaps countries. The supervisor may not know in detail the work done by an employee when the employee is at the client site geographically far away from him, or in instances where the employee is interacting and reporting to client managers more than his/her supervisor. The client organization and manager may have different work practices in evaluating the offshore employee that may affect the feedback sent to the supervisor responsible for appraising the employee in supplier office. Also, for Indian IS employees who work on client sites, procedural justice may still be perceived as unfair if the client procedures for resource and reward allocation differentiates between them and local client employees. For example, Levina and Vaast (2008) noted that Indian supplier managers residing onshore were never asked about their views on how the project was going; they just received feedback

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from the onsite client managers. This is against the "representation of all concerned" principle of procedural justice, which is about appropriate stakeholders having inputs into decisions (Cropanzano *et al*. 2007).

From the above instances we can see how supervisory procedural justice can have serious ramifications for IS employees. In our study of turnover intentions among Indian IS professionals (Lacity *et al.* 2008), organizational policies were discussed as important determinants of turnover intentions. Bhal and Gulati (2007) noted that procedures enacted by the supervisor may be different from the organizational/HR policies and may affect how employees perceive procedural justice from supervisor. Since procedural justice has a negative relationship with turnover intentions (Cohen-Charash and Spector 2001), we hypothesize that the relationship between supervisory procedural justice and turnover intentions would follow similar pattern. This leads us to the following hypothesis:

H2b: Supervisory procedural justice is negatively related to turnover intentions amongst Indian IS professionals.

3.2.3 Interpersonal justice

Interpersonal justice includes truthfulness, respect, propriety, and justification, the key elements that capture the essence of interpersonal treatment during decision making and the implementation of procedures (Bies and Moag 1986; Kwon *et al.* 2008). However, after 21 years Bies (2005) provided an updated conceptualization of interpersonal treatment which transcends decision making contexts and includes derogatory judgments, deception, invasion of privacy and disrespect in everyday life (Colquitt *et al.* 2005; Rock and Shanock 2006). Four factors are found to facilitate interpersonal interaction and to promote interpersonal fairness perception: (1) decision justification; (2) truthfulness in communication; (3) treating employees with respect; and (4) refraining from prejudical statements (Bies and Shapiro 1987; Qui *et al.* 2009). In sum, it reflects employee feelings of being treated fairly at an interpersonal level. In a role play, Greenberg (2006) demonstrated that people are highly sensitive to being denied sensitive and caring treatment at the hands of their supervisor especially when the supervisor is seen to be sensitive to some others. Some research in IS has looked into interpersonal justice and how it affects organizational outcomes. In a study by Gefen *et al.* (2008), interpersonal

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justice (operationalized as passive participation method of engaging users) was shown to have a positive relationship with user acceptance and assessment of the value of their IS. Bhal and Gulati (2006) also operationalized interpersonal justice as employees having voice and participation in decision processes and showed how it is negatively related to turnover intentions.

As we can see, interpersonal justice is an important antecedent to turnover intentions. As far as supervisor as the source of interpersonal justice is concerned, we think it is equally important to specify and study its effects on turnover intentions.

Supervisory interpersonal justice: It is the extent to which an employee believes that his/her supervisor treats employee with dignity, respect and courtesy (Bies and Moag, 1986; Colquitt *et al.* 2001). Instances where IS professionals may face supervisory interpersonal inequity are

- IT jobs tend to be rather autonomous, and at the same time include elements of ambiguity and conflict that stem from interdependence and boundary spanning activities (Major *et al.* 2007). When employee-supervisor relationships are not tightly coupled and are low in interaction, fairness perceptions may suffer (Moore and Love 2005). This may be especially true for Indian IT professionals who are located in client sites who may feel emotionally and socially disconnected from the head quarters in India. It may be equally applicable to offshore Indian IS professionals who have their client managers and team members outside of India in client countries like USA. They may feel that lack of face to face contact hampers respect to develop between supervisor and subordinate.

- In a cross-cultural setting, different parties (client and suppliers) have varying thresholds and anticipations regarding justice (Luo 2005). These differences may influence justice perceptions (the fairness of partners' actions) as well as justice practices -the perceived fairness of actual practices displayed by managers (Beugrè and Acar 2008). Beugrè (2007) suggested the condescending hypothesis to explain the strained relationships between Western managers and employees from local subsidiaries in sub-Saharan African countries. In studying Chinese joint ventures, Luo (2007) noted that executives in China felt unjustly

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treated by their foreign counterparts when they received neither courtesy and respect nor cultural sensitivity and mutual understanding. In the Indian offshore outsourcing context, the problem of respect and dignity between client managers and Indian IS professionals is exacerbated. Indian IT companies are 'customer centric' focusing on customer satisfaction as their primary goal. Projects are customer-driven and people at the customer's end are usually in control, directly or indirectly. (Upadhya and Vasavi 2006). Levina and Vaast (2008) found the tendency of U.S. client managers to treat Indian developers as cheap worker bees and withhold important resources like access to key business stakeholders. Since the Indian IS professional's performance depends on keeping the client happy, this may cause frustration and resentment to build up amongst Indian IS professionals on how they are treated.

- Power distance is a way to explain the handling of differences between groups existing in a system of inequality. It reflects cultural attitude towards human inequality, and defines itself inside organizations through manager subordinate relationship. Where low power distance is present, managers and subordinates have egalitarian relationships with access to near equal levels of power. High power distance thrives inside hierarchical organizations where importance is placed on social status of employees meaning supervisors/bosses have more power. India's culture prefers high power distance inside its hierarchical organizations where supervisor subordinate relationships are not at the same level. Supervisors may not treat their subordinates as equals and subordinates in turn may not be very assertive and direct because they want to please their supervisors. This creates chances of instances of supervisory interpersonal injustice where supervisor does not treat the subordinate with respect and dignity knowing that the subordinate may not do anything about it.

All these instances suggest that supervisory interpersonal justice may have implications for Indian IS employees and their intentions to leave. Since interpersonal justice has a negative relationship with turnover intentions (Colquitt 2001), we hypothesize that the relationship between supervisory interpersonal justice and turnover intentions would follow similar pattern.

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H2c: Supervisory interpersonal justice is negatively related to turnover intentions amongst Indian IS professionals.

3.2.4 Informational justice

This dimension has to do with the adequacy and honesty of explanations about procedures as perceived by the employee (Greenberg 1993), and sharing relevant work related information (Bies 2005). According to Ambrose *et al.* (2007) informational justice provides an understanding about *why* things happened as they did. It reflects the fairness of the explicit explanations and justifications provided about decisions. Thus, informational justice provides not only information about the specific events but also about the procedures and rules that govern the relationship. Bies (2005) suggests that researchers should focus on broader conceptualization of informational justice that goes beyond social accounts. Therefore, the definition also includes information sharing about organizational matters and appropriate openness and honesty in communication (Cropanzano *et al.* 2007). In a meta analytic review by Shaw *et al.* (2003), it was found that explanations had the strongest beneficial effects on people's reactions when they were excuses rather than justifications, and when they were given after unfavorable outcome. Informational justice, in particular, changes the reaction and receptivity of employees to procedures because information and explanations help those affected to understand the underlying rationale for the procedures (Ellis *et al.* 2008). Informational justice is important for IS employees in many ways, and we talk about some of those instances.

- As far as IS professionals are concerned, open and honest communication (which is part of informational justice) is one of the top ways to retain them according to Luftman (2008). This aspect of fairness is especially relevant in the context of outsourced jobs and the adequacy of reasons given to employees for such actions. According to Lacity and Willcocks (2001), many a times, the reasons are not purely economical and may involve power struggles.

- As far as Indian IS professionals are concerned, there may be concerns of *how much information is shared by the clients*. Gefen *et al.* (2008) note that in case

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of supplier support and IS outsourcing projects, it may be advantageous for suppliers that users at client sites participate during development and deployment of application, especially if the result is a better appreciation of the service that suppliers need in creating favorable user assessment. However, Levina and Vaast (2008) found that Indian IS professionals often did not have access to key stakeholders from the client companies and that they had to negotiate to get access to people. Further, they found that sharing of strategic information with employees of the suppliers, or with multinational subsidiaries (captive centers) in offshore locations was very limited.

- Even between team members of the same project, there is tussle over *providing information to the whole team.* Upadhya and Vasavi (2006) in their interviews with Indian IS professionals noted that several respondents spoke about struggles over knowledge among members of a virtual team, or between Indian engineers and their American or European counterparts, for instance when a project was being transferred to India. Several MNC (multinational corporations) employees complained that their foreign counterparts were reluctant to share information with them when they went on 'transfer of technology' assignments.

As we can see, informative justice is an important antecedent to turnover intentions. As far as supervisor as the source of informative justice is concerned, we think it is equally important to specify and study its effects on turnover intentions.

Supervisory informational justice: Supervisors act as channels of information between organization and employees. Often, the supervisor is the first person to tell employees about new policies and programs from top management. It's not uncommon that employees are confused or frustrated by these new actions, and need further clarification and support from supervisors (Carter 2008). Also, it is at their discretion how much information they provide about decision making procedures they follow and whether there is adequacy and honesty in the explanation provided by them about procedures used. Informational justice has been shown to be negatively related to turnover intentions (Colquitt, 2001) and we expect a similar pattern of relationship between supervisory informational justice and turnover intentions. This leads us to the following hypothesis:

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H2d: Supervisory informational justice is negatively related to turnover intentions amongst Indian IS professionals.

3.3. Social Norms

For our study, we define social norms as the employee's beliefs that his/her family, friends and peers think that he/she should remain with their current employer. Traditional turnover research has tended to focus solely on individual-level variables and, consequently, has produced a narrow view of the turnover picture (Moore and Burke, 2002). There may be other important environmental variables acting on an individual's intention to stay or quit an organization, such as social norms. Ajzen and Fishbein (1980) define norms as "an individual's perceptions of the social pressures put on him to perform or not to perform the behavior in question." In general, people are influenced by values and beliefs of people that they think are important to them. A social norm is influenced by the beliefs that an individual attributes to relevant others about what their behavior should be. Such influences may come from family, friends, peers, teachers and even cultures (Igbaria and Shayo 2004). Social norms therefore play an important in determining work decisions in all functional areas including IS (Venkatesh and Morris 2000).

Family pressure as an antecedent to turnover has received some attention in studies conducted in Western countries. According to Lee and Maurer (1999), when work demands interfere with family responsibilities, family members might encourage an employee to quit, thus making turnover more likely. Many turnover models have suggested that the family can influence turnover (Hom & Griffeth 1995; Mobley *et al.* 1979; Steers & Mowday 1981). Even the original work on turnover by March and Simon (1958) identified family opinions as one of the possible influences on turnover, by suggesting that "the greater the extent to which activities demanded by the job make it difficult or impossible to fulfill…expectations in other social groups, the greater the…desirability of movement".

Posthuma *et al.* (2005) suggest that our understanding of turnover in a collectivist culture like India could be enhanced by focusing on normative expectations from the

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family that relate to quitting the organization. Indians are shown to have a familial identity and value the opinions of their kith and kin (Roland 1988). Hence, acknowledging and incorporating the inputs of social reference groups (family and friends) might provide more useful insights in our study of turnover. While the family is important in both the US and India, the family is an integral part of an individual's life in India. According to Gannon (2001), in India, the family "generally mediates an individual's experiences with the outside world." (p. 70). There is a large body of cross-cultural research, not directly related to turnover, which suggests that the inclusion of family perceptions could be a valuable addition to the study of turnover in India. Bordia and Blau (1998) found that, in India, a family pay referent, i.e. how much one made as compared to other members of the family, had a significant impact on satisfaction with pay. Similarly, Radhakrishnan and Chan (1997) found that Americans rated their own goals to be more important than their parent's goals for them, whereas Indians rated their own goals and parents goals to be equally important. In fact, Singh (1986) found that family members are frequently consulted on work-related matters. In her study of applicability of job embeddedness model in India, Ramesh (2007) found family links to be strongly and negatively related to turnover intentions amongst Indians working in call centers. Whether it is a better work-family life balance/conflict, or it is the pressure to reside in the same place as the family, the strength of family influence on Indian IS employees' professional lives is significant. Lacity *et al.* (2008) found that a strong sense of family obligation as an important determinant of turnover intentions amongst Indian IS professionals.

In addition to family pressure, there is pressure from other players in the society like friends and peers. For example, at workplace, turnover by highly regarded employees is likely to trigger a social contagion process that can lead to a high turnover culture in the department (Moore and Burke 2002). Influences can be from outside organization like from friends working in other companies leaving their jobs and getting jobs. This resonates well with the postulates of job embeddedness theory (Mitchell and Lee 2001): that off- the -job factors play a very important role in a person's decision to stay or quit an organization.

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Given the strong family orientation of Indian culture, we believe that the inclusion of social norms is important to our study of turnover intentions among Indian IS professionals. Also, influence of friends and peers on turnover intentions is important area to be studied. This leads us to the following hypothesis:

H3: Social norms to stay in the current job are negatively related to turnover intentions.

3.4. Job attributes

It is the extent to which an IS professional is engaged in various software activities in a normal work week. These activities correspond to the stages in the software development life cycle- system analysis and design, coding, testing, production support and maintenance. Apart from these activities of SDLC, we included two more activities- client interaction and project management. We categorized these activities into two groups- client facing tasks or tasks involving client interaction (tasks like analysis, design and maintenance and production support) and the second one not involving client interaction (tasks like coding, testing and project management). This categorization was based on 'client interaction' because apart from high level tasks like system analysis and system design, onsite assignments where there is scope for direct client interaction are highly desired by Indian IS professionals (Commander *et al.* 2007; Lacity *et al.* 2008; Rajkumar and Mani, 2001; Upadhya and Vasavi, 2006).

There is increasing evidence that the nature of IT work or job attributes itself may create situations for reduced job satisfaction and turnover (Niederman and Sumner, 2004). One of the reasons is because IS employees tend to put a higher value on achievement (Bartol and Martin, 1982), growth, interesting and meaningful work (Ferratt and Short 1986) and job challenge than other employee groups (Cougar, 1980), and express higher levels of job satisfaction when they are performing high-skill, meaningful work (Couger and Zawacki, 1980). Research shows that workers leave because "many IT jobs but especially programming jobs... qualify as lousy jobs" (Capelli, 2000). Agarwal and Ferratt's (1999) field research across a large number of organizations underscored the importance of interesting work as an important predictor of intentions to stay. Indeed,

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surveys of "Best places to work" in information systems (Brandel 2006) consistently point to the nature of the work (e.g., leading-edge technologies, interesting projects) as a significant driver of IT professionals' attitudes and work behaviors.

Not only have job attributes been proven to be strong predictors of turnover intentions for Western IS professionals (Thatcher *et al.* 2002, 2006; Sumner and Niederman 2002), there is some evidence to how it influences turnover intentions amongst Indian IS professionals through job satisfaction. These studies highlight that majority of Indian IS professionals are working on low end jobs like coding, testing and this is one of the primary reasons for their job dissatisfaction and high turnover rates (Arora *et al.* 2001; Kuruvilla and Ranganathan 2008; Parthasarthy 2008; Upadhya and Vasavi 2006).

Indian software firms largely provide services rather than products which involve tasks like low-level design, coding, and maintenance services (Arora *et al.* 2001). This 'low end' of the software development life cycle (SDLC) has relatively lower level of skill requirement and creativity, rather than its design and analysis (Upadhya and Vasavi, 2006). Basically, Indian software workers have to fulfill the requirements and design specifications set forth by foreign software developers (Arora and Gamberdella, 2004; Litecky *et al.* 2006). The problem is exacerbated by Indian companies being sticklers of standardization procedures of business processes (like Capability maturity model- CMM) which reduces software production to a highly routinized and mechanical process. The fact that engineers are often required merely to put together readymade modules and produce code according to fixed norms reduces the scope for creativity or even much thought. Also, there are some indications that the strong motivation of Indian employees to constantly learn makes it difficult for them to stay in one project – in particular when a project contains routine work and little intellectual challenge (Dibbern *et al.* 2007; Upadhya and Vasavi, 2006). Upadhya and Vasavi (2006) in their interviews with Indian IS professionals found that the most common reasons for job dissatisfaction were 'uninteresting job', 'work is monotonous' and 'I am stagnating'. They concluded that a major reason for job dissatisfaction and consequent high turnover is low-end nature of

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much of the work (coding, and testing) available for Indian IS professionals. Further, Kuruvilla and Ranganathan (2008), in their study concluded that "*while we are unaware of any systematic studies of turnover in the software segment, our sense is that a primary cause of attrition—more important than pay and benefits—is the lack of opportunities to work on cutting-edge technology*". In our prior study of Indian IS professionals, we found a strong theme throughout the interviews that Indian IS professionals want challenging jobs, just like their US/Western counterparts (Lacity *et al.* 2008). Based on these studies, we decided to include job attributes in the proposed model. Since the literature shows the direct connection between type of job and job satisfaction amongst Indian and Western IS professionals alike (Niederman and Sumner 2004; Lacity *et al.* 2008), and that Indian IS professionals seek tasks with direct client interaction (Lacity *et al.* 2008), we suggest the following hypotheses

H4a: Job attributes that involve client interaction (system analysis and design, client interaction and maintenance and production support) will be positively related to job satisfaction amongst Indian IS professionals.

H4b: Job attributes involving no client interaction (coding, testing and project management) will be negatively related to turnover intentions.

3.5. Organizational alternatives

It is the extent to which an employee perceives the availability of equal or better job opportunities outside the current organization (Allen and Meyer 1990; Mitchell *et al.* 2001; Van Dam 2005). This is an important variable to be included which takes into account how market fluctuations in the IT industry may affect turnover intentions and behavior of employees. Organizational alternatives has been an important antecedent to turnover intentions in various models of turnover developed and tested in Western countries (Thatcher *et al.* 2002; Joseph *et al.* 2007). For example, March and Simon (1958) had 'number of extra organizational alternatives perceived' as part of 'ease of movement'; Mobley depicted it as 'search and evaluation of job alternatives'; Hom and

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Griffeth (1991) depicted it as 'comparison of alternatives' and Steers and Mowday (1981) included it as 'alternative job opportunities' . In Rusbult and Farrell's test of the 'Job Investment Model' (1983), they found that organizational commitment was significantly determined by poor organizational alternatives. Van Dam (2005) found that organizational alternatives were negatively related to organizational commitment. In addition to these studies, a meta-analysis of seven empirical studies comprising 2,657 individuals found that perceived job alternatives was negatively related to organizational commitment (Mathieu and Zajac, 1990). It is also interesting that a meta-analysis of 21 studies found that organizational alternatives is only weakly directly related to turnover intentions (Steel and Griffeth 1989). Thus, the evidence suggests that organizational alternatives affects turnover intentions through the mediating variable, organizational commitment.

However, research in IS and referent fields has also found that perceived job alternatives have a direct effect on turnover intention (Judge 1993; Kim *et al.* 2001). In an empirical examination of IT workers, Igbaria and Greenhaus (1992) reported a small direct effect between awareness of extra-organizational career opportunities and turnover intentions. Further, in a recent meta-analysis Joseph *et al.* (2007) which included 26 studies on turnover in IS, a significant direct relationship between perceived job alternatives and turnover intentions was found. However, Lacity *et al* (2008) found a statistically non significant relationship between organizational alternatives and turnover intentions amongst Indian IS professionals. However, this study was undertaken in 2008 and the market conditions have changed dramatically in the last few years with the economic slowdown in 2009. We wanted to explore how organizational alternatives affect turnover intentions among Indian IS professionals in changing market conditions. This leads us to the following hypothesis*:*

H5: Organizational alternatives is positively related to turnover intentions amongst Indian IS professionals.

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3.6. Turnover behavior

Turnover behavior is the actual leaving of one's job and company. It involves the mechanics underlying actual separation from an employer. The focus is on observed quits in which separation is a binary outcome: an employee either stays or leaves in an actual event (Joseph and Kauffman 2003). Most IT studies on turnover have used turnover intentions as a surrogate for turnover behavior because they believe that turnover intentions are the best predictor of actual turnover (Mobley 1982; Ajzen and Fishbein 1980), and also because turnover intentions and its correlates are more accessible to researchers (Josefek and Kaufman 2003). Substantial empirical evidence supports the theory that attitude affects behavior more than behavior affects attitude (Lacity *et al.* 2008). For example, a time sequenced meta-analysis of 49 studies on job attitudes (including job satisfaction and organizational commitment) and work behavior (including turnover) comprising over 10,000 individuals found that predictive correlations between attitude-to-behavior were stronger than predictive correlations between behavior-to-attitude (Harrison *et al.* 2006b). Therefore, we believe that the strength of relationship would be greater between turnover intentions (attitude) and turnover behavior (behavior).

However, the paucity of IT turnover research examining turnover behavior poses an important gap in the literature, for both methodological and theoretical reasons. Methodologically, the use of self-reported turnover intention tends to produce inflated relationships with other self-reported constructs because of percept-percept bias (Joseph *et al.* 2007). Theoretically, the strength of the relationship between intention and behavior has been found to vary across situations and groups, such as perceived employment opportunities (Mobley 1982; Steers and Mowday 1981), or the motives behind turnover intention (Vandenberg and Nelson 1999). Irrespective of the magnitude of strength of relationship between turnover intentions and turnover behavior, there is general agreement that the relationship is positive (Steers and Mowday 1981). This leads us to the following hypothesis:

H6: Turnover intentions is positively related to turnover behavior amongst India IS professionals.

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Table 2 below gives a list of hypotheses to be tested and the expected nature of the relationship.

Table 2: List of Hypotheses to be Tested

Hypothesis	Independent variable	Dependent variable	Nature of relationship
H1: Job satisfaction is negatively related to turnover intentions.	Job satisfaction	Turnover intentions	Negative
H2: Overall organizational justice is negatively related to turnover intentions	Overall organizational justice	Turnover intentions	Negative
H2a: Supervisory distributive justice is negatively related to turnover intentions	Supervisory distributive justice	Turnover intentions	Negative
H2b: Supervisory procedural justice is negatively related to turnover intentions	Supervisory procedural justice	Turnover intentions	Negative
H2c: Supervisory interpersonal justice is negatively related to turnover intentions	Supervisory interpersonal justice	Turnover intentions	Negative
H2d: Supervisory informational justice is negatively related to turnover intentions.	Supervisory informational justice	Turnover intentions	Negative
H3: Social norms is positively related to turnover intentions.	Social norms	Turnover intentions	Positive
H4: Organizational alternatives is positively related to turnover intentions	Organizational alternatives	Turnover intentions	Positive
H5a: Job attributes for tasks involving client interaction are positively related to job satisfaction	Tasks involving client interaction	Job satisfaction	Positive
H5b: Job attributes for tasks involving no client interaction will be negatively related to job satisfaction	Tasks involving no client interaction	Job satisfaction	Negative
H6: Turnover intentions is positively related to turnover behavior	Turnover intentions	Turnover behavior	Positive

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4. RESEARCH METHOD

This section describes the data collection method used in the study (semi-structured interviews), development and testing of the interview guide, the actual data collection and descriptive statistics of the respondents. Also, it explains the subsequent transcription and coding of the interviews to aid data analysis.

4.1. Interviews:

We decided to use interviews to collect data since the aim of the study was not just to test the hypotheses, but also to gain a deeper insight into antecedents of turnover intentions. Interviews are probably the most widely employed method when researchers have the following objectives (Lacity *et al.* 2008):

- seek to understand themes of the lived daily world from the subject's own perspectives (Kvale 1996)
- do not want to limit the study to predefined constructs or predefined categories within constructs (Glaser and Strauss 1967)
- seek participation from busy or high-status respondents (Mahoney 1997)
- seek answers to questions in which the subject matter is sensitive (Mahoney 1997)
- are concerned with the quality, not quantity of responses (Fontana and Frey 1994);
- seek the story behind a participant's experiences. The interviewer can pursue in-depth information around the topic (McNamara 1999).
- are concerned with the participants' values (Bourne and Jenkins 2005; Gummesson 2000)
- seek to answer a why or how questions about contemporary events over which the researcher has little or no control (Fontana and Frey 1994; Yin 2003)

We believe that interviews were the best research method to study the validity of our model and test the hypotheses. Our aim was not only to test the hypotheses, but also to

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explore deeper into the relationships between the constructs and answer "how" and "why" the relationships were supported/not supported. This was important to understand because of the dearth of studies done on Indian IS professionals. The interview method allowed the respondents to explain their rating and perceptions of different issues we asked related to their turnover intentions. This helped us not only understand why some hypotheses were supported and some were not, but also uncover some emergent constructs which are relevant for IS professionals but were not part of the model we tested. Also, in this study, we had sensitive topics to discuss- like turnover intentions and supervisory justice. An interview method allowed us to clearly communicate the purpose of the research, to ensure confidentiality, and to build trust during a personal interview (Lacity *et al.* 2008). Once trust was established, research participants felt more comfortable answering sensitive questions on job attitudes and fairness perceptions. Finally, we believed that busy IS professionals, who hold a significant position of status within the Indian culture, would be more likely to respond to a personal interview than to an anonymous survey. This was true. Most respondents were quite eager to talk about their perceptions about job attitudes and justice perceptions on the telephone. Also, when contacted the second time for a follow up interview, most of the respondents were happy to spare a few minutes to explain why they left their jobs or why they were still in the same company.

We employed semi structured interviews as the method of collecting data. Semi-structured interviews allow "depth to be achieved by providing the opportunity on the part of the interviewer to probe and expand the interviewee's responses. ... Some kind of balance between the interviewer and the interviewee can develop which can provide room for negotiation, discussion, and expansion of the interviewee's responses" (Hitchcock and Hughes 1989, p.83). In semi-structured interviews, the researcher has a list of questions or fairly specific topics to be covered, often referred to as an interview guide, but the interviewee has a great deal of leeway in how to reply (Bryman 2001). The advantage of the semi-structured interview is that the interviewer is in control of the process of obtaining information from the interviewee, but is free to follow new leads as they arise. Also, it is an effective tool to gain insights about complex phenomena as people are able to talk in detail and depth. According to Bryman (2001), semi structured

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interviews let complex issues be clarified and discussed because the interviewer can probe areas suggested by the respondent's answers, picking up information that had not occurred to the interviewer or about which the interviewer had no prior knowledge.

In this study, we used semi-structured interviews for the aforesaid reasons. We wanted to leave the method fluid enough to explore constructs that may be missing from the model, but rigid enough to assess the validity of the proposed model. As far as rigidity in the interview was concerned, we had two questions to get ratings on a 5-point Likert scale for every construct in the model (See Interview Guide in Appendix III). This helped us test the validity of the model quantitatively using Partial Least Square (PLS). Also, semi structured interviews were flexible enough to let the respondents explain their quantitative ratings and talk about things they felt were important that were not part of the interview guide. This uncovered some constructs that were not proposed in the model like work life balance stress, and organizational satisfaction affecting turnover intentions of Indian IS professionals.

4.2 Interview Guide:

An interview guide lists the questions or issues to be explored during the interview and includes an introduction (with informed consent form), a set of questions and closing comments (Boyce and Neale 2006). Our interview guide followed similar format of introduction, followed by some demographic questions, then probing questions followed by concluding remarks. Also, we wanted to make sure that the questions asked across the respondents were the same, and asked in the same sequence to ensure consistency between interviews, and thus increase the reliability of findings. The Interview Guide (see Appendix III) in this study was designed to capture the constructs in the model, and to allow participants to freely explain their reasoning and values, and to explore uncharted constructs.

The interview guide was designed, and tested meticulously, and a final version was administered to the respondents. We discuss the three stages below:

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4.2.1 Development of Interview Guide:

The interview guide began with a brief introduction where we explained the respondents the purpose of the study, and the confidentiality policy to the participants. Also we let the participants know that the interviews would be tape recorded, and transcribed at a later stage. Before starting out the actual interview, we stressed on the confidentiality policy again and assured that respondent's name and company would remain anonymous in the study. This helped us gain trust of the respondents for them to talk freely about issues at their workplaces.

The next part of the interview guide asked a number of demographic questions including age, gender, location, current position, number of years in the current company, and number of years of IT experience, and marital status.

The next part of the interview guide had questions covering each construct of the model. Each construct of the model was covered using three questions

- A quantitative part consisting of 2 questions adopted from existing scales,
- And a "why", "can you please explain" qualitative part that prompted them to explain their ratings.

For example, for job satisfaction, we had two questions adopted from existing scales to capture the respondents' rating on a 5-point Likert scale- "*to what extent are you happy with your job on a scale of 1 to 5 with 1 indicating least satisfied and 5 indicating most satisfied*" and "*In general to what extent are you happy with the work you do on a scale of 1 to 5 with 1 indicating very unhappy and 5 indicating very happy*". After we got the ratings, we asked the respondent to please explain why he/she had given such a rating. The open-ended questions gave the participants the latitude to explain their responses. This, in turn, gave us room to identify constructs that were not previously identified in the model. Indeed, we added three new constructs to the model based on the interviews.

4.2.2. Pilot Testing of the Interview Guide:

The interview guide was pilot tested 2 times for fine tuning and improvement. The first round tested two different types of scales: a 5-point Likert scale and ordinal scale of high,

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low, medium. The second round tested the revised interview guide. The two rounds of pilot interviews are described below:

Round One:

The first round of pilot interviews was conducted in the months of July-August 2009. The interviews were aimed to explore whether the participants were more comfortable answering on an ordinal scale of high, medium and low or Likert interval scale of 1 to 5. The pilot interviews involved interviewing with two versions of the interview guide- one with ordinal scale and the other one with interval scale measures for the constructs. The interviewees answered well with both the scales, with some evidence of preference for the 5-point Likert scale.

The pilot testing of the interview guide involved interviewing two Indian IS professionals working in the USA and two working in India. Out of the two IS professionals working in India, one was a female IS professional. The average age of the participants was 30 years (30, 31, 30, and 29 respectively) and the IT experience ranged between 6 to 9 years (6, 6, 7.5, and 9 respectively). The two Indian IS professionals working in the USA were involved primarily in implementation and production support work to clients. The job titles were project manager, site lead (for Indian IS professionals in the USA) and technical lead and senior developer (for IS professionals working in India). The interviews lasted between 30-45 minutes. The interviews were semi-structured letting the respondents explain their answers and ratings. The interviews were tape recorded and transcribed.

The 2 respondents who used ordinal scale asked if they could answer on a scale of 1 to 5 instead, with the first respondent asking, "oh can I give it a rating of 3.5 instead of a medium point five". The second respondent said that he is more familiar with the 1 to 5 Likert scale as that is what he uses at work to fill out HR surveys. The respondents on the interval scale of 1 to 5 were comfortable answering using the 5-point Likert scale. We decided to go with the 5-point Likert scale because of the results of the first set of pilot interviews.

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Round Two:

We conducted second round of pilot interviews that involved 4 interviews in the month of September 2009 before launching into the actual data collection. This is because the Interview Guide had changed quite a bit after suggestions from the committee; for example, we added new constructs like organizational alternatives. Also, from our first round of interviews we found that Likert scale was more intuitive to answer. We wanted to check if our Likert scale was easily understood by the respondents. Also, the aim of these interviews was to see if the questions were clear and unambiguous to the participants, and to check how long the interviews lasted. The interviews involved interviewing four Indian IS professionals working in the USA. The average age of the respondents was 30.5 years (with respondents aging 30, 34, 30, and 28 respectively). Two respondents were female, one working in Boston area and the other one working in Seattle. The two male respondents worked in the west coast- San Francisco and San Jose. The years of IT experience ranged between 2-10 years (2, 2, 10 and 8 years respectively). The job titles for the four IS professionals were senior developer, software developer, software engineer and technical lead. The interviews lasted between 35-45 minutes. The interviewees seemed quite comfortable giving a rating on a scale of 1 to 5 and then explaining the reason why they chose to do so. The "please explain" and "why would you say that" made the interviewees think and explain their logic behind the answers which gave deep insights into the issues we are trying to explore. Some questions were not easy to answer. They are explained below:

- Job attributes (and the corresponding scale) was one of them. Three respondents out of four had trouble quantifying their work on the scale provided for job attributes (1 being never and 5 being always). Two said that they felt easier talking in terms of percentage of time spent on each stage of the SDLC and one said she was comfortable giving the number of hours she worked on each stage of SDLC. We decided to change the question to "In a normal work week, what percentage of time do you spend on various activities: analysis and design, coding, testing, project management, client interaction and project management and production support"?

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- Also, 1 question on organizational alternatives drew varied responses. The question was "Do you believe you would have given the same rating 2 years ago". All said that they could not give me an answer in vacuum, but that it "depends" on the market right now. Two respondents said that they believed they could get a job easily (therefore giving it a rating of 4) because of their experience and qualifications, but that in this recession they were not sure anymore. We decided to not ask them about how the perception of job alternatives was two years ago.

- Also, the questions on procedural and distributive justice were perceived to be ambiguous. Supervisory procedures for resource allocation and actual distribution of resources were not easily understood. When asked about it, it drew a blank from two respondents, who on further prompting said that their supervisors did not really make decisions on resource allocations nor were authorized to distribute resources (like hardware, software, budget, time allocation etc). The third respondent said that he understood the question, but wasn't sure how to answer it. We decided to change the question to "*To what extent do you believe that your supervisor is fair in his policies for outcomes related to you*"? and "*To what extent do you believe that your supervisor is fair in distributing rewards and outcomes (like bonus, salary hike, promotion) related to you*"?

- Some questions needed more prompting to get the respondents to explain their reasoning. For example, when asked why they felt they were respected and valued, one respondent said "It's a feeling/perception- I cannot explain why". Then the author prompted further, "Well, can you tell me a few gestures by your supervisor that makes you believe he/she is respectful to you in everyday encounter". That drew a long answer. Another respondent when asked about why he believes he is treated with respect said "I know I am treated with respect but am finding it hard to put 'why' into words". When prompted with the question "how does your supervisor make you feel valued/respected", it drew a better response and the respondent told different ways in which he believes his supervisor makes him feel respected and valued.

- Questions relating to social norms also had to be explained. All four respondents asked "what do you mean by people most important to me" and the author

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explained that it referred to family, co-workers, peers and friends outside the organization whose opinion mattered to the participant. Once it was explained, they were able to answer the question well. We decided to elaborate on "people most important to me" in the Interview Guide.

4.2.3 Administration of the Interview Guide:

The interview guide was administered starting with an introduction (and going over the confidentiality policy), then going on to the questions and concluding by thanking the respondents and asking them if they wanted to share any more thoughts with the author. During the interview, the author verified that the respondents understood the scales by double checking their responses and repeating what the numbers on the scales meant while confirming their answers. The number on the scale was further checked when the respondents were prompted to explain their rating. For example, for the question

Author: How much do you like your job? How would you rate your job satisfaction on a scale of 1 to 5 with 1 being very dissatisfied, and 5 being very satisfied?
Respondent: 4
Author: 4 meaning somewhat satisfied?
Respondent: Yes.
Author: Can you explain why it is a 4, somewhat satisfied?

Immediately after the respondent confirmed it, the author asked why the respondent has given such a rating. This process of double checking was very useful because there were occasions where respondents did not understand the scale well, especially in the case of scale for turnover intentions where 1 corresponded to "very likely to stay" and 5 corresponded to "very likely to leave". There were a few occasions where the respondents assumed it to be in the reverse order with 1 being "very likely to leave" and 5 being "very likely to stay". For example, one respondent replied in a way that said that he had misunderstood the scale. The interview provided the opportunity for the author to double check that the respondents had not made any mistakes in their responses to the Likert scale rating.

Author: In the next six months, how likely is it that you will be still working for this company on a scale of 1 to 5 with a 1 indicating very likely you will stay with this company and a 5 indicating very likely you will leave?

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Respondent: 5 definitely. As far as this company is concerned, I have minimum plans to stay with the company for 5 years at least. And if I am as happy then as I am now, I would not even quit. I have in fact no plans of leaving, so the rating should be 5.

Author: Actually, 1 is likely to stay and 5 is likely to leave?

Respondent: So, it would be 1 then- very likely to stay.

4. 3. Data Collection:

Data was collected longitudinally that involved conducting two sets of interviews. The first round of interviews involved measuring all the constructs proposed in the model except turnover behavior. For measuring actual turnover behavior, the same 75 respondents were contacted after a span of 10 months of the first interview.

4.3.1 First Phase of Data Collection:

Seventy five Indian IS professionals residing across different regions in India were contacted in the months of Feb-March 2010. The research participants were mutual acquaintances of the author, or had been referred by the mutual acquaintance of the author. Although the sample is opportunistic, we feel it is better to ensure trust and cooperation from this kind of sample than to attempt to solicit cooperation from an anonymous random sample since the topic is sensitive. The interviews were conducted in two rounds. The first round of interviews lasted between 30-40 minutes and involved asking questions about the various constructs in the model (See Interview Guide in Appendix III).

4. 3.2 Second Phase of Data Collection

Follow up interviews to measure turnover behavior were conducted in January 2011- ten months after the first interview (See Interview Guide in Appendix IV). Most participants from the first round of interviews could be contacted over the phone. Some others responded through emails. We were able to reach 70 of the 75 respondents. Only about 5 respondents could not be reached through emails or phone calls and for those we gathered information through informants working in the same company or from people who were the participant's friends. The fundamental question we sought to ask in the follow up

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interview was whether the participants were working in the same company as during the first interview.

4. 3.3 Descriptive statistics

The demographic information of the 75 respondents is summarized in Table 2 below.

Table 3: Characteristics of the Sample

Total participants	75
Characteristics	**Value**
Gender	
Female	18 (24%)
Male	57 (76%)
Marital Status	
Single	31 (41%)
Married	44 (59%)
Age	
Range	22-38
Average	29.5
Years in current job	
Average	1.8 years
Range	3 months to 4.5 years
Years in current company	
Average	3.46 years
Range	3 months to 15 years
Years of IT experience	
Average	6.4 years
Range	8 months to 15 years
Location	
Tier 1	39
Non-Tier 1	36
Titles	
Lead	12
Consultant	15
Analyst	7
Software Engineer	22
Manager	17
Other	2
Type of Firm	

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Non-Indian IT Service Provider (10 companies)	24
Indian IT Service Provider (16 companies)	33
IT Product Company (6 companies)	10
Non-IT Company (3 companies)	8

Apart from the demographic information in the table, we had a few more of them including location, title of the respondent, and type of firm- all of which are explained below.

Location: The participants came from 8 cities in India. We classified the cities into two categories: Tier I and others.

1. Tier I cities are those "cities that are 'top of mind' as having overall attractiveness from a skills availability, infrastructure, access, life style etc. perspective" (Iyengar 2005). We had three Tiers I cities: Bangalore (29 respondents), Delhi (5 respondents), Mumbai (5 respondents).

2. Non-tier I cities included cities like Hyderabad (15 respondents), Chennai (7 respondents), Pune (11 respondents), Calcutta (1 respondent), Mangalore (1 respondent) and Mysore (1 respondent).

Titles: The respondents had different job titles that we categorized into the following:

1. **Lead:** (n=12). The titles ranged from quality assurance lead (3 respondents), technical lead (3 respondents), project lead (4 respondents), and team lead (2 respondents)

2. **Consultant:** (n=15). The titles ranged from consultant (6 respondents), business consultant (1 respondent), technical consultant (1 respondent), associate consultant (1 respondent), senior advisory consultant (1 respondent), senior consultant (4), and associate practice consultant (1 respondent)

3. **Analyst title: (n=7).** The titles ranged from program analyst (1 respondent), IT analyst (2 respondents), senior systems analyst (1 respondent), assistant analyst (1 respondent), business analyst (1 respondent), and systems analyst (1 respondent)

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4. **Engineer:** (n=22). Software development engineer (2), software engineer (4), senior software engineer (6), associate software engineer (2), software developer, software design engineer, systems engineer, senior software tester, systems architect, application engineer.

5. **Manager:** (n=17). Project manager (4 respondents), Associate manager (1 respondent), senior program manager (1 respondent), senior manager (2 respondents), test manager (1 respondent), technical manager (2 respondents), senior project manager (2), development manager (1 respondent), change and release manager (1 respondent), deputy manager (1 respondent), assistant manager for quality control(1 respondent)

6. **Miscellaneous**: (n=2). Titles ranged from technical member (1 respondent), and associate (2 respondents)

Type of firm: The respondents came from different kinds of IT firms in India.

1. **Non-Indian IT Service Providers**: We had 24 respondents that worked in companies that were classified as Non-Indian IT service providers. This category included companies headquartered in the US and France providing software services to other companies. These providers included Accenture (3 respondents), IBM (8 respondents), ADP (1 respondent), SunGard (1respondents), Keane (2 respondents), PegaSystems (1 respondent), EMCSquare(1 respondent), Aricent (1 respondent), and Media Systems (1 respondent). It also included CapGemini headquartered in France (5 respondents).

2. **Indian IT Service Providers**. We had 33 respondents in this category. It included companies headquartered in India providing predominantly software services to other companies. These providers included Infosys (3 respondents), TCS (3 respondents), Satyam (1 respondent), HCL (2 respondents), Wipro (6 respondents), KPIT Cummins (1 respondent), Synechron (1 respondent), IBexi (1 respondent), Mastek (1 respondent), ITC Infotech (1 respondent), Mindtree (2 respondents) and Aditi technologies (1 respondent). It also included some companies headquartered in the US but with operations set up in India such as Cognizant (4 respondents), I-Gate (1 respondent), and InSync (1 respondent)

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3. **IT Product Companies**. We had 10 respondents in this category. This included companies predominantly involved in IT product development such as Oracle (3 respondents), Sun Systems (1 respondent), Microsoft (2 respondents), Amazon (1 respondent), Dell (1 respondent) and Juniper (2 respondents).

4. **Non-IT Companies**. We had 8 respondents in this category. This included companies headquartered in the U.S. that were not part of the IT industry but had software operations in India. It included Fidelity Investments (5 respondents), GE (2 respondents), and HSBC (1 respondent).

4.4. Transcription of the interviews

We transcribed all the interviews for the purpose of data analysis. Heritage (1984) suggests that the procedure of recording and transcription interviews has the following advantages:

- it helps to correct the natural limitations of our memories and of the intuitive glosses that we might place on what people say in interviews;
- it allows more thorough examination of what people say;
- it permits repeated examinations of the interviewees' answers;
- it opens up the data to public scrutiny by other researchers, who can evaluate the analysis that is carried out by the original researchers of the data (that is, a secondary analysis);
- it therefore helps to counter accusations that an analysis might have been influenced by a researcher's values or biases;
- it allows the data to be reused in other ways from those intended by the original researcher-for example, in the light of new theoretical ideas or analytic strategies.

All the interviews were conducted over the telephone and recorded in digital format to aid transcription in digital format.

4.5. Coding the Transcriptions

There were two types of coding done in this study: qualitative and quantitative. They are explained in detail below.

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4.5.1 Coding for quantitative analysis

Once the interviews were done, we prepared the coding sheet to record the quantitative responses (ratings) from 75 participants. Coding involved putting the two ratings corresponding to two questions for each construct in an excel sheet. For example, job satisfaction had two questions and the rating for each question was put as a variable JS1, JS2 in the excel sheet. The coding of the interviews was independently and simultaneously done by 2 PhD students (45 interviews), 1 HR manager (15 interviews) and one IS professor (15 interviews). Once the coders independently put in the numbers in their excel sheets, we tallied them. This was done to double check the numbers entered from the transcripts into the excel sheet and eliminate errors due to negligence or typing mistakes. Any time the numbers did not match, we went back to the interview transcripts to look at the numbers again and resolved discrepancies.

For job attributes, the coding was done separately by the author and one IS professor for all 75 respondents. The construct was troublesome to code because of the following ambiguities:

1. Some respondents said they were located in client sites and therefore gave a 100% for client interaction beyond and above the time spent on other stages of software development life cycle (SDLC). We ignored the overarching 100% at client site, and kept the other numbers intact.

2. Some respondents gave a percentage for extra work they undertook out of their own interest- which is not part of their everyday work and therefore made the total add up to more than a 100. We ignored the extra work done out of interest or otherwise.

3. Some categories mentioned during the interviews did not exist in the interview guide- team management, people management, documentation, strategic initiatives, configuration management, pre-sales work etc. We put them in a separate category: others. Later, we merged them with the pre-existing categories of SDLC depending on the title that the respondents hold or the type of work they are primarily responsible for. For example, one respondent said his work was configuration management which was part of every phase of SDLC, so we

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distributed 20% in each of the SDLC phases. Similarly, team management was taken as part of coding if the respondent's primary job involved coding and programming. Similarly, documentation was taken as part of coding/testing depending on the official work and title of the respondent. Strategic initiatives were taken as part of project management when the respondent title was project manager. Pre-sales work was taken as analysis work when the respondent's title was Business Analyst.

4. Some respondents gave percentages in various categories that didn't add up to a 100. In such cases, we made it add up to a 100 by giving some percentage to the official work done by them according to their title. For example, if a senior consultant says his primary job is coding and testing and gives it a 90%, we added 5% each to coding and testing to make it a 100%.

We calculated Krippendorff's alpha using recal, an online tool for calculating Krippendorff's alpha (Freelon 2010) to evaluate the inter rater reliability between the two coders that coded job attributes separately. Krippendorff's alpha (α) is a reliability coefficient developed to measure the agreement between observers, coders, judges, raters, or measuring instruments. It emerged in content analysis but is widely applicable wherever two or more methods of processing data are applied to the same set of objects, units of analysis, or items and the question is how much they agree. Unlike other specialized coefficients, α is a generalization of several reliability indices (Krippendorff 1980). It enables researchers to judge a variety of data with the same reliability standards. α applies to:

- Any number of observers, not just two
- Any number of categories, scale values, or measures
- Any metric or level of measurement (nominal, ordinal, interval, ratio, and more)
- Incomplete or missing data
- Large and small sample sizes alike, not requiring a minimum

Krippendorff's alpha was 1.00 for 51 cases. The minimum value was .63. We resolved the discrepancies by discussing the interpretations each coder inferred from the text and

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then coming to a mutual agreement by going back to the rules we made before coding job attributes.

4.5.2 Coding for qualitative analysis

Qualitative analysis using content analysis was undertaken to understand why some of the hypotheses were not supported, and how some categories not tested in the model emerged from the data. The author gleaned through the interview transcripts of 75 respondents and focused on the "why" and "how" answers supplementing the quantitative ratings given by the respondents for each construct. Each reason for "why" and "how" was treated as a separate category. For example, some respondents gave multiple reasons for job satisfaction: learning and growth, exciting work, and work environment. Each of these reasons was treated as a separate category, and we recorded the frequencies of these categories.

The following coding scheme was employed:

- Unit of analysis: The unit of analysis for the content analysis was the entire text of the response.
- Define the categories and their properties: The categories were mutually exclusive; a recoding unit was used only in one category and not simultaneously into two or more categories.
- Emergent categories: We took the approach of Lacity *et al.* (2008) for emergent categories. We were flexible to code emergent categories not hypothesized in the model. This was guided by what the data revealed from the interviews.

As far as emergent constructs are concerned, the author coded them on an ordinal scale of "high" and "low" based on the words used to describe these constructs. The coding for the tables of emergent constructs is attached in Appendices IV, V and VI. These constructs were then mapped to the dependent variables used in this study: job satisfaction and turnover intentions. To convert the 5-point Likert scale rating into ordinal scale for these dependent variables, we used the median as a the cut off-anything below and equal to the median was treated as "low" and anything above the median was taken as "high". The median for job satisfaction was 3.5 and for turnover intentions it was 1.5.

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5. QUANTITATIVE CONSTRUCT MEASURES AND ANALYSIS

This section describes the measures used for quantitative analysis, and the two step data analysis approach: 1. Measurement model evaluation testing the psychometric properties of the constructs, and 2. Structural analysis testing the paths and relationships between the constructs.

5.1. Measures

Wherever possible we used or adapted existing scales for measuring the constructs. Since questions in an interview are limited by necessity, as opposed to multiple questions in a survey (Dillman 1978), we chose to use two questions from existing scales that were closest to the construct definitions adopted in the study. As single measures are not desirable for quantitative analysis (Hatcher 2005), we decided to have two questions measuring each construct. The interview guide is attached in Appendix III.

Job Satisfaction: This construct was measured using two items which were "*In general, to what extent are you satisfied with your job?*" and "*Overall, how satisfied are you with the kind of work you do?*" The items were adapted from scales used by McKnight (1997) and Thatcher *et al.* (2002). The responses were coded on 5-point Likert scales with 1 indicating *very dissatisfied* and 5 indicating *very satisfied*.

Turnover Intentions: This construct was measured using one item that was asked twice, once at the beginning and once at the end of the interview in order to get a valid measure of turnover intention. The item was "*How likely is it that you would be working in this company in the next six months?*" This item was adapted from the scale developed by Moore (2000). The responses were coded on a 5-point Likert scale with 1 indicating *very likely to stay with the current company* and 5 indicating *very likely to leave the current company* in the next six months.

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Organizational Alternatives: This construct was measured using two items which were "*How easy is it to find a similar job outside the company?*" and "*How easy is it to find a better job outside the company?*" These items were adapted from the interview protocol of Lacity *et al.* (2008). The responses were coded on 5-point Likert scales with 1 indicating *very difficult* and 5 indicating *very easy* to find a job outside the company.

Supervisory Distributive Justice: This construct was measured using two items which were "*Given your performance, how fair do you believe your supervisor is in distributing rewards/outcomes controlled by him?*" and "*Given your contributions, how fair do you believe your supervisor is in distributing rewards/outcomes controlled by him?*" These items were based on the construct's theoretical definition and adapted from the scale developed by Colquitt (2001) and Rupp *et al.* (2002). The responses were coded on 5-point Likert scales with 1 indicating *very unfair* and 5 indicating *very fair*.

Supervisory Procedural Justice: This construct was measured using two items which were "*To what extent do you believe that the decision making policies used by your supervisor for outcomes related to you are fair?*" and "*To what extent do you believe that the procedures used by your supervisor in making decisions about your outcomes are fair?*" These items were based on the construct's theoretical definition and adapted from the scale developed by Rupp *et al.* (2002). The responses were coded on 5-point Likert scales with 1 indicating *very unfair* and 5 indicating *very fair*.

Supervisory Interpersonal Justice: This construct was measured using two items which were "*To what extent do you believe your supervisor treats you with respect in everyday life?*" and "*To what extent do you believe your supervisor treats you with dignity in everyday life?*" These items were based on the construct's theoretical definition and adapted from the scale of Bies and Moag (1986). The responses were coded on 5-point Likert scales with 1 indicating *never* and 5 indicating *always*.

Supervisory Informational Justice: This construct was measured using two items which were "*To what extent do you believe that your supervisor keeps you well informed about work related issues?*" and "*To what extent do you believe that your supervisor keeps you well informed about why things happen the way they do?*". The first item

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measured the disclosure of work related information which is a broad conceptualization of the construct (Bies 2005; Cropanzano *et al.* 2007) that has not been adequately represented in existing scales of justice literature (Bies 2005). This item was developed for this study from the construct's theoretical definition. The second item measured the disclosure of procedure related information which was adapted from the scale used by Colquitt (2001). The responses were coded on 5-point Likert scales with 1 indicating *never* and 5 indicating *always*.

Organizational Justice (second-order latent construct): Hierarchical or second order models provide a more coherent description of multiple facets of a complex phenomenon than can be described by a unitary factor (Law *et al.* 1998). We measured organizational justice as a second-order latent construct underlying first order procedural, distributive, interpersonal and informational justice dimensions (Colquitt and Shaw 2005). Some conditions for modeling overall organizational justice as a second-order latent construct are:

- There must be at least three specific factors for a second-order factor model to be identified (Kline 1998). This condition was satisfied because there were four first-order factors representing the four justice dimensions.
- A standard for the number of indicators should be considered-"two might be fine, three is better, four is best and anything more is gravy" (Kenny 1979). Each of the first-order factors was measured by two indicators making a total of 8 indicators in all to measure the second-order latent construct of organizational justice (Chin 1998).

Social Norms: This construct was measured using two items which were "*To what extent do you feel the pressure from your family to leave your current company?*" and "*To what extent do you feel the pressure from friends and peers to leave your current company*". These items were based on the construct's theoretical definition and adapted from the scale used by Pavlou and Fygenson (2004). The responses were coded on 5-point Likert scales with 1 indicating *very pressured to stay* and 5 indicating *very pressured to leave*.

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Job Attributes: This construct was measured using one item which was "*In a normal work week, how much time do you spend on the following activities: analysis and design, coding, testing, project management, client interaction and maintenance and production support work?*" Responses were coded as the percentage of time spent on each activity with the sum of all activity percentages adding up to a hundred. We designed this question to measure the time spent on different phases of the software development life cycle. The existing scales in the literature for job attributes only focus on aspects of job design theory such as task identity, variety, autonomy, significance, and feedback (Thatcher *et al.* 2002; Lacity *et al.* 2008) or job type such as programmer, analyst, and project leader (Igbaria and Greenhaus, 1998).

Turnover Behavior: This construct was measured using one item that was asked of the respondents 10 months after their initial interview. The item was "*Are you still working in the same company as you did 10 months ago when I first interviewed you?*" The responses were coded on a binary scale with 1 indicating a *no* and 0 indicating a *yes*.

Control variables

The control variables in the study are:

Age: Age has been shown to be an important determinant of turnover intentions with younger IS professionals more likely to leave the organization for better opportunities (Igbaria and Greenhaus 1992). As nearly 60% of the IS professionals in India are between the ages 15 to 59, with more than half being below the age of 25 (Acharya and Mahanty 2007), age was selected as a control variable.

Gender: Gender has been shown to play a significant role in prior turnover studies with men more likely to leave the organization because of their lower levels of loyalty towards it (Baroudi and Igbaria 1995). As the ratio of women to men amongst IS professionals in India is 40:60 (Acharya and Mahanty 2007), gender was selected as a control variable. It was coded on a binary scale with 1 representing female and 0 representing male.

Marital status: Marital status has been shown in prior studies to affect turnover intentions with unmarried people more likely to leave the organization than married ones

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because of fewer family constraints (Igbaria and Siegel 1992). It was coded on a binary scale with 1 representing married respondents and 0 representing unmarried respondents.

Location: The location of the supplier firm has been shown to be a key determinant of turnover intentions amongst Indian IT professionals (Lacity *et al.* 2008). Professionals living in Tier I cities (Bangalore, Mumbai and Delhi) are more likely to leave the organization than people living in other cities because more companies are primarily located in Tier I cities. Location was coded on a binary scale with 1 representing Tier I cities (Bangalore, Mumbai and Delhi) and 0 representing other cities (Hyderabad, Chennai, Pune, Cochin and Mangalore).

Years of experience: Years of experience has been shown to be a significant determinant of turnover intentions with IT professionals having 3-5 years of experience more likely to leave the organization because of greater demand for them (Igbaria and Siegel 1992; Lacity *et al.* 2008). As the IT industry in India has 46% of people with over three years of experience, and 28% with over five years of experience (Acharya and Mahanty 2005), years of experience was selected as a control variable and was coded on a continuous scale.

Type of firm: Type of firm can be an important variable due to the kinds of projects these firms handle. For example, firms like Oracle and Microsoft have more product development projects. On the other hand, firms like Infosys or TCS have projects with mainly maintenance and production support services (Arora *et al.* 2001; Aspray *et al.* 2006). It was thus included as a control variable. The different types of firms are:

- **Non-Indian IT Service Providers**: This type included companies headquartered outside India providing software services to other companies. These providers included Accenture, IBM, ADP, SunGard, Keane, PegaSystems, EMCSquare, Aricent (headquarterd in the US) and CapGemini (headquartered in France).
- **Indian IT Service Providers**. This type included companies headquartered in India providing software services to other companies. These providers included Infosys, TCS, Satyam, HCL, Wipro, Cognizant, KPIT Cummins, Synechron, IBexi, Mastek, ITC Infotech, Mindtree. It also included some companies

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headquartered in the US but with primary operations set up in India such as Cognizant, I-Gate, and InSync

- **IT Product Companies**. This type included companies predominantly involved in IT product development such as Oracle, Sun Systems (now part of Oracle), Microsoft, Amazon, Dell and Juniper.

- **Non IT Companies**. This type included companies headquartered in the U.S. that were not part of the IT industry but had software operations in India. It included Fidelity Investments, GE, and HSBC.

5.2. Data Analysis

Partial least squares (PLS) 3.0 was selected for data analysis. PLS is a second generation multivariate analysis tool used to estimate the parameters of structural equation models. It is a powerful method of analysis because it places minimal demands on measurement scales, sample size, and residual distributions (Chin, 1997). In our study, PLS was considered appropriate for various reasons.

- The sample size of 75 is relatively small for which PLS is a good choice. The minimum sample required is calculated by identifying the endogenous construct with the most paths leading into it (in our case turnover intentions). Rule of thumb is 10 times the number of paths leading into this construct (Chin 1998). We have 7 paths leading into turnover intentions, and our sample size is more than 10*7 thus meeting the requirements for minimum sample size for using PLS.

- Also, in PLS, constructs can be modeled as either formative or reflective, and we have some formative constructs in our study. Indicators of reflective constructs are viewed as affected by the same underlying construct and are parallel measures that covary to the extent that they measure the underlying construct. Formative indicators are measured variables that are assumed to cause a latent variable. They combine to approximate the underlying construct and are weighted according to the relative importance in forming the construct. These indicators are not necessarily correlated (Ravichandran and Rai 2000). Rather, each indicator may occur independently of the others (Chin and Gopal 1995). Social norms was modeled as formative where the indicators: peer pressure and family pressure

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were not expected to be correlated. Also, two constructs of job attributes were formative in nature: 1) client facing tasks, and 2) low level tasks not involving client interaction.

Structured equation modeling involves two phases. First, the measurement model is assessed. Second, once the measurement model has shown to be adequate, the explanatory and predictive power of the structural model is assessed (Ravichandran and Rai 2001). When second-order factors are part of the model, as is the case here, examination of the measurement properties of the first-order factors that form the second-order factor is done to ensure adequate psychometric properties for the second order factors. Paths between second-order constructs and other components of the model are then examined as part of the assessment of the structural model (Staples and Setton 2004). In our case, we will start with the assessment of the measurement model. This involves discussion of the reliabilities and validities of all the constructs (except for the second-order latent organizational justice) - reflective and formative. Then we will go to the evaluation of the structural model.

5.2.1 Measurement Model Evaluation

The measurement model analysis involves the evaluation of reliabilities and validities of the constructs.

Composite reliability: The internal consistency for the indicators of a reflective construct can be assessed by calculating their composite reliability (Werts *et al.* 1974). The formula for calculating composite reliability is:

$$(\sum L_i)^2 / ((\sum L_i)^2 + \sum Var(E_i))$$

where L_i is component loading to an indicator and E_i is the error variance where E_i is calculated as $1 - L_i^2$

The minimal accepted level of composite reliability is .70 (Hatcher 2005). The composite reliabilities for the reflective constructs in the model exceeded .70 as shown in Table 44.

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Average variance extracted: Fornell and Larcker (1981) developed an index to measure the average variance extracted (AVE) from a construct's indicators relative to the amount due to measurement error. The formula for AVE is:

$$\text{Average Variance Extracted} = \sum L_i^2 / (\sum L_i^2 + \sum \text{var}(E_i))$$

where L_i is component loading to an indicator and E_i is the error variance where E_i is calculated as $1 - L_i^2$

Because each squared factor loading for an indicator is equivalent to that indicator's reliability, this is equivalent to simply summing the reliabilities for a given factor's reliabilities (Hatcher 2005). Fornell and Larker (1981) suggest that it is desirable that constructs exhibit AVEs of .50 or larger, because estimates less than .50 indicate that variance due to error is larger than the variance captured by the factor. As can be seen in table 3, the AVEs for all the reflective constructs in our hypothesized model are greater than 0.50

Table 4: Composite Reliabilities and AVEs

Construct	Composite Reliability	AVE
Supervisory distributive justice	0.96	0.93
Supervisory procedural justice	0.98	0.96
Supervisory interpersonal justice	0.97	0.94
Supervisory informational justice	0.84	0.73
Organizational alternatives	0.86	0.76
Job satisfaction	0.97	0.96
Turnover intentions	0.98	0.97

Convergent validity: Convergent validity refers to the degree to which two or more attempts to measure the same construct through maximally different methods are in agreement (Bagozzi 1982). Convergent validity is inferred when factor AVEs exceed 0.5 and when measurement items load higher on their latent factor than on other factors (Chin 1998). The standardized loading for each item on its latent factor should exceed

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.707. Also, t values of the item loadings should be greater than 1.96 at p=.05 (Hatcher 2005). As can be seen in Table 4, the item to factor loadings were significant and greater than 0.707 for all the reflective measures.

Table 5: Loadings for the Reflective Constructs

Latent construct	Indicators	Loadings	T statistics
Supervisory Distributive Justice	SDJ1	0.95	12.46***
	SDJ2	0.97	13.20***
Supervisory Procedural Justice	SPJ1	0.98	113.98***
	SPJ2	0.97	104.52***
Supervisory Interpersonal Justice	SIPJ1	0.97	10.21***
	SIPJ2	0.97	14.37***
Supervisory Informational Justice	SIFJ1	0.84	4.93***
	SIFJ2	0.73	3.12**
Organizational Alternatives	OrgAlt1	0.76	2.88**
	OrgAlt2	0.98	4.52***
Job Satisfaction	JS1	0.99	385.58***
	JS2	0.97	84.44***
Turnover intentions	TI1	0.98	149.94***
	TI2	0.99	420.16***

*** p<.001   ** p<.01

Discriminant validity: When partial least squares (PLS) is utilized as the analytical tool, it is a standard practice to conduct a discriminant validity analysis by comparing average variance extracted (AVE) statistics with the cross correlations of other measures in the instrument (Gefen *et al.* 2000). If the square root of each construct's AVE is larger than correlations with other constructs in its row and column, then there is prima facie evidence for discriminant validity (Fornell and Larker 1981). In Tables 5 below, the diagonals represent the square root of the AVEs which is greater than the correlation between the constructs. This shows good discriminant validity of the reflective constructs in this study.

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Table 6: Discriminant validities for the reflective constructs

	1	2	3	4	5	6	7	8
1. Supervisory Distributive Justice	**0.96**							
2. Supervisory Procedural Justice	0.79	**0.98**						
3. Supervisory Interpersonal Justice	0.68	0.75	**0.97**					
4. Supervisory Informational Justice	0.52	0.71	0.53	**0.85**				
5. Organizational Alternatives	-0.19	-0.24	-0.43	-0.28	**0.87**			
6. Job Satisfaction	0.54	0.49	0.33	0.38	0.01	**0.98**		
7. Turnover Intentions	-0.28	-0.46	-0.32	-0.34	-0.01	-0.63	**0.98**	
8. Turnover Behavior	0.05	-0.09	0.00	-0.05	0.07	-0.06	0.41	**1.00**

Formative constructs: The weights indicate the relative importance of the indicators in defining the formative constructs. For formative indicators, which have a regression-like relationship with the latent construct, only the weights (and not the loadings) need to be considered in assessing the measurement model (Chin 1998a). While no minimum threshold values for indicator weights have been established, the statistical significance of the weights can be used to determine the relative importance of the indicators in forming a latent variable. In our case, the indicator weights for some formative constructs are not significant but we chose to retain them to preserve the content validity of the construct (Petter *et al.* 2007). For example, though JA3 (testing) has a statistically insignificant weight but it covers an essential part of the software activity an IS professional engages in.

We used the method used by Loch *et al.* (2003) to validate the formative instrument- we multiplied the individual item Likert-scale scores by their individual PLS weights and summed them up for each construct, a formulation suggested by Bagozzi and Fornell (1982). In effect, then, we created a weighted score for each indicator and a composite score for each formative construct. Thus, using these values, we were able to

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run inter-item (that is, inter-measure) correlations as well as item-to-construct correlations. Campbell and Fiske (1959) argue that in a matrix similar to this, measures thought to be part of the same construct should correlate at a significant level with each other. By creating a composite construct value, Loch *et al.* (2003) extended this logic by arguing that the individual measures should also correlate significantly with their construct value. The validation of the three formative constructs is described below.

Social Norms: It is formed by two indicators: one representing family pressure (SN1) and one representing pressure from friends and peers (SN2). The indicator weights for SN1 and SN2 are listed in Table 6 below.

Table 7: Indicator Weights for Social Norms

Indicator	Weights	T statistics
SN1 (family pressure)	0.33	0.73
SN2 (pressure from friends and peers)	0.72	2.49

We created weighted indicators for SN1 and SN2 by multiplying the weights (SN1=0.33; SN2=0.72) with the individual Likert-scale scores for SN1 and SN2. Also, we created a composite score by adding the weighted SN1 and SN2. As suggested by Diamantopoulos and Winklhofer (2001), this composite score is the global item summarizing the construct of social norms. We ran correlations between weighted SN1, weighted SN2 and the composite score. The correlations are summed below in Table 7.

Table 8: Correlations for Social Norms

		Weighted SN1	Weighted SN2	Composite Score
Weighted SN1	Pearson Correlation	1	.19	.57[**]
Weighted SN2	Pearson Correlation	.19	1	.91[**]
Composite Score	Pearson Correlation	.57[**]	.91[**]	1

**. Correlation is significant at the 0.01 level (2-tailed).

As can be seen, the correlations between weighted SN1 and composite score is statistically significant (0.57) at 0.01 level and so is the correlation between weighted SN2 and composite score (.91). This shows that the items correlate significantly to their

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underlying construct. As far as the correlations between the indicators (measures) of the formative construct are concerned, there is no requirement that the measures of the construct be highly correlated (Rossiter 2002). The correlation between weighted SN1 and weighted SN2 is not statistically significant as p=0.01 level, however it is statistically significant (.197) at 0.10 level. This is persuasive argument for construct validity of the scale.

Low Level Tasks (not requiring client interaction): This formative construct is formed by three indicators- JA2 (Coding), JA3 (testing) and JA4 (project management). The weights and t statistics for the indicators are given below in Table 8. Items JA2 and JA4 are statistically significant at $p<0.01$. JA3 is not statistically significant, but we decided not to remove it as it measures an important part of the software activity- testing. This is consistent with the approach used by Ravichandran and Rai (2001) who chose to keep the items even with statistically insignificant weights when they were important to preserve the content validity of the constructs. Also Petter *et al.* (2007) suggest using discretion while removing items with statistically insignificant weights. Some researchers advocate that items with statistically insignificant weights should be retained if they are important for the content validity of the construct (Bollen and Lennox 1991).

Table 9: Indicator Weights for Low Level Tasks

Indicator	Weights	T- statistics
JA2 (Coding)	0.64	4.00
JA3 (Testing)	0.08	0.16
JA4 (Project Management)	-0.50	3.14

Also, we used the same approach that we used for social norms that has been suggested by Loch *et al.* (2003). We multiplied the respective weights of the indicator with the individual values of the indicator and got the weighted indicator values. And then we added the weighted measures (weighted JA2, JA3 and JA4) to get a composite which reflects the essence of the construct. When we ran inter item (here the weighted item measures) and item to construct (here the composite) correlations, we got the following results

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Table 10: Correlations of Low Level Tasks

		Weighted JA2	Weighted JA3	Weighted JA4	Composite Score
Weighted JA2	Pearson Correlation	1	-.21	-.31[**]	.71[**]
Weighted JA3	Pearson Correlation	-.21	1	-.31[**]	-.33[**]
Weighted JA4	Pearson Correlation	-.31[**]	-.31[**]	1	.43[**]
Composite Score	Pearson Correlation	.71[**]	-.33[**]	.43[**]	1

**. Correlation is significant at the 0.01 level (2-tailed).

The correlations between the composite score and the individual weighted measures are all statistically significant- this reflects that the items correlate to the underlying construct significantly. As far as inter item correlations is concerned, it is statistically significant between weighted JA2 and weighted JA4, and between weighted JA3 and JA4. This is good evidence of construct validity of the scale.

Client facing tasks: This formative construct is formed by three indicators: JA6 (maintenance and production support), JA1 (analysis and design) and JA5 (client interaction). The weights and t-statistics for the indicators are given below in Table 10. Only JA1 is statistically significant here. However, JA6 (maintenance and production support) and JA5 (client interaction) items constitute towards the content of the formative construct of job attributes so we decided to retain them (Bollen and Lennox 1991). Also, since we are dealing with a newly constructed scale we chose not to refine the measurement model by removing items with statistically insignificant weights (Ravichandaran and Rai 2000).

Table 11: Indicator Weights for Client Facing Tasks

Indicator	Weights	T statistics
JA6 (Maintenance and Production Support)	0.08	0.89
JA1 (Analysis and Design)	0.56	2.88
JA5 (Client Interaction)	0.11	0.35

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Next, we multiplied the respective weights of the indicator with the individual values of the indicator and got the weighted indicator values. And after that we added the weighted measures (weighted JA2, JA3 and JA4) to get a composite which reflects the essence of the construct. When we ran inter item (here the weighted item measures) and item to construct (here the composite) correlations, we got the following results

Table 12: Correlations for Client Facing Tasks

		Weighted JA6	Weighted JA1	Weighted JA5	Composite Score
Weighted JA6	Pearson Correlation	1	-.20	-.13	-.09
Weighted JA1	Pearson Correlation	-.20	1	.055	.98[**]
Weighted JA5	Pearson Correlation	-.13	.05	1	.18
Composite Score	Pearson Correlation	-.09	.98[**]	.18	1

**. Correlation is significant at the 0.01 level (2-tailed).

As far as the correlation between weighted indicators and composite score is concerned, it is statistically significant for JA1 only. It is .98 at p<.01. As far as inter item correlations is concerned, they are all statistically insignificant- between JA6 and JA1, JA2 and JA5 and JA5 and JA6. As the items may not be necessarily correlated to one another for formative constructs, we chose not to refine the scale by removing any items.

5.2.2 Structural Analysis:
The PLS bootstrapping technique with 1000 samples was used to assess the significance of model paths. The control variables, i.e., age, gender, IT experience, marital status, place, and type of company were entered as predictors of turnover intentions.

In PLS analysis, the predictive power of the structural model is assessed by the R^2 values of the endogenous constructs. R^2 values should be interpreted in the same manner as those obtained from multiple regression analysis; they indicate the amount of variance in the construct that is explained by the model (Barclay *et al.* 1995; Chin 1998b). In the model tested, 13% of variance in job satisfaction, 100% of the variance in turnover intentions and 29% of the variance turnover behavior is explained by the full model shown in Figure 2.

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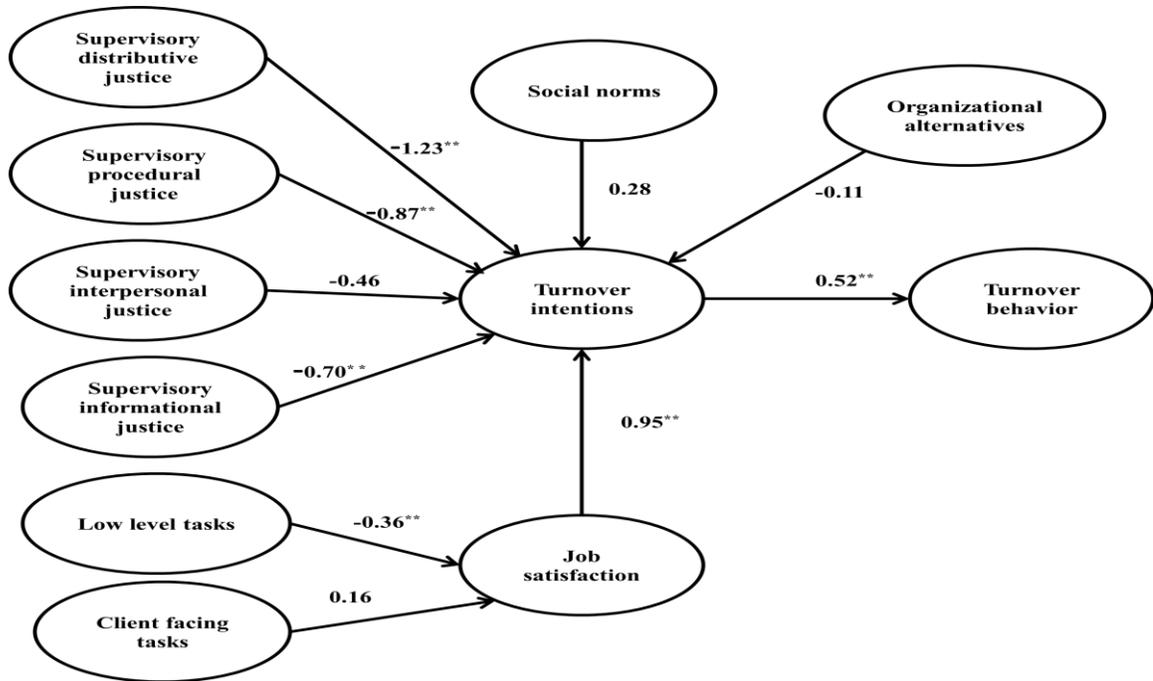
Figure 2. Structural Model

To test hypothesis 2 (overall organizational justice and turnover intentions), hierarchical component approach described by Lohmoller (1989) for second-order factors was used. In this approach, the second-order factor is measured using the indicators for each of the first-order factors. Hierarchical component approach is the easiest way to model second-order factors in PLS and works best when there are equal number of indicators for each of the first-order factors, which was the case in this study (Chin 2001; Staples and Seddon 2004). Each of the first-order organizational justice dimensions was measured using two indicators. We modeled organizational justice as a second-order latent factor with 8 indicators- two indicators from each from the four justice dimensions respectively. The individual paths from each justice dimension to turnover intentions were eliminated and we added one single path going from overall organizational justice to turnover intentions. When we ran the PLS analysis on this model, the hypothesized negative relationship between overall organizational justice and turnover intentions is supported. The path coefficients from overall organizational justice to turnover intentions is statistically significant at $p<0.05$ with a value of -0.82, and t=2.20. Figure 3 shows the results when we included second-order organizational justice in the model.

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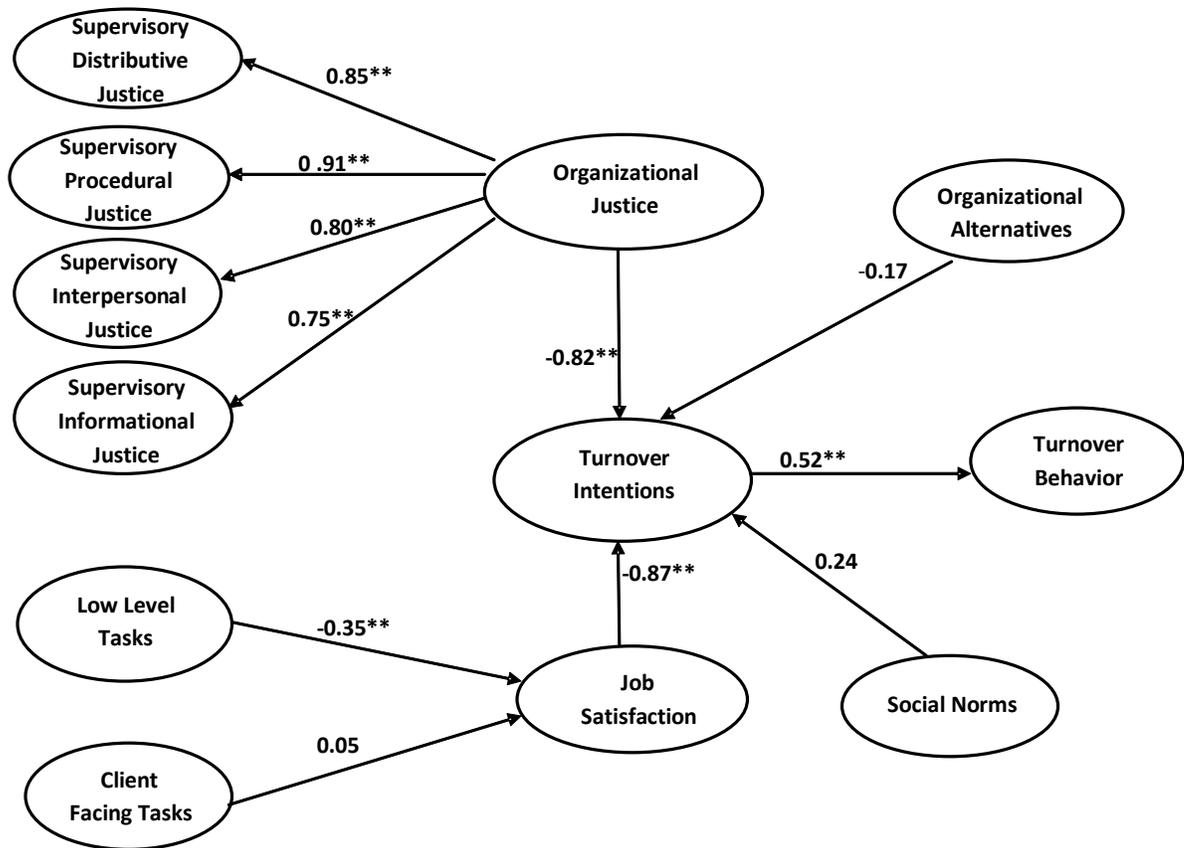
** p<0.05

Figure 3. Structural Model with Second-order Organizational Justice

Table 12 contains a summary of the hypotheses tested, the path coefficients obtained from the PLS analysis, and the t-values for each path obtained through bootstrapping. At the 5% confidence interval, the statistically significant paths were found to support Hypotheses 1, 2, 2a, 2b, 2d, 4b, and 6. As far as control variables are concerned, we found age and IT experience to be statistically significant. Also, in relation to type of firms as control variable, Indian IT service providers and IT product companies were found to be statistically significant. Table *13* summarizes the results of control variables.

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Table 13: Results of Hypotheses Tested

Hypothesis	Supported or not	T statistics	Path coefficient
1: Job satisfaction is negatively related to turnover intentions	**Supported**	**4.13**	**-0.95**
2: Organizational justice is negatively related to turnover intentions.	**Supported**	**2.20**	**-0.82**
2a: Supervisory distributive justice is negatively related to turnover intentions	**Supported**	**2.70**	**-1.23**
2b: Supervisory procedural justice is negatively related to turnover intentions	**Supported**	**3.20**	**-0.87**
2c: Supervisory interpersonal justice is negatively related to turnover intentions.	Not supported	1.61	-0.46
2d: Supervisory informational justice is negatively related to turnover intentions	**Supported**	**2.19**	**-0.70**
3: Social norms is positively related to turnover intentions	Not supported	1.26	0.28
4a: Client facing tasks are positively related to job satisfaction	Not supported	0.02	0.16
4b: Low level tasks that don't involve client interaction are negatively related to job satisfaction	**Supported**	**3.64**	**-0.36**
5: Organizational alternatives is positively related to turnover intentions	Not supported	0.43	-0.11
6: Turnover intentions is positively related to turnover behavior	**Supported**	**5.68.**	**.52**

Table 14: Control variables

Control variable	Statistical Significance $p < 0.05$	T statistics	Path coefficient
Marital status	Not significant	1.74	-0.40
Gender	Not significant	0.23	-0.05
Age	**Significant**	**2.39**	**-0.64**
IT experience	**Significant**	**3.21**	**-0.65**
Type of company: • Non Indian service provider • Indian service provider • IT product company • Non-IT company	Not significant **Significant** **Significant** Not significant	1.51 **2.17** **3.04** 1.15	-0.33 **0.50** **-0.51** 0.33
Place: Tier I companies	Not significant	1.56	.37

5.3 *Discussion of quantitative analysis:*

The model has reasonable explanatory power with the data validating seven out of eleven hypotheses. The results are discussed below:

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Organizational justice and Turnover Intentions. In our study, supervisory distributive, procedural and informative justices were significantly and negatively related to turnover intentions amongst Indian IS professionals. In the model tested, a path coefficient of -1.23 was found between supervisory distributive justice and turnover intentions. Path coefficients greater than 1 indicate multi-collinearity issues. Procedural and distributive justice constructs are believed to be highly correlated (Colquitt and Shaw 2005) so we had this issue in our model. Also, informational justice as an antecedent was found to be statistically significant with a path coefficient of -0.70. This implies that future research should pay attention to informational justice as a predictor of turnover intentions, and not treat it as part of interpersonal justice. Finally, the overall second-order justice was also found to be significantly and negatively related to turnover intentions with a path coefficient of -0.82. More research should focus on modeling and measuring the effect of second order latent construct of organizational justice.

Job satisfaction and turnover intentions: Consistent with the literature of IS turnover that job satisfaction is the most commonly studied antecedent of turnover intentions, we found that the relationship between job satisfaction and turnover intentions was statistically significant with a path coefficient of -0.95. We did not test if job satisfaction mediates the relationship between first order supervisory justice dimensions and turnover intentions, or between second-order organizational justice and turnover intentions. However, future research should see if that is the case since the meta analysis by Joseph *et al.* (2007) suggests that job satisfaction is one of the most proximal antecedents of turnover intentions.

Turnover intentions and turnover behavior: Turnover intentions was found to be positively related to turnover behavior explaining 28% of the variance in turnover behavior. We measured turnover behavior longitudinally. The respondents were contacted second time after an interval of 10 months to gauge actual turnover behavior and compare it with their turnover intentions measured during the first interview. This result behooves researchers not to use turnover intentions as a surrogate for turnover behavior as the correlation, though statistically significant, is not very high.

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Job attributes and job satisfaction: We found support for the claims that a major source of dissatisfaction for Indian IS professionals stems from the kind of work they are involved in. We observed that low level tasks not involving client interaction- primarily coding, testing and project management tasks were negatively related to job satisfaction. These low level tasks explained 13% of the variance in job satisfaction. Also, though not statistically significant, we saw that client facing tasks (client interaction, system analysis and design, and production support and maintenance tasks) had a positive path coefficient with job satisfaction. More research is warranted into looking at what kind of tasks is positively related to job satisfaction amongst Indian IS professionals.

Social norms and turnover intentions: Social norms as an antecedent to turnover intentions was found to be statistically insignificant. Since it is a formative construct made up of uncorrelated items- peer pressure, and family pressure, we tested to see if any of these items were significantly related to turnover intentions. For this, we added direct two paths - 1. from peer pressure, and 2. family pressure to turnover intentions and found that both peer pressure and family pressure were still statistically insignificant.

Organizational alternatives and turnover intentions: Also, we did not find support for organizational alternatives as a significant predictor of turnover intentions. This corroborates the findings of our previous study on Indian IS professionals, where we found that organizational alternatives were not significantly related to turnover intentions (Lacity *et al.* 2008). However, this is contrary to the findings in Western countries where organizational alternatives are significantly related to turnover intentions (Thatcher *et al.* 2002). This is an example of how findings can't be generalized across nations and cultures. One reason why organizational alternatives may not be significant drivers of turnover intentions could be because of the huge demand and supply gap of IT professionals in India (Acharya and Mahanty 2008). This means that almost all IT professionals perceive that there is demand for them outside their current organization. From the interviews, we found it to be true. Irrespective of age, gender and years of experience, most respondent s said they would not find it too difficult to find a similar job

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outside their current companies. Since there is no variability across respondents, the hypothesis was not supported.

Age and IT experience and turnover intentions: As far as control variables are concerned, we found age to be negatively related to turnover intentions. This finding was supported when we found IT experience to be negatively related to turnover intentions also. This implies that as Indian IS professionals grow older and gain more IT experience, their intentions to quit decreases.

Type of firm and turnover intentions: An interesting finding from the study was that one of the control variables- the type of company was significant for some types of companies. Studies on turnover have not paid attention to the type of company an IT professional is working in as a potential determinant of turnover intentions. Type of IT company can be a significant predictor of turnover intentions as we found from this study. We had four different types of companies in our study: Indian IT service provider, non-Indian IT service provider, IT product company and non-IT company outsourcing their IT work. We controlled for "type of company" in our analysis. What we found was that two types of companies had statistically significant relationship with turnover intentions. Type 1- Indian IT service providers were positively related to turnover intentions with a path coefficient of 0.50 implying higher turnover intentions (than the rest) for employees working with Indian IT companies. On the other hand, type 2- IT product companies had a statistically significant negative relationship with turnover intentions with a path coefficient of -0.51. This means that employees with IT product companies have lesser turnover intentions (than the rest of the respondents working in other types of companies). Also, as far as non-Indian IT service providers were concerned, the path coefficient was negative but not statistically significant. Also, though statistically not significant, non-IT companies outsourcing their IT work to India had positive path coefficient implying higher turnover intentions (than product companies but lower than Indian IT service providers) for employees working in such companies. The type of company implies the kind of projects the employees in such companies work on- Indian IT service providers are known to be working predominantly on maintenance

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projects with little development work for their employees (Upadhya and Vasavi, 2006). On the other hand, IT product companies work on new product development projects which are more exciting and challenging for their employees. Future research should explore in detail how type of company affects turnover intentions. Some sample quotes from respondents working in different kinds of IT companies is presented below We found how employees felt about the kind of projects handled by their companies. Each respondent below is from a different type of IT company and each one has a different perspective about work.

- **IT product company**: Respondent P26 is a 28 year old male Indian IS professional working with a IT product company. He is very satisfied with his work and has low intentions to leave. He says, "*We have vendors. So every project has a vendor. Whatever task that is not challenging and not require technical expertise, something which is repetitive and manual in nature- we identify such tasks and set up a process and hand it to vendor. So vendors are hired from companies like Infosys, TCS and HCL for tasks that are repetitive that anyone can do. They are physically located in our campus, they sit with us... I decide that out of 10 tasks 5 will be done by my team of XXX (company) employees and the other 5 by vendor team. This classification I do is based on the nature of the task and how complex it is. This makes sure that your work is exciting because the person loses interest in his job and gets frustrated only when he is doing repetitive things in his job. With this we eliminate that, and XXX makes sure that its full time employees get good, exciting and challenging work.*

- **Indian IT Service Provider**: Respondent P61 is a 31 year old male Indian IS professional working as a team lead with an Indian IT service provider. He has low job satisfaction and high intentions to leave. He says, "*I can say like it's not the same what I was expecting in beginning of my career. For this I think I will give the responsibility to my company. In India most of the companies are providing services, S/W development happens very less. All the work is coming as a maintenance project; in the maintenance project it's a different kind of environment, different kind of work experience*".

- **Non-IT company (captive center):** Respondent P35 is a 30 year old female Indian IS professional working as an assistant analyst with a Non-IT company. She is quite happy with her work and has low intentions to leave and says, "*One thing is, we at XXX India, we work for clients that would be Fidelity in the USA so we are captive unit. So we don't have like completely new client. So it's more in terms of a partner kind of a relationship as opposed to a service oriented vendor relationship...I think that in service based organization I feel the delivery aspect you work on- it has extremely hard deadlines. Sometimes the estimates are extreme, tight, rigid, day after you have to finish the work. As you always trying to under promise and over deliver with the client. Whereas with the partner you can discuss, negotiate better and explain why the requirement is going to take one week. So I feel the equation between service providers compared to captive unit is completely different, the partners are more open and they treat you as equal.*

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6. QUALITATIVE ANALYSIS

This section describes how we used content analysis to show how some constructs not part of the initial model emerged from the data, and why some hypotheses were not supported. Finally, we propose a revised model of turnover intentions especially relevant for Indian IS professionals based on findings from the data.

6.1. Emerging constructs:

We used qualitative analysis to gain deeper insights into factors affecting turnover intentions and behaviors of Indian IS professionals. This included looking into *a priori* constructs that were proposed in the model, as well looking for constructs that emerged from the data. Upon a closer examination of the interviews, we found three strong themes or emergent categories (constructs) from the interviews: **stress, work life balance/conflict (WLB/WLC) and organizational satisfaction**. Stress and work-life conflict are established as significant predictors of turnover intentions of IS professionals in studies conducted in Western countries, but have been ignored in Indian turnover studies. Therefore, we believe it is imperative for researchers and practitioners alike, to look into these variables when investigating turnover of Indian IS professionals.

Though the interviewees were not asked directly about these constructs, they often spoke about these constructs in relation to job satisfaction, pressures from family and turnover intentions. Some spoke about them when they were prompted to talk about anything else that was missed out during the interview. We found 28 Indian IS professionals talk about stress (including 4 who spoke about lack of it) and 25 about work life balance/conflict (WLB/WLC) without us asking any direct questions related to these two constructs. There were 28 Indian IS professionals who spoke about organizational satisfaction.

To guide how the constructs fit into the model of turnover, we went back to the literature for insights. The extant literature suggests the following:

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1. Stress/work exhaustion is an important antecedent to turnover intentions (Moore 2000) and job satisfaction (Rutner *et al.* 2008) amongst IS professionals.

2. As far as WLB is concerned, there have been studies providing empirical support that WLC/WLB is an important predictor of job satisfaction (Netemeyer *et al.* 1996; Boles *et al.*2001; Haar and Spell 2003; Kossek and Ozeki 1998) and stress (Judge and Colquitt 2000; Ahuja *et al.* 2007).

3. Organizational satisfaction has been linked to turnover intentions (Shore and Tetrick 1991; Kittiruengcharm 1997; Szamosi 2006). Also, Kittiruengcharm's path analysis of the survey data found that job satisfaction contributed to organizational satisfaction, and vice versa.

We used extant literature to guide us in understanding the relationship between these emerging constructs and dependent variables. Then we went to the interview transcrips to see if we our data exhibited a similar pattern of relationships as is suggested in the literature. To do that, we mapped the emerging constructs to the dependent variables of our study. Stress was mapped onto the dependents variables of job satisfaction and turnover intentions. WLC was mapped onto stress and job satisfaction (as suggested by literature). Organizational satisfaction was mapped onto job satisfaction and turnover intentions consistent with the findings from the literature.

To classify the dependent variables- job satisfaction and turnover intentions as high and low, we used the rating (on 5-point Likert scale) given by the respondents and used the median cut off as the mid point. For job satisfaction (with a median of 3.5), any rating below or equal to 3.5 was classified as a 'low' and anything above it was classified as a 'high'. For turnover intentions (with a median of 1.5), any rating below or equal to 1.5 was a 'low', and anything above it was a 'high'.

For classifying the emerging constructs on ordinal scale of high and low, we looked for key words in the text to guide us. For stress, respondents mostly mentioned words like "very stressed", "quite stressful", "pressured", "lot of anxiety and tensions", "mental pressure" to describe their high levels of stress, and we used such words as guidelines to classify them as high (stress). Also, respondents used words like "laid

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back", "low stress" and "relax and take it easy" to describe the low levels of stress that helped us categorize them as low (stress). The table of the quotes from various respondents is attached in Appendix IV.

For work-life conflict, we looked for words like "personal life takes a toll", "no life outside work", "hardly any time with family" "family/wife complains" , "family is left behind" , "being a woman its hard to manage" and "compromise with your personal life" and more such words to classify the text as high (WLC). Words like "good work life balance", "family is happy" , "flexible" , "not working on weekends and not stretching my time" and more such words to classify the text as low (WLC). Table 18 below gives examples of quotes that were classified "high" and "low". The quotes related to WLC are attached in Appendix V.

For organizational satisfaction, we looked for words like "good work culture", "work environment is good", "satisfied/happy with my company", "excellent/good company", "best employer" and more such words to classify the text as high (organizational satisfaction). Words like "not open work culture" etc to classify the text as low (organizational satisfaction). For details on the quotes, please refer to Appendix VI.

Table 15: Examples of coding the emerging constructs

Emerging constructs	High	Low
Stress	Let's say they want it to be completed by March 31st, they want it by March 31st no matter what happens. But they don't know the requirements. At the final stages, they just say they need this and this. The **timeline is very limited** and we end up putting a lot of hours to finish the work. It does get **stressful and takes a toll on personal life**.	After I started working for XXX (company name), I have **less stress** because of the way the relationship is between our partners in the U.S. My previous job was full of tension and trying to match up to unreasonable deadlines. Obviously you cant be terribly lax and say that you will take 3 months, but **it's a little more flexible**.
	Second thing is there is a lot of stress. Since it is not a big company, small company has limited number of resources. There are 40 resources between Hyderabad and US. We are	Actually XXX (company name) is a good company **if you want to just relax and take it easy** and you just want a job in hand. They have very good employee policies and concerns, I like it very much in that way.

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	always **overloaded with work**. There is lot of chaos and confusion….. It's a very different kind of work environment… I think it does **create a lot of stress**. Your absence has to be planned. If you are sick, that has to be planned, kind of. I always have to prepare someone	
Work life Conflict	Talking about clients, the only thing is I have to take calls late in the night. I am on the phone with clients almost everyday from 10-11 in the night for a few hours. **That disrupts your personal life**	Most important thing is flexibility at work, as I mentioned my family is not concerned when I am working from home. XXX (company name) follows excellent culture they are real broad minded they don't mind if you are working from home, contribute from home , take a day off. What else do we require from life, especially living in country like India & staying with your family. One of the best, my wife is homemaker, so she is quite happy when I am at home and working and contributing, it's not like I am at home and not working.
	On an average I work 13-14 hours each day. **Work life balance** has been very difficult. My family has been adjusting and accommodating. Even when I am working from home its bad. In fact from home I spend 15 hours a day. Family life has to be sacrificed most of the times	I think this is a perfect match of **work life balance** and flexibility that I need. I am working mom, so this is the best thing that I could have… I think XXX (company name) that way is a best employer because we have the best work life flexibility that we enjoy in XXX (company name). It enables us to manage things well- as a mom of 2 kids I get time to manage my family and kids well and at the same time also manage the work, nothing gets between the work. It's a very good mix of both.
Organizational satisfaction	**This is a very good company to work with**. I want to be here for some time and learn as much as I can. **The work culture is very good**, the team is good and I am working on projects that people are using every day.	When we tell them our concerns, we get same answers time and again which de-motivates us from raising the issue again for they are never resolved. So there is no one-on-one communication focusing on employees concerns. It's the way the company is. **The work culture is not open and it demotivates you**. .. What I consider is that any employee who works in the industry he should be satisfied, one with the work, then with compensation also given

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		certain recognition. I haven't seen any of this in XXX (company name).

After we mapped the emerging constructs to the dependent variables, we found a pattern that was similar to the one suggested in the literature. The pattern was as follows:

1. As far as the relationship between stress and turnover intentions is concerned, we found 60% (17 out of the 28 respondents) having a **positive relationship between stress and turnover intentions** that is consistent with the literature.
2. Also, 68% (19 out of 28) of the respondents had **a negative relationship between stress and job satisfaction** that is consistent with the literature.
3. For WLC, we found that 72% (18 out of 25) of the respondents exhibited a pattern of **negative relationship between WLC and job satisfaction** consistent with the findings of the literature on WLC.
4. Further, 60% (15 out of 25) of the respondents demonstrated a pattern of **positive relationship between WLC and stress** similar to what is found in the literature of stress and WLC.
5. As far as the relationship between organizational satisfaction and job satisfaction is concerned, **we found 64% (18 out of 28) exhibiting a positive relationship between organizational satisfaction and job satisfaction**, consistent with the literature.
6. Also, the relationship between **organizational satisfaction and turnover intentions was found to be negative for 82% (23 out of 28) of the respondents** similar to what is suggested in the literature.

Based on the nomological network of the emerging constructs as well as the predominant patterns of relationships (between the emerging constructs and the dependent variables) exhibited by the data, we propose additional constructs to be included in the model of turnover intentions of Indian IS professionals.

6.1.1 Stress

Two hypotheses related to stress are proposed for future research linking stress with turnover intentions and job satisfaction of Indian IS professionals respectively.

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Include stress/work exhaustion as an antecedent to turnover intentions amongst Indian IS professionals:

Stress can generally be defined as an aversive or unpleasant emotional and physiological state resulting from adverse work experiences, particularly experiences that are uncertain or outside the employee's control (Beehr & Bhagat 1985; Hart and Cooper 2001; Judge and Colquitt 2004). In our study, stress emerged as a strong theme across the interviews with 28 (37% of the total sample) respondents talking about stress in the context of work. Though there were no direct questions about stress (See Interview Guide- Appendix II), it surfaced quite often when Indian IS professionals spoke about their work, job satisfaction and intentions to leave during their interviews.

In all, there were 23 people who spoke about high levels of stress at work, and 5 who spoke about lack of stress at work. We did not ask questions about stress directly, yet it became a prominent theme during the interviews. The interviews also shed light on the reasons why Indian IS professionals were stressed at work.

The prime reason for stress that was commonly cited was work-life conflict. Seven people spoke about work life conflict creating a lot of stress for them, and 3 spoke about how work life balance helped them not get too stressed. This was not surprising since WLC has been shown to be an antecedent to stress amongst IS professionals (Ahuja *et al.* 2007). Some sample quotes are given below:

- *Respondent P29 says, "I get time to manage my family and kids well and at the same time also manage the work, nothing gets between the work. It's a very good mix of both. That makes me enjoy my work and **not get stressed and pressured at work too much.***
- *Respondent P30 says, "I cant spend time with my family, the kind of work load I have to deal with is **stressful and very exhausting**. In the starting of the project I had to deal with 1-2 clients who were not very courteous.*

Consistent with the findings of Moore (2000), **work overload** was one of the prime reasons for stress amongst Indian IS professionals. Eight respondents talked about it. Some respondents spoke about work overload in terms of the extra hours they had to put in to complete the work, additional responsibilities that one had to deal with, extra work due to lack of resources and/or inefficient resources, insufficient training and knowledge management sessions and hard timelines. Below are some representative quotes for how work overload emerged as second biggest reason for stress.

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- *P64 says, "Second thing is there is a **lot of stress**. Since it is not a big company, small company has limited number of resources. There are 40 resources between Hyderabad and US. We are always **overloaded with work**. There is lot of chaos and confusion.*
- *P15 says, "Yes at times it seems to be some **work pressure** because for example my project has got 24 team members, from that I work with 4 members. I have told you I joined 1 year 8 months ago in XXX (company name) and between 1 year and 8 months 2 of my team leads have left the organization. So the whole pressure came on me.*

Client requirements and demands also surfaced as a reason for stress amongst Indian IS professionals. Three people spoke about how trying to keep the clients satisfied was stressful for them. The reasons why clients created stress included clients not knowing what they wanted, some being very demanding and rude, and setting high expectations. Below is a representative quote:

- *P22 says, "They expect us to do a lot. That's one part and the client they themselves don't know what they want but they are sure about the deadlines. Lets say they want it to be completed by March 31st, they want it by March 31st no matter what happens. But they don't know the requirements. At the final stages, they just say they need this and this. The **timeline is very limited** and we end up putting a lot of hours to finish the work. It does get **stressful and takes a toll on personal life**.*

Some other reasons included the phase of SDLC one was involved in. For example, 3 people mentioned being highly stressed during project releases, or during production and support calls. A quote below is representative of this:

- *P60 says, "Last two three months I have been in production support tasks also and sometimes I had to work on weekends too whenever there was a high priority call. So that was quite difficult, specially being a woman to manage that with home. It was very stressful but you cant even bill them beyond certain hours but the company expects you to slog on till the work gets done*

The time difference and having to coordinate with geographically dispersed teams created stress for some people. Two people mentioned how it added to their work and was frustrating. Below is a representative quote:

- *P32 says, "The main reason is that we have a time difference and we cannot setup regular calls on a regular basis. So I try and stress so that we have more calls on a regular basis, so that I am informed about things, I also don't want all communication through email. Lot of decisions are taken during the US hours and I am not informed about them. I do miss out on a lot of information. Its **stressful** to deal with miscommunication and information lost due to communication happening in different times… It's just the transition from one time zone to other is not handed over in correct manner. It's a **little frustrating and creates stress** but its part and parcel of your job.*

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Finally, some other factors causing stress were related to the politics in the company, uncertainties that the company was going through, and issues of promotion. Below is a representative quote:

- *P39 says, "I will say 5 – almost likely to leave because of what I told you before- the state of affairs in XXX (company name) being the biggest reason. Because of the upheaval in XXX (company name), which you must have heard in the media, we have lost projects and reputation in the market. Everyone is **stressed** about whether we will have any job tomorrow. Instead of them asking us to go, its better we look for other alternatives.*

Stress amongst IS professionals is not a new phenomenon. There have been some studies on stress amongst Indian IS professionals; however, they have not looked into the consequences of stress and work exhaustion on intentions to quit. Mohsin (2004) studied the intensity of role stress among women IS professionals in India. With a sample of 264 women IS professionals working in India, the study found resource inadequacy as the most potent role stressor, followed by role overload and personal inadequacy. Also, the study found married women to be more stressed than unmarried women. In an interpretive study, Dhar and Dhar (2010) examined the levels of job stress, their impact on the IT professionals. However, this exploratory study was based on a sample of 26 Indian IS professionals and they did not explore in detail the effects of stress on work behaviors and attitudes like turnover intentions. Bhattacharya and Basu (2007) studied distress, wellness and organizational role stress amongst IT professionals in a major Indian city Kolkata. Results of the study revealed that women experienced greater wellness and older personnel experienced more distress and that distress could not be predicted from the life events and coping resources taken together. None of these studies have looked at stress as an antecedent to turnover intentions or job satisfaction amongst Indian IS professionals.

In the extant literature of IS personnel, stress/work exhaustion is shown to have a negative relationship with turnover intentions amongst Western IS professionals. In her pioneering work, Moore (2000) established the critical link between work exhaustion (typically studied in management and psychology research literature) and turnover intentions amongst IT professionals. The study provided empirical evidence that exhausted IT professionals had higher intentions to leave. Also, this finding was further

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validated by Ahuja *et al.* (2007) when they found that work exhaustion was positively related to turnover intentions amongst IT professionals. Thus the literature provides strong support that stress/work exhaustion is positively related to turnover intentions.

In our study, the relationship between stress and turnover intentions followed similar positive pattern with 60% (17 out of 28) of the respondents. Thirteen people with high stress had high intentions to leave and 4 people with low stress had low intentions to leave. Based on the pattern of responses of the interviewees and the extant literature on the nomological network of stress, we believe that stress/work exhaustion needs to be systematically tested as antecedent to turnover intentions amongst Indian IS professionals. This leads us to the following proposition that needs to be tested in future research:

Hypothesis1: Stress is positively related to turnover intentions amongst Indian IS professionals.

Include stress as an antecedent to job satisfaction amongst Indian IS professionals:
The literature on IS personnel turnover has determined that the most proximal variables affecting turnover intentions are job satisfaction and organizational commitment (Joseph *et al.* 2007). We believe that stress may operate on turnover intentions through one of these proximal variables. Ajuha *et al.* (2008) showed how work exhaustion/stress affects organizational commitment, which, in turn, affects turnover intentions. Also, Rutner *et al.* (2008) provided support for this by showing how work exhaustion may operate on turnover intentions through job satisfaction. However, as far as Indian IS professionals are concerned, organizational commitment has been found to be not significant predictor of turnover intentions (Lacity *et al.* 2008).Therefore, we believe that job satisfaction is the proximal variable mediating the relationship between stress and turnover intentions amongst Indian IS professionals. Research has shown that stress has a negative relationship with job satisfaction (Judge and Colquitt 2000; Rutner *et al.* 2008). Therefore we believe that stress has a negative relationship with job satisfaction, which in turn, affects turnover intentions of Indian IS professionals.

Our data supports the patterns between stress and job satisfaction as suggested by the literature. Out of 28 people who talked about stress, 68% (19 out of 28) had a negative

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pattern of stress-job satisfaction relationship as suggested in the literature (Judge and Colquitt 2000; Rutner *et al.* 2008). Sixteen of the Indian IS professionals had high stress and low job satisfaction. Three people had low stress and high job satisfaction. This leads us to the second proposition:

Hypothesis 1b: Stress has a negative relationship with job satisfaction amongst Indian IS professionals.

6.1.2 Work-life conflict

Two hypotheses related to work-life conflict are also proposed for future research, linking WLC with job satisfaction and stress.

Include work-life balance as an antecedent to job satisfaction amongst Indian IS professionals:

Work-life balance (WLB) has been defined as the degree 'to which an individual is simultaneously able to balance the temporal, emotional, and behavioral demands of both paid work and family responsibility' (Hill *et al.*2001, p. 49). Lack of a WLB increases the 'work-family conflict' or WLC, which is the 'inter-(between) role conflict where the demands created by the job interfere with performing family-related responsibilities' (Netemeyer *et al.* 2004, p. 50).

WLC/WLB was a strong recurrent theme in our interviews with 25 people talking about it without us asking any direct questions about it. Out of the 25, we had 15 with high WLC (or low WLB) and 10 with low WLC (or high WLB). This also included 15 respondents who spoke about both stress and WLC during their interviews (explaining why the literature suggests that WLC is an antecedent to stress)

The interviews also throw light on why Indian IS professionals had high WLC. Time difference between Indian and US offices was cited as one of the reasons for high WLC. Time-based conflict refers to the conflict that arises when 'the time devoted to work makes it difficult to fulfill the obligations and requirements of the family role'. Significant time differences between clients (predominantly in the U.S.) and supplier centers (in India) mandate the need for employees in one (or both) locations to stretch their work times, and thus create conflicts with their family times (Sarker *et al.* 2010). In

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our study, 2 people mentioned time based conflict making their WLC worse. Below is a representative quote:

- *P20 says, "Talking about clients, the only thing is I have to take calls late in the night. I am on the phone with clients almost everyday from 10-11 in the night for a few hours. That disrupts your personal life. I am ok right now since I don't have other things to take care of. But that's one problem with this offshore onsite set up.*

The main reason for high WLC amongst Indian IS professionals was the long working hours put in by people. In Indian IT industry, the norm is working on an average of 10 hours each day (Upadhaya and Vasavi 2006, Gambles *et al.* 2006). Many people in our study mentioned that working long hours (more than 10) plus commute of 1-2 hours hardly left time for them to anything else apart from work. Some representative quotes are given below:

- *P36 says, "I will tell you -I leave at 8:45 in the morning and come back by 9:15 in the evening so most of the day goes in that. This is from Monday to Friday sometimes we have job on Saturday also. 10 hours a day you can say from Mon to Fri for sure. Commuting will be 1 hour every day. .. Its not easy. Any job in IT comes with all this. I am single and can handle it.* **I don't really have a life outside office. I don't have time for anything else.**
- *P30 says, "On an average I work 13-14 hours each day.* **Work-life balance** *has been very difficult. My family has been adjusting and accommodating. Even when I am working from home its bad. In fact from home I spend 15 hours a day. Family life has to be sacrificed most of the times/.*

Another reason for high WLC among Indian IS professionals was strict deadlines and work pressures. Many respondents spoke about how the work pressures demanded that they put in long hours at work (and sacrificing hours spent with family). Below is a representative quote:

- *P26 says, "Sometimes I have really hard deadlines and pressures. At that time I work from home also. I usually come back home at around 7-7:30, have dinner and then work again from home. I can take calls and do conferences from home. So in that way, it is stressful for family. When I was a bachelor I could do it. But when you are passionate about something and love doing your work, you cant crib about work-life balance and all that because what you are doing is because of your passion. Now after I had a family, I have started working from home after I come back which is an alternate to staying there till very late. Continuously working like that for a week and my wife starts complaining and all*

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Yet another reason for high WLC came from working on production support and being on call 24*7. There were 3 people who mentioned how being on call 24*7 was causing havoc in their family lives. Sample quote on how WLC was affecting people's family lives is given below:

- *P13 says, "If you talk about my division, Enterprise solution division, Infrastructure division demands 24*7 support. So basically, it's very difficult compromise with your personal life because of job profile. If anytime server crashed or anytime some disaster happens then you have to compromise with your personal life. If at night time you get a call from a client that server is not functioning or storage related issue or network is crashed or server is crashed you have to up and do the work. So basically, this kind of problem you are facing in this kind of job role…. See, the kind of job we have, the kind of work we have, we are in a 24*7; so nobody wants to do that 24*7 support. Somehow if you are a bachelor, than you can manage but once you are married, once you have kid, you will look 8-6 jobs.*

A strong reason for low WLC that came up in the study was flexibility at work. Studies have shown that providing flexible work schedules to employees has a positive effect on their WLB (Thompson *et al.* 2004; Lyness and Kropf 2005). In fact, most 'leading organizations have begun offering flexible work arrangements' with the belief that it lowers employees' WLC (Spinks 2004 p. 5). Out of 10 respondents who spoke about WLB, 7 mentioned that they were happy with the flexible work schedules the company provided them and that it helped them increase WLB. Given below are some representative quotes:

- *P24 says, "My company gives me flexibility of working from home & that helps me maintain a balance between work and personal life…They (family) are of course happy with all the little perks I get from IBM like flexibility to work from home and all.*
- *P29 says, "I think this is a perfect match of work-life balance and flexibility that I need. I am working mom, so this is the best thing that I could have… I think Oracle that way is a best employer because we have the best work-life flexibility that we enjoy in Oracle. It enables us to manage things well- as a mom of 2 kids I get time to manage my family and kids well and at the same time also manage the work, nothing gets between the work. It's a very good mix of both.*

Surprisingly, work-life conflict/balance amongst Indian IS professionals has not received much attention in the literature so far (Sarker *et al.* 2010).However, studies undertaken in Western countries have established that WLC/WLB is a significant predictor of job satisfaction (Netemeyer *et al.* 1996; Boles *et al.* 2001; Haar and Spell 2003). In a meta-analysis by Kossek and Ozeki (1998), a consistent negative relationship was found

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between all forms of WLC and job satisfaction. Also, research has shown that the link between WLC and turnover intentions is not statistically significant for IS professionals. (Ahuja *et al.* 2007). We therefore believe that WLC may operate on turnover intentions amongst Indian IS professionals through job satisfaction.

In our study, consistent with the literature, WLC demonstrated a negative relationship with job satisfaction with 72% (18 out of 25) of the people. Nine people who had high WLC reported low job satisfaction and 9 people with low WLC reported high job satisfaction.

Based on the studies that show that WLC and job satisfaction have a negative relationship, as well as the dominant pattern of relationship between WLC and job satisfaction in our data, we propose the following hypothesis:

Hypothesis 3a: WLC has a negative relationship with job satisfaction amongst Indian IS professionals.

Include WLC as an antecedent to stress amongst Indian IS professionals:

We also believe that WLC is an antecedent to stress amongst Indian IS professionals. The literature suggests that WLC is positively related to stress (Judge and Colquitt 2000). Also, Ahuja *et al.* (2007) found that WLC was a key predictor of work exhaustion/stress amongst IS professionals.

To establish the relationship between WLC and stress, we had to look at those respondents who spoke about both stress and WLC in their interviews. There were 15 such people. Out of the 15 respondents, 11 respondents had high WLC and high stress, and 4 respondents had low WLC and low stress. Therefore, in our sample, we had 60% (15 out of 25) adhering to the positive pattern of WLC-stress relationship that is consistent with the literature. Based on the extant literature of WLC and stress, and the dominant pattern of relationship between WLC and stress exhibited in our sample, we suggest the following hypothesis:

Hypothesis 3b: WLC has a positive relationship with stress amongst Indian IS professionals.

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6.1.3 Organizational satisfaction:

Two hypotheses related to organizational satisfaction are proposed suggesting the link between organizational satisfaction and job satisfaction and turnover intentions.

Include organizational satisfaction as an antecedent to job satisfaction:

Organizational satisfaction is defined as "the extent to which an employee is satisfied with their current organization". It is determined by management support, work culture and environment and values and beliefs of the company (Lacity *et al.* 2008), among other things. Studies have found that job satisfaction contributes to organizational satisfaction and vice versa (Kittiruengcharm 1997). Though we did not ask the respondents about their organizations, their reasons for job satisfaction included elements of organizational satisfaction- like work culture, values of the company and work environment.

There was a strong theme of organizational satisfaction resonated by many of the respondents during their interviews. Many respondents spoke about work environment, work culture, brand name of the company, employee friendly company in relation to job satisfaction and intentions to leave. There were 18 respondents who showed a positive relationship between job satisfaction and organizational satisfaction. Out of the 18, we had 15 respondents with high job satisfaction and high job satisfaction and 3 respondents with low organizational satisfaction and low job satisfaction. Below are some representative quotes:

- *Respondent P26 says, "I started my career with a start up. When I joined XXX it was like a 180 degree turn for me. I like the value XXX has and the impact. If you ask me in the order, I would say that first is value of XXX and second is the impact my work has on people. That gives me satisfaction. Third is the people in XXX that I work and interact with. Its very nice to work with brilliant minds in the world. These are the three reasons why I will say I am very satisfied. Integrity, passion for quality and customer empathy and honesty- these are the values of XXX and we see how it is of most importance to them. XXX does not have ISO or CMM certifications but the internal structures and processes are so structured in XXX. It feels good to be working there every day".*
- *Respondent P4 says, " One advantage I would say is the pay. For that reason, many people are agreeing to extend their hours and slog and work just for the pay. I really do not like the work environment and the work culture. Everyone is stressed and struggling to finish work without proper support from the company.*

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Also, what we found was that 8 respondents reported low job satisfaction but were happy with their companies. Out of the 8 respondents, 5 had low intentions to leave because they were optimistic that the cause of job satisfaction (mostly projects or promotions) would be fixed. This confirms that organizational satisfaction is clearly a separate construct from job satisfaction, in that some participants were not happy with their current jobs, yet satisfied with the overall organization (Lacity *et al.* 2008). Given below are some representative quotes:

- *Respondent P48 says, "According to my knowledge and experience in Capgemini, there is flexibility in my work- there are different platforms, different projects you can work in. Right now we don't have any concept like working from home but there is flexibility in work. Also it has a brand image in the market. I will stick with the company for its name and for what it has given me.*
- *Respondent P69 has low job satisfaction because of the kind of work he is doing and has high intentions to leave. However, he has high organizational satisfaction and says, "I don't have any issues with the company in fact I like the company very much. The thing is the kind of work that they have given me and the kind of interview they took at the time of joining are very different… As a company Capgemini is a very good company. During the time of recession, they sacked negligible employees.*

Based on the literature that suggests that organizational satisfaction is an antecedent to job satisfaction (Kittiruengcharm 1997) and the dominant pattern shown by the sample of respondents who spoke about organizational satisfaction, we propose the following hypothesis:

Hypothesis 3a: Organizational satisfaction is positively related to job satisfaction amongst Indian IS professionals.

Include organizational satisfaction as a determinant of turnover intentions:

We also suspect a strong relationship between organizational satisfaction and turnover intentions. The literature suggests that organizational satisfaction is negatively related to turnover intentions (Shore and Tetrick 1991; Kittiruengcharm 1997; Szamosi 2006). What was evident from our data was the strong relationship between organizational satisfaction and turnover intentions. We found 82 %(23 out of 28) of the respondents display a negative relationship between organizational satisfaction and turnover intentions. 22 respondents had high organizational satisfaction and low intentions to

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leave, and 3 respondents had low organizational satisfaction and high intentions to leave. Based on the predominant pattern of relationship between organizational satisfaction and turnover intentions, and what the literature suggests about these constructs, we suggest the following hypothesis:

Hypothesis 3b: Organizational satisfaction is negatively related to turnover intentions amongst Indian IS professionals.

6.2. Understanding why some hypotheses were not supported:

We used our qualitative analyses to further understand why some of the hypotheses in our study were not supported.

6.2.1 Supervisory interpersonal justice and turnover intentions

The relationship between supervisory interpersonal justice and turnover intentions was not supported in our quantitative analysis. When we went through the transcripts of the interviews, we found that one reason why it was not supported was that there was no variability across the sample- most Indian IS professionals irrespective of low or high turnover intentions felt that they were respected and treated with dignity by their supervisors. Not only people with low turnover intentions, but also majority of people with high turnover intentions felt respected by their supervisors. There were many ways in which they felt respected. Table 15 below summarizes how and why Indian IS professionals felt respected by their supervisors in everyday life.

Table 16: Participant's responses on why they felt respected

Reasons why the respondents felt respected	Respondents with high turnover intentions		Respondents with low turnover intentions	
	Small extent	Large extent	Small extent	Large extent
Dignity and courtesy	7	15	0	35
Respect for expertise	1	6	0	24
Ideas and suggestions are heard	2	6	0	17
Tangible and intangible rewards	0	2	0	7
Company values foster respect	0	0	0	4

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and dignity for everyone				
Friendly and considerate supervisors	0	8	0	16
Supervisors give them visibility	2	0	0	4
No interference from supervisor	0	2	0	3
Supportive supervisor	0	0	0	2
Training opportunities	0	1	0	4

We had two items measuring two different aspects of interpersonal justice-respect and dignity. One question was whether the respondents were treated with dignity and courtesy, and the second question was whether they were respected by their supervisors. As can be seen from Table15, most respondents, irrespective of their turnover intentions, felt that they were treated with respect by their supervisors. Acknowledgement of the respondent's expertise ranked as the topmost reason in both the categories (high and low turnover intentions) as to why people felt respected. Second was when their ideas and suggestions were heard (again ranking second in both the categories of turnover intentions). Also, irrespective of high or low intentions to quit, people felt respected when their supervisors were friendly and considerate, ranking as the third major reason why respondents felt respected. Some sample quotes on how they felt respected are below:

- Respondent P31 is a 33 year old male Indian IS professional working as a *QA lead with a IT product company. He has high turnover intentions because he has issues about his compensation and wants to get out of his comfort zone of being in this company for 5 years. However, he feels that his supervisor respects him and says, "Yes, he does. I am the senior most in the team apart from my manager and whenever a new challenge comes and almost 90% comes to me. And he does mention about this. He does acknowledge my technical expertise too. To rate it, it will be a 4.*
- *Respondent P11 is a 30 year old Indian male IS professional working as a senior software engineer for the past two years in an Indian IT service providing company. He feels he is respected by his supervisor and quotes, "Personally he respects me like if I want to take off for any valid reason so he is good in managing these things like my personal life. He is asking sometimes to stretch my days and put in more hours some days and the next week he will give me time off.*

One interesting thing to note is that there were 7 people who mentioned that they were not treated with dignity and courtesy by their supervisors, and also had high intentions to

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leave. Though the number is not statistically significant, it does highlight an issue to focus upon. This problem underscores the cultural aspects affecting workplace behavior in India. India is high on power distance (Hofstede 2001). According to Hofstede (2001), "high power distance" cultures are characterized by less powerful members accepting a standard of unequally distributed power, and believing that their superiors make sound leadership decisions due, in large part, to the superior's position of power. This high power distance in Indian hierarchical organizations give supervisors power over subordinates and may cause problems for subordinates. For example,

- *Respondent P2 is a 26 year old male Indian IS professional working as an associate in an Indian IT service providing company. He is happy with the project he is working on but dissatisfied with his supervisor and has high intentions to leave. When asked about whether he feels that his supervisor treats him with dignity, he says, "Yeah right, because of his designation he thinks he is the boss and doesn't think he needs to talk and interact with us… He doesn't treat you like a fellow person in his team. He thinks he is the boss and we work for him.*
- *Respondent P9 is a 27 year old male Indian IS professional working as a software engineer for the past 4.5 years in a Non-IT company. He has high intentions to leave because he is not happy with the job and with growth opportunities at his job. Also, he is not happy with his supervisor and feels that he is not treated with dignity and respect by his supervisor. He says, "1 (very small extent). That was the reason for quitting. It has to do with manager to a large extent… I would rate him as 1…I think it's very subtle, and I don't know whether I will be able to explain this thing to you. When the good project comes he would not put me in it. He never smiles at me or talks to me at office. He does not even show small courtesy of saying hello. I have stayed in US for 2 years and this is something, which is cultural here, but you show this type of a behavior in front of your subordinates. Something I will say lot of people do it".*

6.2.2 Social norms and turnover intentions

The relationship between social norms and turnover intentions was not supported. To understand why the hypothesized relationship was not supported, we went back to the interviews. What we found was that most Indian IS professionals, irrespective of their turnover intentions, did not feel any pressure from family and friends that affected their decisions to quit or stay in their current companies. The main reason why the hypothesis was not supported was because most of the respondents denied any pressures and therefore gave a neutral rating (3) on a 5-point Likert scale when asked about social pressures influencing their decisions to stay or quit their companies. There were 30 people with low turnover intentions who said that their reasons to stick with their current

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companies were not related to friends and family. Similarly, 20 people with high turnover intentions strongly denied that their high intentions to quit had anything to do with friends and family. Table 16 below summarizes the reasons people gave for how social pressures affected their professional decisions to quit or stay in their current companies.

Table 17: Participant's responses for explaining social pressures

	Respondents with High turnover intentions		Respondents with Low turnover intentions	
	Pressured to stay	**Pressured to quit**	**Pressured to stay**	**Pressured to quit**
Family pressure	2	2	5	1
Location constraint	11	1	18	2
Work-life balance	1	2	4	2
Pressure from friends	2	10	2	15

Only 5 people with low turnover intentions said they felt pressured to stay in their current companies because of their families. The various reasons for family pressures with these people included:

- One respondent was a single girl pressured by the parents to stay close to home and in one company,
- One respondent had a kid recently and since the company was situated in the city, it gave him time to spend with the family,
- Two respondents mentioned that the commute to work was not too bad, and one of them mentioned that it was on the way to drop kids at school
- One respondent was going on maternity leave soon and didn't want to change companies.

Likewise, only 2 people with high turnover intentions said that they felt some pressure to quit their current jobs because it was affecting their families. They complained that the high workload was affecting work-life balance.

An interesting trend to note is that many people admitted to having location constraints-they did not want to move out of the place they were working in. There were 18 people

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with low turnover intentions, and 11 with high turnover intentions who said that they would be reluctant to move to another city, conceding that location was a constraint for them. However, most of them said that it did not affect their decision to stay with the current company as there were lots of IT companies in the city that they were living in, giving them freedom of switching companies without having to relocate to a different city. Some quotes highlighting the location constraint are given below:

- Respondent P17 is a 27 year old male Indian IS professional working as an associate for the past 2.5 years with an Indian IT service provider. He says, "*I have constraints to be with Cognizant, as I explained earlier. Now I have pressure to be in Pune too. Yeah, I mean, there are a couple of reasons behind. Actually, I had a personal tragedy in my life. When I was working with my project, I was supposed to get married in the month of November, November 26th, but due to some unfortunate circumstance, my Dad passed away in the month of October. So, see, I have responsibilities of my mom and my elder brother with me, and very soon there will be one more member in the family- my future wife. I wont be thinking of relocating anywhere other than Pune. I want to stay as close to my family as possible*".
- Respondent P74 is a 27 year old male Indian IS professional working as a project lead for the past 2 years in an Indian IT service providing company. He says, "*Well, if you talk about constraints, then Bangalore is the IT hub of India, It has a lot of IT companies. Lot of opportunities here compared to any other place in India. That would be my only constraint. I am away from my hometown Comibatore because there are not many IT opportunities there. So, yes, I would like to be in Bangalore. But again, this constraint is not because of family pressures or anything. It's my personal preference to be in Bangalore for a good career in IT*".

Another point to highlight is that friends and peers did exert some influence on people's intentions to quit their jobs, though it was not statistically significant. There were 15 people with low turnover intentions who felt that the thought of quitting crossed their minds when they heard their friends and (ex)peers talk about their new jobs. Also, 10 people with high turnover intentions admitted to getting influenced by peers and friends in their decisions to quit their current companies. The quote below is an example of how pressure from friends and peers plays on people's minds:

- Respondent P60 is a female Indian IS professional working as a project lead for the past 2 years with a Non-Indian IT service provider. She says, "*Yes, definitely. I know for a fact XXX doesn't pay that well when compared to other companies. And I know if I leave, I will surely get at least a 30% hike and I have seen people doing that around me. So it does affect but right now my reason to stay with XXX is mainly for personal reasons and*

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not professional reasons…I wouldn't say there isn't any peer pressure, because you do feel a want to switch jobs when you hear people tell you that they get better packages and you know you can be getting more but it is just that I have other important priorities.. Because I acknowledge the pressure, I will rate it 2.5 but since it doesn't change things I can say no pressure."

This number is not statistically significant, but does emphasize how the social contagion of changing jobs can infest the most loyal and productive IT employees (Moore and Burke 2002), thereby spreading a "turnover culture". Consistent with Moore and Burke (2002), in our study also we saw how it operated at different levels: workgroups within the organization (or influence of peers) and within occupational groups of IT profession (or friends working in other companies). The concept of turnover culture represents a valuable perspective for understanding how turnover can breed more turnovers. More research is needed to focus on the social aspect of turnover. The main factor influencing the respondents in this study was stories about how their friends and peers got better salaries when they switched companies (referred as "romancing with turnover" by Moore and Burke 2002). This was followed by friends and peers talking about working on better technologies and projects and getting better onsite opportunities. For example,

- Respondent P71 is a male Indian IS professional working as a system analyst for the past 2 years with an Indian IT service providing company. He says, "*You can say 4-influenced to leave because of friends. Yes, it has influenced me. 2 or 3 of my colleagues have moved out and are quite happy with their new jobs and earning more than me. So whenever I discuss about my work-life with them, I feel like changing jobs too".*

6.2.3 Organizational alternatives and turnover intentions

The data does not support the relationship between organizational alternatives and turnover intentions, as evidenced by our quantitative analysis. This corroborates the findings from our previous study that organizational alternatives is not a significant predictor of turnover intentions amongst Indian IS professionals (Lacity *et al.* 2008). Similar to the results of Lacity *et al.* (2008), there was not much of variability across this construct in our study. On a 5-point Likert scale with 1 indicating very hard, and 5 indicating very easy, there were 66 respondents (88%) who gave a rating above 2.5 when asked about how easy it would be to find similar/better jobs outside their current companies. This indicates that most of the respondents, irrespective of high or low

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turnover intentions, perceived that finding similar jobs outside their current companies would be relatively easy. The reason for little variability across this construct is that the Indian IT market is a vibrant, fast growing market with a shortage of IT people to meet the demands of its IT industry (Acharya and Mahanty 2008). Most people in the Indian IT industry perceive that there is a good demand for their skills in the market. When we looked at the interviews to find why Indian IS professionals felt that getting a job would be relatively easy, we found that respondents ranked their exposure to different technologies and domains as the top reason why they would be able to find similar jobs easily. The second reason given by respondents was the conducive market conditions with lots of companies getting into hiring sprees after recovering from the recent global slowdown.

There were only 8 people with low turnover intentions who felt that finding a similar job would be somewhat hard. Three people attributed it to the fact that they were already working in leading IT companies and there were not too many companies as good as their current one, making their choices limited. One respondent had less than 1 year of experience and felt that he needed more years of experience to get a better job. There were 2 people who thought that openings for managerial roles were not easy to come by, limiting their choices. For example,

- Respondent P59 is a 31 year old male Indian IS professional working as a senior project manager for the past 2 years in a Non-IT company. He says, "*I would rate it between 2 and 3. If the role, if you go into senior role the more you go into people management kind of role, so the opportunities, which open up, are relatively less when you are into execution. It is easier to switch jobs if you have a technical profile but once in the mamagerial path, its not easy*".

There were only 6 people with high turnover intentions who felt that it may be a little hard to find a similar/better job outside their current companies. Two respondents felt that it would be hard to find a similar job because of their experience in obsolete technologies and platforms and 2 others felt that the technology their companies worked on were not common in other companies so they had limited choice of companies to go to. One respondent felt that his experience in maintenance kind of work made him unsuitable for jobs in product development area, limiting his choices. For example,

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- Respondent P13 is a 33 year old male Indian IS professional working as a technical consultant for the past 5.5 years in a leading Indian IT service providing company. He feels his choices are limited, and says, "*We are partner or vendor of enterprise class of storages and servers in India. TCS is totally a solution provider Company. So if you talk about TCS or Infosys they are much more diverted to the S/W development , they are in the S/W development. But we will provide hardware solutions, hardware architecture, and design of data centers. So in India we are the gold partner of Sun, Hitachi, Net-apps and Cisco. My division enterprise solution division, we are doing the implementation part for customer infrastructure. In India I don't think, Infosys and other companies are doing my job role. I am not able to find my role in that organization. Either I will have to go with principal like IBM or Sun or Net apps or Hitachi. I will rate it 1 or 2 (quite hard) because I don't have too many choices.*

6.3. Revised Model:

In this section, we discuss some changes we made to the turnover model that were driven by the data. In the revised model, we included constructs that the data supported, and some new constructs that emerged through the data. Further, we deleted some constructs not supported by the data. The revised model is shown in Figure 4.
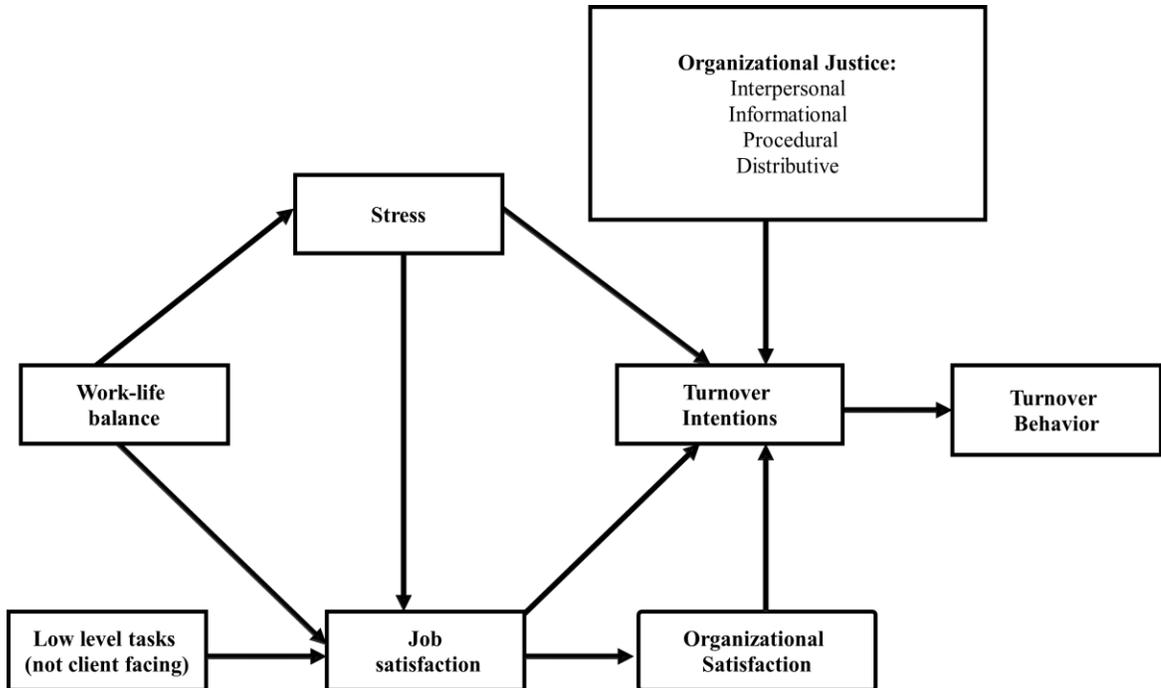
Figure 4. Revised model of turnover intentions and behavior

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Based on the findings from our data, we deleted two constructs: social norms and organizational alternatives, and added three new constructs: work-life balance, stress and organizational satisfaction. Since the relationship of job satisfaction and organizational justice with turnover intentions was strongly supported by our data, we kept them as predictors of turnover intentions in our model.

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7. LIMITATIONS

Before moving on the discussing the implications of our work to research and practice, it is important to acknowledge several limitations.

7.1 Sampling strategy:

One of the primary limitations of the study arises from the sampling strategy used. The sample was opportunistic. The author tapped into her social network to get 75 people to interview. The respondents were friends/acquaintances or were referred by friends and family. Opportunity sampling can produce a biased sample as it is easy for the researcher to choose people from his/her own social and cultural group (Lunneborg 2007). Also, opportunistic sample may be biased because individuals who choose to participate in a study may not fully represent the population from which the sample has been drawn (Burns and Grove 1977; Cochran 1977; Freedman *et al.* 1997). Since opportunistic sample may not be representative of the population, the results of the study cannot speak for the entire population. This can cause low external validity of the study, which concerns the generalizability of the findings of a study (Yin 2001). However, comparison of the demographics of the sample to that of the population in percentages can indicate that the sample characteristics are similar to those of the population (Sousa 2004). The sample drawn for the present study consisted of employees from 4 types of IT companies with 35 companies in all, occupying a wide range of IT job titles, from 22-38 years of age, and from 8 cities in India. Also, we had 24% of female respondents which is close to the true percentage of women in IT industry in India. We made attempts to make the sample fairly representative of Indian IT population in India, thereby increasing the external validity.

7.2 Sample size:

Second, the sample size of 75 was relatively small. Since we had to interview the respondents over the phone, we had to restrict the sample size from getting too big. Small sample size has some limitations. Two of the relationships examined in the proposed model were found statistically non-significant, but might have been significant had the sample size been larger. Statistical significance of any tested hypothesis is influenced by

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various factors such as sample size, number of indicators, and the variance of indicators (Yi and Davis 2003). Hypothesis 2c (interpersonal justice and turnover intentions) was not supported despite a sizable path coefficient of -0.46. Similarly, hypothesis 3 (social norms and turnover intentions) was not supported even though the path coefficient of 0.28 was moderately large. For both of these cases, it should be kept in mind that a true relationship may actually exist despite a non-significant result, and that a study with different sample size, number of indicators, and amount of variance in measures might find these non-significant relationships to be significant. Future research may employ survey method to collect data from a larger sample and test the influence of social norms on turnover intentions.

Having said that, our sample did meet the requirements as set out by Chin (1998) for statistical analysis using PLS. According to the guidelines by Chin (1998), the minimum sample required is calculated by identifying the endogenous construct with the most paths leading into it (in our case turnover intentions). Rule of thumb is 10 times the number of paths leading into the endogenous construct. We had 7 paths leading into turnover intentions, and our sample size was more than 10*7 thus meeting the requirements for minimum sample size for using PLS.

7.3 Self report bias:

All of the data was collected using self-reporting methods from the same source to measure all constructs, which may raise the possibility of producing inflated correlations (Crampton & Wagner 1994; Spector 1992a). Even though a single-factor test is useful in examining common method variance (Podsakoff and Organ 1986), there is also value in employing multiple sources and multiple methods. Multiple sources containing employee self-reports, project progress reports, performance appraisal reports, exit interview reports, and organizational records would prove useful; the multiple methods could also include surveys to supplement the interviews. These methods would help collect data and analyze the various relationships of turnover intentions for future research.

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7.4 Social desirability:

Also, common method bias due to social desirability was a limitation. Social desirability refers to the need for social approval and acceptance, and the belief that it can be attained by means of culturally acceptable and appropriate behaviors (Crowne and Marlowe 1964). It is generally viewed as a tendency on part of the individuals to present themselves in a favorable light, regardless of their true feelings about an issue or a topic. This is problematic not only because of its potential to bias the answers of the respondents (and change the mean level of the response), but also because it may mask the true relationship between two or more variables (Podsakoff *et al.* 2003). All the data collected through self reports is likely to be influenced by social desirability response bias. This bias cannot be ruled out in this study since we employed self reports to measure all our constructs.

7.5 Right censoring:

Another limitation is the selection of a specific time period in which turnover data is collected (10 months in this case), as observations are truncated after the measurement period. For example, if an individual left an organization the day after the final turnover information was collected, this individual is still identified as "working with the same company" in our data. This is known as right censoring (Morita *et al.* 1993) and can impact the accuracy of the findings. The use of techniques such as survival analysis can account for right censoring (Ramesh 2007).

7.6 Number of items measuring each construct:

An additional limitation was the number of items measuring each construct. To facilitate quantitative analysis, we had 2 items measuring each construct. It is advisable to use multi item measures because they are more reliable and have more validity than single item measures (Wanous *et al.*1997; Grover 1997). This is because, "first, individual items usually have considerable uniqueness or specificity in that each item has a low correlation with the attribute (latent construct) being measured and tends to relate to other attributes as well. Second, single items tend to categorize people into a relatively small numbers of groups. Thirdly, individual items have considerable measurement error; they produce unreliable responses....." (Churchill 1979, p.66). Multi-item measures on the

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other hand can better specify the construct domain, average out uniqueness of individual items, make fine distinctions between people, and have higher reliability (Grover 1997; Spector 1992a). Also, the validity of a multi-item measure can be higher than a single question. Many measured social characteristics are broad in scope and simply cannot be assessed with a single question. Multi-item measures may be necessary to cover more content of the measured characteristic and to fully and completely reflect the construct domain (Haladyna 1994; Spector 1992b). In our study, though we did not have single item measures, our multi item measures included only 2 items. Two item measures adapted from larger item measures been successfully used in research without undermining the reliability and validity (e.g. Pavlou and Fygenson 2004; Peterson et al. 1995), we believe that this study applied rigorous checks to increase the reliability of our 2 item measures (for example, cross checking the responses and the meaning of the rating on the Likert scale). Also, we improved the validity of the 2 item measure by using a supplemental question probing the respondents to explain their rating, thereby allowing the subjects to describe their feelings about different issues asked. This helped improved the precision and validity of the measure.

7.7 External validity (other countries and industries)

Also, the data was collected from Indian IS professionals working in India. Hence, we should use caution when we generalize the findings of this study to IS professionals in other national and cultural settings. Also, since we focused on IS professionals, the findings may not be generalized across population from other industries.

7.8 Other source of justice

Because of the limits on the number of questions one can ask during a telephonic interview, we had to restrict investigating justice perceptions from other sources of justice that can affect turnover intentions of IS professionals. The source of justice that we focused in this study was the supervisor. Future research should measure justice from other sources that the IS professional interacts with- especially the organization. We have strong reasons to suspect that other sources of justice may be important for IS professionals in their decisions to quit or stay with their companies. Though we focused on supervisor as the source of justice perception across 4 dimensions of justice, what

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surfaced from our interviews is that it is important to incorporate organization as another source of justice and measure it across all four dimensions of justice. We discuss this in detail below.

Organizational procedural justice: Organizational policies and practices surfaced as one of the key reasons why Indian IS professionals perceived their supervisory distributive and procedural policies and practices to be fair/unfair. Eighteen Indian IS professionals with low turnover intentions perceived supervisory policies to be fair due to company's streamlined and rigorous processes and procedures. Eight people with high turnover intentions perceived supervisory procedures to be unfair and blamed it on the company's policies and practices.

- Respondent P5 is a 22 year old Indian male IS professional working as a software development engineer for the last 8 months in a leading US IT product company. When asked about supervisory procedures for decision making, he says, "*Its very fair and part of the credit goes to XXX (company) for having such procedures in place and making sure that they are implemented properly by one and all.*

Organizational distributive justice: Fair/ unfair supervisory reward and resource distribution was also attributed to company performance and policies by some Indians. There were 8 Indian IS professionals with low turnover intentions who perceived supervisory distributive justice to be fair due to the company, and 5 with high turnover intentions who perceived it unfair due to company performance.

- Respondent P58 is a 27 year old male Indian IS professional working as a project lead for the past 2.5 years with an Indian IT service providing company. He has high intentions to leave and says, "*It has been pretty bad for us in the last 2 years. XXX didn't do well and as a result there have been very little hikes and bonuses. So I think sometimes its not very fair. I can say 2.5*".

Organizational interpersonal justice: Even when asked about whether they felt they were respected and treated with dignity by their supervisors, some Indians attributed it to company beliefs and values. There were 4 Indian IS professionals who thought that their supervisors treated them with respect because of values of the company.

- Respondent P8 is a 32 year old Indian male IS professional working as Associate Manager for the past 2 years in an international IT service providing company. He

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feels he is respected by his supervisor. He says, *"I think I will say large extent, a 5. Couple of reason I mean if you look at core values at XXX (company): integrity and respect for individual then respect is one of our core values we have and we live by it. Even my manager gets assessed against the same set of values, which the organization wants to follow. Apart from that we have some cultural essentials, which each individual has to demonstrate… I believe there is a responsibility on him to be respectful because it is one of our core values that he gets evaluated upon.*

Organizational informational justice: Finally, when asked if the supervisor kept them well informed about work related issues and provided adequate explanations of results and procedures, many respondents attributed it to company environment of transparency.

- Respondent P30 is a 30 year old male Indian IS professional working as a project lead for the past one year with an Indian IT service provider. He says, *"It is because of company. Not many things are transparent. When it comes to organizational matters, he discusses it with me but when it comes to my subordinates not everything is discussed or transparent".*

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8. CONTRIBUTIONS TO RESEARCH

By studying the turnover intentions and behavior of Indian IS professionals, we made some important contributions to the literature of turnover. These contributions are universal, adding to the collective knowledge of turnover of IS professionals. This is because we addressed the gaps in the universal turnover literature and made contributions in areas where there were dearth of studies. The culture-specific contribution is the revised model of turnover that is best suited for Indian IS professionals. This is not to say that the revised model will not hold true for populations in other cultural settings. We discuss the contributions to the research community in detail below.

8.1 Turnover intentions and turnover behavior:

By measuring turnover behavior longitudinally, we addressed an important gap in the literature of turnover studies. Joseph *et al.* (2007) in their meta-analysis of 33 studies of IT turnover found that most of the studies used turnover intentions as a surrogate for turnover behavior as a focal dependent variable, leaving a major gap in the literature to measure actual turnover behavior. In this study, the respondents were contacted second time after an interval of 10 months to gauge actual turnover behavior and compare it with their turnover intentions measured during the first interview. Turnover intentions was found to be positively related to turnover behavior explaining 29% of the variance in turnover behavior. This result behooves researchers not to use turnover intentions as a surrogate for turnover behavior as the correlation, though statistically significant, is not very high. Our results support other meta-analyses that report that turnover intentions correlate with actual turnover not too highly (only from .31 to .36), which means that turnover intention should not be used as a surrogate for turnover (Dalton *et al.* 1999; Hom and Griffeth 1995).

Our findings of the positive relationship between turnover intentions and behavior of IS professionals are not contingent on culture' however the strength of this relationship may be moderated by culture. Therefore, this is an important contribution to the universal knowledge of IS personnel turnover.

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8.2 Revised model of turnover intentions of Indian IS professionals:

We made important contributions to the literature by studying turnover intentions and behaviors across culturally diverse setting of India. As outlined in detail in the qualitative analysis section, we propose a theoretical framework to the research community that is based on constructs most relevant to Indian IS professionals. However, this does not imply that the model is not applicable to IS professionals in other cultural settings. Future research should validate the applicability of this revised model in other cultural settings to see the universality of the model.

8.3 New constructs studied as potential antecedents to turnover intentions:

Another important contribution to the literature of turnover was studying new constructs not tested before as antecedents of turnover intentions- like social norms. Though social norms as an antecedent to turnover intentions was found to be statistically insignificant the interview transcriptions revealed that social and personal networks do play an important part in the life of an IS professional . As discussed in detail in the qualitative section, more research is warranted into the "turnover culture" affecting turnover intentions of IS professionals, especially in their formative years of entering IS profession.

Also, we contributed to the literature of turnover by focusing on supervisor as the source of justice across all four dimensions of justice. So far, though some dimensions of justice have received attention in IS turnover literature, no study has explicitly distinguished the source of justice. Also, we used the most contemporary definitions of informational and interpersonal justice (Bies 2005; Colquitt and Shaw 2005) in our framework of justice that has not been looked into in relation to IS turnover.

8.4 Turnover intentions and type of firm:

We contributed to the literature by demonstrating a control variable not looked at before as a potential influence on turnover of IS professionals. An interesting finding from the study was that one of the control variables- the type of company was significantly related to turnover intentions for some types of companies. Studies on turnover have not paid

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attention to the type of company an IT professional works in as a potential determinant of turnover intentions. Type of IT company can be a significant predictor of turnover intentions as we found from this study. We had respondents from four different types of companies in our study: Indian IT service provider, Non Indian IT service provider, IT product company and non IT companies outsourcing their IT work. We controlled for "type of company" in our analysis. What we found was that two types of companies had statistically significant relationship with turnover intentions. Indian IT service providers were positively related to turnover intentions with a path coefficient of 0.50 implying higher turnover intentions (than the rest) for employees working with Indian IT companies. On the other hand, IT product companies had a statistically significant negative relationship with turnover intentions with a path coefficient of -0.51. This means that employees with international product companies have lesser turnover intentions (than the rest of the respondents working in other types of companies). Also, as far as non Indian IT service providers were concerned, the path coefficient was negative but not statistically significant. Also, though statistically not significant, international companies outsourcing their IT work to India had positive path coefficient implying higher turnover intentions (than product companies but lower than Indian IT service providers) for employees working in such companies. The type of company implies the kind of projects the employees in such companies work on- Indian IT service providers are known to be working predominantly on maintenance projects with little development work for their employees (Upadhya and Vasavi, 2006). On the other hand, IT product companies work on new product development projects which are more exciting and challenging for their employees. Future research should explore in detail how type of company affects turnover intentions. Our interview transcripts revealed how different employees felt about the kind of projects handled by their companies. Each respondent below is from a different type of IT company and each one has a different perspective about work.

- **IT Product Company**: Respondent P26 is a 28 year old male Indian IS professional working with a IT product company. He is very satisfied with his work and has low intentions to leave. He says, "*We have vendors. So every project has a vendor. Whatever task that is not challenging and not require technical expertise, something which is repetitive and manual in nature- we identify such tasks and set up a process and hand it to vendor. So vendors are hired from companies like Infosys, TCS and HCL for tasks that are repetitive that anyone can do. They are physically located in our campus, they sit*

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with us… I decide that out of 10 tasks 5 will be done by my team of XXX (company) employees and the other 5 by vendor team. This classification I do is based on the nature of the task and how complex it is. This makes sure that your work is exciting because the person loses interest in his job and gets frustrated only when he is doing repetitive things in his job. With this we eliminate that, and XXX makes sure that its full time employees get good, exciting and challenging work.

- **Indian IT Service Provider**: Respondent P61 is a 31 year old male Indian IS professional working as a team lead with an Indian IT service provider. He has low job satisfaction and high intentions to leave. He says, "*I can say like it's not the same what I was expecting in beginning of my career. For this I think I will give the responsibility to my company. In India most of the companies are providing services, S/W development happens very less. All the work is coming as a maintenance project; in the maintenance project it's a different kind of environment, different kind of work experience*".

- **Non-IT company:** Respondent P35 is a 30 year old female Indian IS professional working as an assistant analyst with a Non-IT company. She is quite happy with her work and has low intentions to leave and says, "*One thing is, we at XXX India, we work for clients that would be Fidelity in the USA so we are captive unit. So we don't have like completely new client. So it's more in terms of a partner kind of a relationship as opposed to a service oriented vendor relationship...I think that in service based organization I feel the delivery aspect you work on- it has extremely hard deadlines. Sometimes the estimates are extreme, tight, rigid, day after you have to finish the work. As you always trying to under promise and over deliver with the client. Whereas with the partner you can discuss, negotiate better and explain why the requirement is going to take one week. So I feel the equation between service providers compared to captive unit is completely different, the partners are more open and they treat you as equal.*

8.5 Turnover intentions and justice:

We also made some important contributions to the literature of organizational justice that we discuss below.

8.5.1 Source of justice:

By focusing on the source of justice as the supervisor, we made important contribution to the literature of turnover and especially organizational justice. This is because a more recent wrinkle in the justice literature has been a theoretical push to increase the specificity with which justice constructs are measured (Colquitt and Shaw 2005). That is, justice researchers of late have lobbied the research community to carefully consider and measure not only the type of justice (i.e., distributive, procedural, etc.), but also to measure its source. This approach has been termed the multifoci approach (Cropanzano *et al.* 2001; Rupp *et al.* 2008), in that it argues that justice stems from multiple foci within

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the organization, including supervisors, the organization as a whole, coworkers, customers, etc. Indeed, employees might be treated quite fairly by one source, but rather unfairly by another – hence, failing to specify the source of justice in justice measures, or averaging across sources, could at worst lead to spurious results, or at best yield justice effects that are difficult to interpret (Rupp *et al.* . 2007). In our study, the focus was on supervisory organizational justice- we measured supervisory justice across all four justice dimensions. It was a pioneering effort to not just specify the source of justice, but also to measure it across all four dimensions to justice. This is a universal contribution to the justice and turnover research community. Research is needed to look at other sources of justice like organization, clients, and team members and how it affects turnover intentions of IS personnel. Since most of the Indian IT industry is customer focused where "customer is always right" (Upadhya and Vasavi 2006), client as a source of justice could be important and provide deeper insights on turnover intentions and behaviors of Indian IS professionals.

8.5.2 Informational justice:

Another important contribution to research was establishing informational justice as an important antecedent to turnover intentions of IS professionals. Informational justice has not received much attention in the literature, with most studies treating it as part of interactional justice (Greenberg 1990). This is true for studies conducted in Western countries. Also, no study has looked into how informational justice is related to turnover intentions amongst Indian IS professionals. It is evident from our quantitative analysis that informational justice explains significant variance in turnover intentions amongst Indian IS professionals beyond procedural and interpersonal justice. Informational justice was found to have a path coefficient of -0.70 with turnover intentions. Also, we used the broad conceptualization of informational justice which includes disseminating information not just about procedures but also work and organizational matters (Bies 2005). More research is needed to look into this broader conceptualization of informational justice and its consequences.

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8.5.3 Second-order latent organizational justice:

We made significant contributions to the literature of organizational justice by modeling and measuring overall (supervisory) organizational justice as a second-order latent construct and establishing it as a significant determinant of turnover intentions. Though there are guidelines on how to measure overall higher order organizational justice (Colquitt and Shaw 2005), no study, Western or otherwise, has so far actually modeled and measured overall organizational justice as a second-order latent construct with 8 indicators reflected by four dimensions of justice. In a study by Colquitt and Judge (2004), all four dimensions of justice were examined simultaneously as predictors of work-life conflict, but they did not have a second-order overall organizational justice construct. In this study, the overall second-order justice was found to be significantly and negatively related to turnover intentions with a path coefficient of -0.82. It is important for future studies to study not only the dimensions of justice but also second-order latent construct of organizational justice as a determinant of turnover intentions. Future research may also look into overall organizational justice as a global perception (Cropanzano *et al.* 2000) and compare the results with overall organizational justice modeled as a latent construct. Also, another area of research may be to look at overall organizational justice as a second-order latent construct reflected by justice dimensions from other sources like organizations, clients etc and how it affects turnover intentions. Also, research should see if job satisfaction mediates the relationship between organizational justice and turnover intentions. This is because research has shown job satisfaction to be a more proximal antecedent to turnover intentions than organizational justice (Joseph *et al.* 2007).

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9. CONTRIBUTIONS TO PRACTICE

Our study makes important contributions to the community of IT practitioners, especially organizations facing acute turnover of IS professionals. Turnover is an important global issue for many organizations (Zarling 2006). IT industry has been plagued by the perennial turnover problem. The turnover rate of IS professionals has historically been high (Niederman and Moore 2000) with a long-term average of over 20% (Luftman 2008). Solving the "IT human capital problem" is therefore an issue that ranks very high in CIO surveys of key IT problems for their firms. In fact, it remains one of the top managerial concerns since 1994 (Luftman and Kempaiah 2008). It is estimated that an organization may spend one to seven times the annual salary of the departing employee to replace an IT worker (Kochansky 2001). Research suggests that high turnover rates have a negative relationship with business unit and organizational success (Shaw *et al.* 2005; Kacmar *et al.* 2006). At the same time, turnover can have a damaging effect on project completions, system upgrades, morale, teamwork, workloads, group stress levels, and a host of intangibles (Longenecker and Scazzero 2003). In a study by Hall *et al.* (2008) on 89 software projects, it was found that projects with high staff turnover are less successful and the staff was less motivated. In addition, turnover may exacerbate the problems of the existing staff in terms of understaffed and overworked employees. In a study conducted by Moore (2000), interviews with IS professionals revealed that the number one cause of work exhaustion amongst IS professionals was insufficient staff and resources. Also, as important team members leave, it causes delays in critical projects, and an inability of the IT function to meet burgeoning needs for technologies and systems (Agarwal and Ferrett 2000). With IS employees turnover having such serious repercussions to the project, unit and organization as a whole, we throw light on some issues that an organization can focus on to control turnover problems in the IT industry

The findings from our qualitative analysis show how Indian IT organizations can deal with and control the problem of turnover pervading IT industry. Some suggestions are discussed below.

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9.1. Quality of work:

Quality of work surfaced as the key reason for job satisfaction amongst Indian IS professionals. Twenty one Indian IS professionals with low turnover intentions cited quality of work as the biggest reason for high job satisfaction. They mentioned various reasons why they liked their work- different projects and technologies to work on, working on innovative and new products, and working on challenging and high visibility projects. Some people also mentioned that they enjoyed their work because of the impact their work has on the society. Freedom at work and decision making authority were also cited as reasons for high job satisfaction.

- *Respondent P18 is a 27 year old male Indian IS professional working as an IT analyst for the past 7 months with an Indian IT service provider. He has low intentions to leave because he loves his current company and says, "It is my first love. It has been my dream company since I was in college. I didn't get time the time to even think of leaving this company. About job satisfaction, he feels, "Job satisfaction regarding my work it is 5. I have been given very good work throughout my career. I find my work very satisfying. It is not monotonous work. Means I get very challenging work in my role....Or maybe I am the lucky one that I get a chance to learn with every project. To work in different scenarios. I have worked in the retail, government, commerce, finance and insurance sectors also. In my five years I have worked in all these domains*

At the same time, Indian IS professionals with high turnover intentions reported the primary cause of low job satisfaction as monotonous work with 11 Indian IS professionals talking about it. Also, some other reasons related to quality of work causing dissatisfaction were the project itself, lack of freedom at work, doing documentation and no technical stuff that one was interviewed for, and working on a project that one was not trained for.

- *Respondent P67 is a 24 year old male Indian IS professional working as a senior software engineer for more than one and a half years in an Indian IT service providing company. His turnover intentions are high and he is not satisfied with his job. He is not happy with his job also. When asked about job satisfaction, he says, "Not much because whatever the work I am working on, the project has continued for the last 7 yrs, it is like a ritual work I am doing, kind of a repetitive job. I don't think there are lots of great opportunities in this company".*

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As far as Indian IT suppliers are concerned, this means that the problem of turnover can be controlled if the employees are given tasks that are exciting and challenging. Some ways to avoid work getting monotonous for IS professionals may be:

9.1.1 Change projects: Being on the same project can make the job monotonous- as was mentioned by 5 people with high turnover intentions. On the other hand, there were 10 people with low turnover intentions who mentioned that their reason for job satisfaction ame from moving to a variety of projects. Changing projects every few years may be a way to keep employees excited about work, and also it can be a way for them to learn new technologies and domains with every project. Growth and learning opportunities were also cited as one of the major reasons for job satisfaction by 22 Indian IS professionals with low turnover intentions, and 7 people with high turnover intentions gave lack of growth and learning as a reason for job dissatisfaction. Changing projects may open chances to learn new technologies, domains and clients and may help increase job satisfaction and reduce turnover.

- *Respondent P33 has low job satisfaction and he says, "When you join something new its fine, for 6 months you are excited learning new things new projects but once you are in the same project for one year or more than one year, then same activities everyday. That's how I feel right now- no excitement for me in the job.*
- *Respondent P41 has been working on many projects throughout his career and he is quite satisfied with his work. He says, "In companies like XXX, you have so many clients with different background and vertical and you can definitely make a career in it. Its kind of switching to different company within single company. You get to work with different technologies, different verticals, and different locations. See Wipro is not a product company, Wipro being a service company we work with various clients. You have manufacturing, finance, and telecom. You get a lot of variety and comes with it the challenges and it makes my work very interesting.*

The downside of changing projects too fast is also something For IT companies to consider. They should strike a right balance. If people are put on new projects too soon, they don't learn much. This is the sentiment echoed by some Indian IS professionals.

- *Respondent P43 is a 30 year old female Indian IS professional working as a senior software engineer with an Indian IT service provider. She says, "My work keeps changing; the technology changes every 5-6months. Because of that only, I am a little dissatisfied. Updating and upgrading old technology is fine but in every six months*

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learning new software altogether is troublesome. That makes us jack of all but master of none.

9.1.2 Onsite assignments: Another way to increase the quality of work is by giving employees onsite opportunities. Though bulk of work sent to India is maintenance and production work which is considered to be monotonous, an organization can make such work exciting by providing chances to the employees to go onsite during such work and give them a chance to interact with the customers face to face. A strong theme throughout the interviews was that Indian IS professionals sought onsite assignments for various reasons. People were attracted to it because it gave chances to work on challenging work of implementation of applications or troubleshooting and maintaining applications at client sites. Also, most respondents admitted that the primary attraction was that financially it was a lucrative proposition for Indian IS professionals to work onsite. In our sample, 7 Indian IS professionals had low turnover intentions because they were anticipating onsite assignments in near future

- *Respondent P55 was quite happy with his job, but a little dissatisfied with "the financial aspects- compensation". He had low intentions to leave because "I am looking forward to doing an on-site assignment working directly with customers which is an advantageous position in itself. He said that he would be tempted to leave if not for the promise of an onsite assignment- "I would have if my manager didn't promise me on site opportunity. That gives us a chance to make some extra money and compensate for the good salary package at XXX(company). XXX has good onsite opportunities for me". When contacted after 10 months of initial interview, he said that he had got a hike and was working on site at client location outside India.*

What was also surprising was that 3 people with low turnover intentions quit because they got lured by on site opportunities in other companies.

- *Respondent P12 had high job satisfaction because he was happy with his supervisor and was put on leadership training. However, he left within 6 months of the interview. When asked about why he left, he said, "I have good onsite opportunities in this US based company. Also, the leadership role did not happen in my previous company". Also, he had spoken about onsite opportunities being important to him during his first interview- "The salary that we are drawing is not much. In other industries like auto, insurance manufacture and all, they pay them well now. Earlier only IT people were paid well. Now it is not the case. If I want to purchase a house in Pune, it is not possible to buy it from my salary. On site is just to have some extra money in my pocket. In terms of money it is very important. It is possible that if you look for a new job the HR may promise or commit to send you onsite but it may not happen in reality.*

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Similarly, 4 Indian IS professionals with high turnover intentions and low job satisfaction did not quit when we contacted them after 10 months of the initial interview. One reason they gave when asked why they didn't quit was that they were given onsite assignments which made their work more interesting and challenging.

9.1.3 Enhanced roles and promotions: Another way companies can make work more interesting for Indian IS professionals is by giving them more responsibilities and duties officially. A promotion is the advancement of an employee's rank or position in an organizational hierarchy system. A promotion can involve advancement in terms of designation, salary and benefits, and in some organizations the type of job activities may change a great deal (Wikipedia). In Indian society, rank and promotions signify prestige and status and are considered very important. As hierarchical designations are one of the most visible signs of success, there is a permanent family-induced pressure for advancement in the organizational status hierarchies in India (Ramaswamy 1996). Promise of an expected promotion came as a strong theme keeping the turnover intentions low for many Indian IS professionals and denial of promotion caused some people to think about quitting. Five Indian IS professionals with low turnover intentions cited that they were frustrated that they hadn't been promoted though they were doing additional tasks and responsibilities unofficially. Also, 2 Indian IS professionals said that they were seeking enhanced roles and the status quo was making them frustrated.

- *Respondent P35 is a female IS professional working as an assistant analyst for the past two and a half years with a leading non IT US company outsourcing its IT work. She has low intentions to leave because she likes the company and her team. She is not very happy with her job though. She says, "I would have been at 4 last year this time but as of this point in time I am at 3. I would like to take more responsibility. Initially the work was reasonably challenging but since I am working in the similar position from 2.5 years now so I don't feel the work very challenging. I can take on more work and responsibility and that's the crux of it".*

Promotion can not only be a tool to increase job satisfaction, but it is also effective retaining strategy. There were some Indian IS professionals with low turnover intentions who were a little dissatisfied with their jobs because of promotion issues. When we contacted the respondents 10 months after the initial interview, 14 people with low

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turnover intentions had been promoted and they seemed happier with their jobs, and 7 people with high turnover intentions didn't quit because they had been promoted.

- *Respondent P36 had high job satisfaction and low intentions to leave. She was a little dissatisfied that she hadn't been promoted and said, "Sometimes you want more responsibility and you don't easily get it. You approach your superiors and they don't take it that seriously or they don't react immediately to it. So that dissatisfaction is there otherwise it is satisfactory". When we spoke to her after 10 months, she said that she had been promoted and she was very happy about that.*
- *Respondent P38 had low job satisfaction and said "I don't like coding & basically I am a java developer so I don't like coding and I am interesting in something different-marketing, managing. I am not a technical guy". He had high intentions to leave for this reason. When we spoke to him after 10 months, he said that he had a role change and was a business analyst in the same company. He wasn't sure if he liked it, but it was something new he wanted to stick to it for some time.*

9.1.4 Change teams: Another way to make one's job more interesting is by not only job rotation (or project rotation) but also changing supervisors and teams. Changing team is the typical scenario in IT industry as software teams are typically formed de novo for each new project depending on project requirements and who is available making it almost impossible to develop a history of working together as a team across many projects (Faraj and Sproull 2000). Team members can make the work stimulating and interesting as quoted by an Indian IS professional making their jobs satisfying- "*the people in XXX that I work and interact with. It's very nice to work with brilliant minds in the world*". Nine Indian IS professionals with low turnover intentions mentioned that one aspect of their high job satisfaction came from working with great teams.

- *Respondent P19 is a 33 year old male Indian IS professional working as a program manager with a IT product company. He says "I have support systems across the globe from China, Malaysia, Singapore and US. Team members are here and some are there in the US. My counterparts are there in US. The team is great to work with. The project currently which we are working on is one of the important ones and they expect us to work well. So it's very important for the company. I have been doing the work which I enjoy more.*

9.1.5 Change supervisors: Supervisors can be responsible for delegating the kind of work subordinates do, the freedom they are given to do their work, the visibility subordinates can get in the organization and the work environment. In Indian IT context, supervisors become especially important force behind employee job satisfaction and

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turnover intentions. Organizations can rotate employees to different supervisors with each one having his/own style of administration and delegating work. Five Indian IS professionals with low intentions to leave attributed their high job satisfaction to their supervisors and the environment they created for the respondents to work. Also, 4 Indian IS professionals with low turnover intentions felt that their supervisors gave them visibility and invited them to important meetings with top management.

- *Respondent P62 is a 25 year old female Indian IS professional working as a senior software engineer for the past one year and three months with a US IT service provider. She has low intentions to leave because she is getting a lot of learning opportunities in her current company. She feels a big reason for her job satisfaction comes from her supervisor- "I will say a 4. Because work is very good and I like the environment, the manager is very good and you are given freedom of work and he is ready to encourage you in whatever I am doing. Also I am experimenting with new technologies".*

On the other hand, 4 Indian IS professionals cited low job satisfaction and high intentions to leave because they had issues with their supervisors- lack of freedom being cited more often than other reasons. Also, 2 Indians had high intentions to leave and low job satisfaction because their supervisors denied them visibility and did not put them in good projects.

- *Respondent P68 is a 29 year old male Indian IS professional working as a senior consultant for the past 1 year. He has high intentions to leave if he has to continue with the same manager. He says, "I have to work with a different manager now. It's a very different for managers in India. You can become a manager if you have the required number of years of experience. They don't have the maturity for the role. Everywhere else if you have the ability then only you will be a manager. Not by your skill set rather by number of years of experience in India…You always think you have to deliver and you have to do something. As you grow your experience obviously I mean not just what you deliver it comes like you have to be doing more than what you just deliver. When that comes I mean the manager support is very much needed and the way managers behave here is the way they used to be- just concentrate on getting the work done. It will not let you to think or do whatever you can. Its like you have to work with their kind of rules and regulations. This difference I find only after working in US. Then I realized what kind of work we are doing in India. I don't get the freedom to think on my own, the time to do things my way. The manager just wants things to be done his way and to meet his deadlines".*

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9.2 HR Practices:

Another theme coming across the interviews is that job satisfaction can be increased, and turnover intentions can be reduced by caring HR practices and policies. Within the US IS literature, there are two important studies that suggest that collections of HR IS practices influence IS employee turnover (Ang and Slaughter 2004; Ferratt *et al.* 2005). However, we cannot generalize these HR practices across different countries as needs and concerns of people in different countries may differ. It has been noted that high turnover rates in Indian IT industry is partly a function of poorly developed HR strategies (Kuruvilla and Ranganathan 2008). As far as effective HR practices for retaining Indian IS professionals are concerned, we have a few pointers for organizations based on our interviews:

9.2.1 Gender issue at work place: As we know, 20-30% of the Indian IT workforce comprises of women (NASSCOM 2009). In our sample, we had 18 female respondents constituting 24% of the sample. In India, women tend to be over-represented in the lower level jobs such as programming and testing, and under-represented in higher level and managerial jobs such as architecture, consulting and project management (Upadhya and Vasavi 2006). We found that there are some gender issues faced by women at workplace. Six female Indian IS professionals talked about some of them and it is imperative that organizations address them in their HR policies and practices.

HR practices addressing gender disparity: Though most female Indian IS professionals did not talk about gender disparity, 6 people did without any prompting. HR needs to focus on tackling the implicit gender issues at workplace by more promoting more women in higher positions and by encouraging gender neutral policies and practices.

- *Respondent P57 is a 37 year old female project manager working with an Indian IT service provider. She was denied a promotion and the reason her supervisor gave was, "Why because there was an opportunity to promote me as an account manager where I was given the reason that its stressful and women can have problems while handling".*
- *Respondent P64 is a 30 year old female Indian IS professional working as a QA lead with an Indian IT service provider. She said she had issues with her team mates because of her gender and says, "I think because I am not from Hbad and I am a female and less experienced than all of them, I think they had some issues accepting me as their boss.*

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9.2.2 HR practices for working women/mothers: In a study by Agarwal and Ferratt (2002), life style accommodations like relaxed environment, flexible work/time arrangements, and childcare services have been found to be effective retaining strategies by successful IT companies with low turnover rates. Indian IT industry has not paid attention to such things. Specifically, HR practices in India need to be designed to better fit the needs of working women and mothers. There were 4 Indian female Indian IS professionals who felt that their work places did not support working women and mothers, and 1 person who said she had high job satisfaction and low intentions to leave because her company had policies designed to balance work and family and offered flexibility that she, as a working mom, desired.

- *Respondent P43 is a 30 year old female Indian IS professional working as senior software engineer with an Indian IT service provider. She is not too happy with the policies of the company and says, "Being a mother I went for maternity leave two times and it sort of cut my growth prospects and am unhappy about not getting promoted. In a way it does support working mothers… There are some part-time policies for six months or so. Whatever they are, they are only on papers. Practically it is difficult to be a working mother."*
- *Respondent P60 is a 33 year old female Indian IS professional working as a project lead for the past 2 years with a Non-Indian IT service provider. She says a big reason for not leaving her current company is, "I don't have a choice because XXX (company) is one of the only companies in India offering flexibility in working place. That is the only reason because of my personal limitations that I would not leave XXX. Other Indian companies like TCS and Cognizant they offer absolutely no flexibility and that makes it harder for women… last two three months I have been in production support tasks also and sometimes I had to work on weekends too whenever there was a high priority call. So that was quite difficult, specially being a woman to manage that with home.*

9.2.3 Compensation policies: Though the IT industry is plagued by rising salaries of its people, we can see from our transcripts that compensation doesn't seem to be the strongest driver of turnover intentions amongst Indian IS professionals. In this study, it was clear that salary is not the main reason for changing organizations amongst people with high turnover intentions nor is it the prime reason why people decide to stick to their organizations, corroborating the findings of Lacity *et al.* 2008. However, it did surface as an issue affecting job satisfaction of people. Three Indian IS professionals with low turnover intentions mentioned that the reason for job dissatisfaction came from the fact

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that they were not happy with their compensations but that didn't affect their desire to continue working with the current company. They attributed the compensation issue to the slack period in the market.

- *Respondent P47 is a 25 year old male Indian IS professional working as an applications engineer for the past two and a half years with a IT product company. He has low turnover intentions because, "Because I believe that I have put in a lot of effort for this company so I should be getting something good out of this job. My only concern is the pay hike; otherwise I am enjoying the work I do here. About job satisfaction, he says, "4. The kind of learning I get, I am able to shape my career better here. A little dissatisfaction comes because there is not appropriate pay hike… but the company is not doing well so that's why we have a problem about the pay hike." When we spoke to him after 10 months, he mentioned that he had had a satisfactory pay hike and was happier now.*

Six Indian IS professionals with low turnover intentions cited compensation as one of the reasons for their high job satisfaction.

- *Respondent P5 is a male IS professional working as a software development engineer in one of the leading international IT product companies for the past eight months and has low turnover intentions. When asked about his reasons for high job satisfaction says "The first one is that I am very nicely paid. Second, the technologies I wanted to work with, I am getting an opportunity to work on them. The manager and the team and all is very good. All of them are very experienced and are always ready to help me. And there is good scope of learning for me.*

Amongst people with high turnover intentions, 4 quoted compensation issue as a reason for job dissatisfaction and high intentions to leave. Also, out of 16 people who did not quit after 10 months of their first interviews in spite of high turnover intentions, 7 said their salaries had been revised in the last few months.

- *Respondent P31 is a 32 year old male Indian IS professional working as a QA lead with a IT product company. He is not satisfied with his job and says, "The problem is with the global scenario and not with my company only. The company is doing good but the compensation is not that good". However, when we spoke to him after 10 months, he said that he had 2 salary revisions and a promotion in the last few months and was quite happy now.*

HR practices addressing disparity in compensation: An effective retentions strategy is market anchored compensation (Agarwal and Ferratt 2002). When labor supply exceeds demand, organizations possess relatively greater bargaining power vis-à-vis workers and

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can exercise differentiating compensation strategies to attract and retain workers, resulting in institutional effects on compensation. However, under severe labor shortages, workers possess greater bargaining power because they enjoy plentiful jobs, while institutions have to bid for IT professionals from a very restricted pool of IT talent (Ang *et al.* 2002). In Indian context, an important implication for HR is that employees want compensation that is at par with market standards. More importantly, salaries of existing employees should be adjusted to match what is offered to newly recruited ones. Compensation disparity surfaced as an issue with some people. Five Indian IS professionals mentioned how the disparity of salaries between old employees and the new recruits existed, with 2 of them saying that such issues were causing them to think about leaving.

- *Respondent P71 is a 27 year old male Indian IS professional working as a systems analyst with an Indian service provider for the last 4 years. He has high turnover intentions because he says, "Actually from the last two years, I have requested my managers to increase my compensation and because of the high disparity between us and the new employees in the compensation, work is quite dissatisfactory". He faces issues of disparity and reports low dissatisfaction - "Actually I have been working in XXX for 4 years now and this is based on my experience here. In the initial period I enjoyed working here but with time the company got new employees and it has better packages for new employees as compared to those who are here since 4 years. So basically the compensations increased with time and I as an old employee was not benefitted because of the disparity."*

Further, 2 people perceived that their compensations were not fair when they compared it with their peers which caused a little dissatisfaction but did not affect their intentions to leave. There were 3 people who felt their compensations were not fair when they compared it to market standards- however, they had low intentions to leave. This shows that compensation issues need to be addressed to have happier, more satisfied and productive employees at workplace.

- *Respondent P60 is a 34 year old female Indian IS professional working as a project lead with a Non-Indian IT service provider. She feels that monetary perks in her company are not at par with the market standards and says its not fair because, "No, because generally XXX (company) doesn't pay that much of a bonus in respect to other companies. They are many people who resigned right after they gave out rewards and appraisals that is in January.*

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9.2.4. Performance Appraisals and Measurement: Performance management system is a key component of the 'people management' function in every company. Promotions, bonuses, and increments are based on individual performance ratings, and for this reason it is considered very important by employees. Addressing problems in this system will help HR tackle issues that lead to dissatisfaction amongst employees.

HR policies addressing communication problems in reporting structure: Results from this study show that an important area for HR managers to focus on is the reporting structure in Indian IT firms. Most Indian firms have a typical chain of command defining the supervisor subordinate relationship in the organization. This chain of command is the formal line of authority, communication, and responsibility within an organization. It is usually depicted on an organizational chart, which identifies the superior and subordinate relationships in the organizational structure (Fayol 1949). The supervisors are responsible for appraisals and reward distribution of the subordinates. But since most of the IT work is done in cross functional teams, there is also an implicit matrix structure present with subordinates working under project leaders who are responsible for their work and project but not directly involved in their annual appraisals and rewards. Matrix management is a technique of managing an organization (or, more commonly, part of an organization) through a series of dual-reporting relationships instead of a more traditional linear management structure (Kramer 1994). Matrix system is ideal for cross functional work teams who report to different supervisors in order to complete a project which is the case of a typical software project (Chi and Nystrom 1998). This dual reporting structure is a cause of lot of dissatisfaction amongst Indian IS professionals. Many Indian IS professionals felt that because most of their work was handled by project leaders, their supervisors didn't really know how much work they did or how much they contributed. One way to overcome this would be to implement 360 degree appraisals where feedback is taken from all the people that the subordinate is working with.

A strong theme that emerged during the interviews is that Indian IS professionals felt that it was important for their supervisors to know what work they were doing in order to implement fair decision making procedures related to outcomes concerning them. Seven Indian IS professionals felt that that supervisory procedures and policies for decision

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making were fair because their supervisors knew exactly what work the subordinates did and had low intentions to leave.

- *Respondent P64 is a 30 year old female Indian working as a quality assurance (QA) lead for the past 2 years and 9 months with an Indian IT service providing company. She feels her supervisor's decision making policies are fair because, "This is a very small company and everyone knows what you are doing and not doing. It is very easy for the manager to know what I am doing all the time. He doesn't have to work very hard to make a decision about such matters. We don't have a formal procedure as such. The process is very simple. People give ratings on a form, and we list down our weaknesses and achievements. Fair or not, I think it is fair. The reason being that he knows exactly what I am doing."*

Most of the grievances about supervisory procedural justice came from the fact that supervisors did not know exactly what work the respondents were doing. This was the reason they felt the performance appraisals were not fair. Four Indian IS professionals with low turnover intentions were unhappy with such problems in reporting structure, and 4 with high turnover intentions were frustrated because of this.

- *Respondent P11 is a 30 year old male Indian IS professional working as a senior software engineer for the past two years. He has low turnover intentions but is frustrated with the decision making procedures and thinks they are unfair: "It's not fair. Its not well structured. My work is visible to my team lead, which is not the official lead in my organization. My project manager has made a lead, who is onsite. He is there for long term. All the work I do, all the interaction is visible to him and in offshore, I am reporting to some other guy who does not know much about the work I do. I am more touch with the guy which does not come into picture when my appraisal comes. The environment in which I am working, the work pressure that I have is very stressful….With my supervisor, you have to schedule a meeting, you have to find time when they are available and convince him that I worked so hard and that I am good at this particular thing. It's not at all fair."*
- *Respondent P46 is a 27 year old male Indian IS professional working as a consultant for the past 2.5 years with a US based IT service providing company. He is not happy with supervisory procedural justice and has high intentions to leave. He says, "I would actually give a 2.5 rather than a 3.5 now that I think about it. Actually we have a concept of a people manager and project manager, its not that person whom I might report to as a project manager takes the decision on my appraisal completely. In a year I might do 2 projects, 4 project or 6 projects, so I will be under 6 different project managers. So we have a concept called as program manager. Favoritism is a part and parcel of IT industry. I am thinking about my program manager who is like my supervisor. So, sometimes its not fair because he doesn't get to know what all I did.*

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HR policies to encourage chance of representing themselves in performance appraisals: One of the principles of procedural justice is principle of representation which means that people will have fair perceptions of the process if they feel they had a fair chance to represent themselves in the process. This principle has important implications for supervisory procedural justice practices. HR policies should focus on such procedures of performance evaluation which gives the subordinates a chance to represent themselves before a final rating is decided by the supervisor. A strong theme emerging from the transcripts was that Indian IS professionals had fair perceptions about supervisory procedures and policies and low intentions to leave when they felt they had a chance to represent themselves during appraisals and evaluations. Ten Indian IS professionals with low turnover intentions felt that supervisory procedures were fair when the ratings they got from their supervisor were reached by consensus, and 3 people with high intentions to leave felt that supervisory procedures were unfair when they didn't get a chance to represent themselves in the process.

- *Respondent P6 is a 25 year old Indian male IS professional working as a software development engineer for the past 2 years with leading IT product company. He says," So far I have had only one performance appraisal with my supervisor after I completed 1 year in this organization. so it is based on all the things that I have discussed with my manager, and data points- which is based on what work I do and the reviews from my peers, my managers, colleagues and clients. I can see a lot of clarity in what I see myself as and what others see in me. But it made me believe that my manager sees me the way I see myself , so everything was same as whatever view I had thought about myself and what the manager thought of me... He tells me what he felt about me, what he thought about things that could have been better and there is mutual consensus between me and the manager about what I did wrong and what I did right.*

HR policies towards more transparency: HR practices and policies for performance evaluation should promote transparency in procedures and outcomes. A strong theme from the content analysis of the transcripts was that people wanted their supervisors to be transparent and open about the procedures and decisions related to them, irrespective of favorable or unfavorable outcomes. Fourteen Indian IS professionals with low turnover intentions felt that their supervisors provided explanations for decision making procedures and were transparent about procedures and outcomes. There were 4 Indians with low intentions to leave who thought their supervisors were not open and transparent

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about procedures and outcomes, but they blamed it on corporate culture and environment that the supervisor had no control over. In contrast there were 11 Indian IS professionals who thought their supervisors were not fair about providing explanations about procedures and decisions, and these respondents had high intentions to leave.

- *Respondent P66 is a 24 year old male Indian IS professional working as a senior software engineer for the past 3 years in an Indian IT service providing company. He says, "I will say 1. No he is not at all open. Only the result is known. how he got the result, why this judgment, what procedure he followed is not known. And even if it happens it happens at a higher level. So people who are like me and working below me will not know the procedure or the result".*

Companies need to focus on HR policies that explain why certain procedures were followed, and provide more transparency in the decision making policies and outcomes related to employees to have satisfied, productive employees.

Performance rating on curve: Performance rating on a curve was something that surfaced as an issue with Indian IS professionals. Rating on a curve means that some individuals in a team have to get poor ratings, despite their actual performance: of ten team members performing at roughly equivalent levels, two or three will fall at the bottom and hence will not get an increment. Employees regard this system as highly demotivating: it operates as a disincentive for them because their rating does not reflect their actual performance (Upadhya and vasavi 2006). Six Indian IS professionals with high turnover intentions spoke with frustration about this.

- *Respondent P15 is a 25 year old male Indian IS professional working as a software developer for the past 1 year and 10 months with a leading European IT service providing company. He has high intentions to leave because of the kind of work he does, and is not happy that his supervisor is not transparent about procedures. He says, "The reason he comes up with is, I can give 2 rating only to 4 people or 5 people I don't have anything in my hand. I have the orders from higher management that you can give 2 rating to 5 people only. Then I am asking like why I am not in 5 people then he said I can't answer that. He doesn't know the procedures himself.*

9.2.5. Organization wide streamlined and rigorous processes: Companies can make processes and policies that are implemented by one and all strictly and reduce chances of subjectivity and bias in such things. It is corporate responsibility to design and enforce streamlined processes in place for all supervisors to follow when doing performance

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evaluation of subordinates. The main reason why Indian IS professionals with low turnover intentions felt that their supervisor's procedures and policies related to decisions about them were fair was because they felt the company had streamlined and rigorous processes and procedures in place leaving very little scope for the supervisors to be subjective or biased. Ten Indians with low turnover intentions attributed fair supervisory procedures to company policies and processes.

- *Respondent P41 is a 38 year old male Indian IS professional working as a project manager for the past 7 months. He has low intentions to leave and is quite happy with his supervisor's decision making procedures. He gives credit to the company for fair procedures and says, "He has been more fair than unfair in his policies because of how XXX (company) is. As I said before it is a process driven company and we have very streamlined processes in place. So I will say 4- somewhat fair".*
- *Respondent P42 is a 34 year old male Indian IS professional working as a test manager for the past one and a half years with a Non-Indian IT service provider. When asked about supervisory procedures for decisions related to him, he says, "Within my company, it all is defined- when it should happen, how it should happen, how it should be analyzed. **Basically, it is a very process driven approach that my manager follows**. The company defines these procedures*

This would help reduce favoritism and bias in such procedures because a chief complaint from respondents on why their perception of supervisory procedures was unfair was that they found supervisors to be biased and favoring some over others. Eight Indian IS professionals with low turnover intentions felt that supervisory decision making policies were fair because their supervisors were free of bias, and 10 Indian IS professionals thought that their supervisors were biased in their decision making procedures and had high intentions to quit. There were 9 Indian IS professionals who had low intentions to leave but felt that favoritism was part and parcel of supervisory decision making procedures.

- *Respondent P10 is a 28 year old male Indian IS professional working as a consultant with a Non-Indian IT service provider. He finds his supervisor's procedural justice to be unfair, but his intentions to leave are low. He says, "But as far as he is concerned, no he is not consistent. There is a lot of favoritism, he like some attributes in some people so he gives better ratings to that particular person whereas the other person who is actually working, he doesn't get the expected results. He is not transparent about the procedures also. I think he is unfair. I will give 2 (quite unfair)".*
- *Respondent P73 is a 27 year old male Indian IS professional working as a deputy manager for the past 2 years with an Indian IT service provider. He has high turnover intentions because he feels, "4- I am likely to leave the company. I am doing*

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the same work and lot of politics going on here. If we work the credit goes to some other person and that's the little bit of politics I am talking about. When asked about his supervisor's policies for decisions related to him, he feels his supervisor is biased and says- "He doesn't have any policies or procedure for this. He will give the best rating to one he likes. Someone does the work, and someone else gets the credit. I will rate him 1-2".

The more the company's policies are rigorous and well defined, the lesser will be chances of bias thereby reducing perceptions of unfairness amongst employees.

9.2.6. HR policies for coping with stress: We found many of our respondents talking about high levels of stress at work. HR practices should aim towards designing organizational focused interventions that can alleviate the stress levels of employees. Studies have also found how stress can affect well being of employees (Dhar and Dhar 2010). More and better strategies could be encouraged by organizations like as Yoga, Meditation, etc. From this study, it can be concluded that immediate attention of the organization needs to be drawn towards stress and exhaustion that Indian IT professionals experience so that they can take effective measures to reduce the stress levels of their employees.

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10.   CONCLUSION

In this study we empirically investigated turnover intentions and behaviors of Indian IS professionals using a theoretical framework that was most relevant in the Indian context. This is because research has found that models developed and tested in Western countries do not always apply to other countries and cultures (Lacity *et al.* 2008). The theoretical model tested for new antecedents like social norms, which is especially relevant in Indian societies, and supervisory organizational justice measured across all four dimensions of justice. Also, variables proven to be strong predictors of turnover intentions by past research on turnover (predominantly in the Western countries) were included in the theoretical framework. These include job satisfaction and organizational alternatives. In addition, since the Indian IT industry is characterized by work which is considered to be monotonous and not challenging (like coding, testing and maintenance and production support), the study investigated how these activities are related to job satisfaction. The data found strong support for three out of four dimensions of supervisory justice, i.e. distributive, procedural and informational justice, as predictors of turnover intentions. Also, consistent with the findings of studies conducted in Western countries, job satisfaction and overall organizational justice were also negatively related to turnover intentions. Support was found for low level tasks (not involving client interaction) being negatively related to job satisfaction. Social norms and organizational alternatives as predictors of turnover intentions were not supported.

Of greater interest, we found some new constructs that emerged from the data. These included work-life conflict, stress and organizational satisfaction. We propose a model of turnover intentions and behavior that is most relevant for Indian IS professionals that is grounded in real data and backed by strong literature of turnover. It includes the new constructs that emerged from our data, and *a priori* constructs from the initial model that were found to be strong predictors of turnover intentions. Also, some constructs like organizational alternatives and social norms are taken out since they were shown to be not significantly related to turnover intentions amongst Indian IS professionals.

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The study has important implications for IT organizations in India related to human resource practices geared towards retaining Indian IS professionals. For example, contrary to the popular belief that maintenance and production support work is not desired by Indian IS professionals, the study found that such work is attractive when it involves onsite opportunities.

Also, though compensation has been shown to be not a driving force in making Indian IS professionals change jobs (Lacity *et al.* 2008), it did surface as a significant reason for job satisfaction. The interviews revealed that a significant cause of dissatisfaction in compensation came from inequitable compensations for new and existing employees. Companies should focus on treating all employees fairly and equitably to have a happy, productive workforce.

This is a pioneering effort in measuring turnover behavior of Indian IS professionals, and examining how it relates to turnover intentions. The moderate correlation between turnover intentions and behavior underlines the need for turnover studies to have turnover behavior as the focal dependent variable as done in this study.

It is hoped that this study will initiate further research on turnover intentions and behaviors of Indian IS professionals. Though the global outsourcing literature is extensive, little attention has been paid by the research community on Indian supplier side issues, especially human resource management matters that affect clients and suppliers alike. Our study aspires to bring this important arena into the IS research community's focus by investigating retention of Indian IS professionals in rigorous manner through interviews. We hope that a focus on the topic of turnover intentions of Indian IS professionals will encourage future researchers to investigate related aspects of this important phenomenon - like other antecedents and consequences not included in our framework. Also, we hope that findings of our study will help understand and tackle the problem of turnover of IS professionals rampant across the Indian IT industry.

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Appendix I: Studies of turnover of IS professionals

Author (Year)	Major Determinants Studied	Dependent Variable	Sample	Findings	Theory used	Research design
1. Agarwal, R, Ferret, T. and De, P. 2007	Situational risk and variety, preferred risk and variety, propensity to stay	Turnover intentions	63 senior major MIS students at 2 US universities	Organizational risk interacts with individual preferences for risk in explaining turnover intentions, while organizational variety exhibits a main effect on turnover intentions with no interaction with individual preferences for variety.	Interaction between situation and individual factors; P-O fit	Experimental design Quantitative survey
2. Agarwal and Ferrett, T. SIGCPR 2002	Preferred length of employment duration, Career anchors(moderator), career stage (moderator),	Turnover intentions	Corporate office of a Fortune 500 company in USA		Psychological contract	Quantitative survey
3. Agarwal, R., De, P., Ferret, T. SIGCPR 2002	Career anchor, life stage, competencies (generic, firm specific, performance stage, career stage) Moderator: variety of organization, entrepreneurial risk	Preferred employment duration	35 senior IS majors in a mid western U.S. university		Psychological contract	Experimental design
4. Ahuja, Chudoba, Kacmar, McKnight and George (2007)	Demographics: Age, gender, marital status, organizational tenure, promotability. Perceived work overload, job autonomy, work-family conflict, fairness of rewards, Mediators: work exhaustion, organizational commitment	Turnover intentions	N=171; RW in a mid western US city	Support was found for effects of work–family conflict, perceived work overload, fairness of rewards, and job autonomy on organizational commitment and work exhaustion. Organizational commitment and work exhaustion were found to be significantly related to turnover intentions.	Work exhaustion model	Quantitative survey

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5. Anantharaman, R.N and Paul, A.K.2005	HRM practices(value based induction, total approach to compensation, career development, work environment, development oriented appraisal, comprehensive training, value added incentives, team based job design, rigorous selection process)	Organizational commitment	N=370 from 34 software companies in India	HRM practices such as employee-friendly work environment, career development, development oriented appraisal, and comprehensive training show a significant positive relationship with organizational commitment.		Quantitative
6. Ang and Slaughter, 2004	Clusters of internal labor market strategies(industrial and craft)	Turnover rates	Multiple case studies in 41 organizations	Technically-oriented IT jobs cluster in craft ILM strategies that are associated with higher turnover, whereas managerially-oriented IT jobs cluster in industrial ILM strategies that are associated with lower turnover.	ILM	Analysis with MANOVA
7. Baroudi and Igbaria, 1995	Dempgraphics: Gender, age, education, organizational tenure, job tenure, tenure in IS boundary spanning activities, organizational level, career experience (promotability, salary) Mediators: organizational commitment, job satisfaction	Turnover intentions	348 members of Data Processing Management Association, Mid atlantic chapters	When controlling for the differences in human capital variables, women in IS still tend to be employed at lower levels of the organization, make less money, and have greater intentions to leave the organization	Gender perspective from Human Capital and occupationalist paradigms	Quantitative
8. Baroudi, 1985	Boundary spanning activities, role ambiguity, role conflict Mediators: job satisfaction, organizational commitment	Intentions to quit	9 companies from NY/Boston area. N=229	Role ambiguity was found to be the most dysfunctional variable for IS personnel, accounting for 10.3%. 20.2% and 22.2% Of the		Quantitative, survey

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				variance in turnover intentions, commitment, and job satisfaction.		
9. Bartol, 1983	Professionalism, rewards, Mediators: Job satisfaction, organizational commitment	Turnover behavior	IT employees across USA	Significant inverse relationships between turnover and three of the predictor variables, professional reward criteria, job satisfaction, and organizational commitment. Turnover was also negatively related to professionalism, but not significantly so.		Quantitative
10. Bhal and Gulati, 2006	Perceived contribution, affect, voice, interactional justice, Mediators: Job satisfaction, organizational commitment	Turnover intentions	N=295; Indian software professionals	The process dimensions of pay satisfaction are better predictors of the professionals' intention to leave the organization. Distributive justice predicts both the amount and the process dimensions of pay satisfaction whereas procedural justice predicts only the process dimensions. Finally, found that LMX leads to voice which leads to procedural justice which in turn results in satisfaction with the process dimensions of pay satisfaction.	LMX	Quantitative' survey
11. Bhal and Gulati, 2007	Distributive justice, procedural justice, LMX, voice Mediator: Pay satisfaction	Turnover intentions	N=300 Indian software professionals in 30 IT companies in India	At the organization level, satisfaction predicts turnover intention through commitment. Within the workgroup, the two dimensions of Leader-member exchange (LMX) predict the outcomes of satisfaction and commitment differentially and leader-member		

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				exchanges lead to justice through voice. Justice predicts the employee outcomes of satisfaction and commitment, which in turn determine turnover intention.		
12. Chang, S.I. 2007	Work life conflict, role stress, role ambiguity	Turnover intentions	IT personnel in South Korea	Results indicated that work role stressors had a positive, indirect effect on turnover intention through low job satisfaction and organizational commitment. The relationship between WFC and organizational commitment was significant. Findings suggested that role ambiguity has negative impact on organizational commitment.		
13. Chen, 2008	Establishing relationships, pre-entry experience, Mediators: Job satisfaction, organizational commitment	Turnover intentions	N=136 cross sectional national survey across Taiwanese enterprises	Job satisfaction and organizational commitment not only have direct effects on turnover intention, but also mediate the impacts of pre-entry experience and establishing relationships	Socialization theory	Quantitative
14. Ferret, Agarwal, Brown and Moore, 2005	Work environment and career development, community building, incentives, employment security, non-technical skill recruitment	IT staff turnover rate reported by managers	106 USA companies (many were fortune 1000)	Cluster with human capital focus has lower turnover than task focused configuration. Turnover associated with Config 3 is notably higher, and with config 4 is slightly higher than the turnover with task focused configuration	IT HR configurations	Quantitative using cluster analysis
15. Gallivan, M. 2004	Demographics: Age, gender, organizational tenure	Job satisfaction, job	30 semi structured	Women reported lower job satisfaction on a dimension that		Mixed method

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	Openness to experience, tolerance for ambiguity, gender(moderator)	performance and turnover intentions	interviews in two US companies followed by surveys	captures job stress, and this effect was exacerbated in the firm that expected its IT employees to demonstrate considerable initiative to master the innovation. In contrast, the women at the second firm, while showing no differences in job stress (relative to their male peers), nevertheless exhibited a very different pattern of job skills and performance than the men. Finally, the personal attribute that was strongly associated with employees' job satisfaction (openness to experience) was negatively correlated with one aspect of job performance – directly opposite to what was hypothesized.		
16. Gill, B. and Pidduck, A.B. SIGCPR 2001	Challenging work, compensation, and work environment	Retention rate	Clarica,Mutual Life Insurance Company in Canada			Case study and action research
17. Goldstein and Rockhardt (1984)	Job characteristics, role conflict, role ambiguity, quality of leadership	Job satisfaction	N=125 from 3 companies in North east and 1 in mid west USA			Quantitative survey
18. Guimaraes and Igbaria, 1992	Demographics: age, gender, education, organizational tenure, Role ambiguity, role conflict, boundary spanning activities	Intentions to leave	38 companies in Ohio	IC employees were found to participate more extensively in boundary spanning activities, experienced more role stressors were less satisfied with their jobs	Comparison of IS and IC personnel	Quantitative

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	Mediators: Job satisfaction, organizational commitment				and less committed to their organization. While overall job satisfaction had both direct and indirect effects on turnover intentions among IC employees, for IS personnel it had only indirect effects through organizational commitment.		
19. Gupta, Y., Guimaraes, T., Raghunathan, T.S. 1992	Boundary spanning activities, role conflict, role ambiguity Mediators: Job satisfaction, organizational commitment	Intentions to quit	N= 75; 30 organizations in Cleveland	Role conflict and role ambiguity were significantly related to job satisfaction, organizational commitment and turnover intentions.		Survey q
20. Hoonakker, P , Marian, A and Carayon, P. 2004	Job characteristics(role ambiguity, job demands, decision latitude, challenge), social support(supervisory support, support from colleagues) , organizational characteristics (training opportunities, career opportunities, rewards) Mediators: QWL (quality of work life), organizational commitment, JC, Burnout	Intentions to quit	624 IT managers in USA	Task identity seems to play an important role in predicting QWL for women in the IT work force, but not for the other groups.	Universal model of turnover for IT	
21. Hunter, Tan &Tan, 2008	Job satisfaction, rewards and recognition, work place environment, career commitment, personal concerns	Voluntary turnover behavior	35 interviews with IS professionals in New Zealand and Singapore	There are universal factors affecting turnover that are not culture dependent- job satisfaction, remuneration and benefits and training and career opportunities, job scope, autonomy, and skill variety. Culture specific factors affecting turnover included peer group	Cultural perspective by Hoefstead.	Qualitative

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				relation, career progression, family concerns,		
22. Igbaria and Greenhaus 1992	Demographics: age, organizational tenure, education Role ambiguity, role conflict, salary, promotability, career opportunities Mediators: Job satisfaction, career satisfaction, organizational commitment	Turnover intentions	N= 464 ACM members from Delaware, Pennsylvania and Southern New Jersey	The most immediate determinants of turnover intentions are organizational commitment and job satisfaction. Also, the impact of employee age, tenure, and education on turnover is indirect. Further, role stress had a positive indirect effect on turnover intentions. Finally, employees with relatively low salaries and employees who perceive limited opportunities for career advancement tend to have higher turnover intentions.		PLS, quantitative
23. Igbaria, M. and Guimaraes, T., 1992	Role stressors: Role ambiguity and role conflict Personal variables: Gender, age, Organizational tenure, education Mediator: Facets of job satisfaction (peers, work, supervisor, pay, promotion); organizational commitment	Turnover intentions	N= 76 IC employees from 38 companies in Ohio;	Results show that role ambiguity was the most dysfunctional variable for IC employees in relation to job satisfaction, Organizational tenure was found to moderate the relationships between role stress variables and overall job satisfaction, and some of its components. The relationship between role ambiguity and some components of job satisfaction were found to be education and age dependent, Results also confirmed the importance of job satisfaction in predicting organizational commitment and intentions to leave.		

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24. Igbaria and Guimaraes, 1999	Role conflict and role ambiguity, Mediators: job satisfaction, organizational commitment	Turnover intentions	N=225 salespeople from a company in Southeastern USA	Telecommuters seemed to face less role conflict and role ambiguity and tended to be happier with their supervisors and more committed to their organizations. They also showed lower satisfaction with peers and with promotion.	Telecommuters versus non-telecommuters	Quantitative
25. Igbaria, Parasuraman and badawy, 1994	Demographics: age, organizational tenure, job tenure, number of years in IS field Work experience: boundary spanning, role stressors, task characteristics, salary Mediators: career expectations Moderator: job involvement	Job satisfaction, career satisfaction and organizational commitment	N= 517 ACM members from Pennsylvania, Delaware and Southern New Jersey			
26. Igbaria, M., Greenhaus, J.H., and Parasuraman, S.1991	Demographics: Age, gender, job and organizational tenure, education, marital status, number of years in IS field Career orientations, career satisfaction, perceived job characteristics, boundary spanning activities, organizational commitment	Intentions to leave	N= 517 ACM members from Pennsylvania, Delaware and Southern New Jersey	The most prevalent career orientations of MIS employees were found to be technical and managerial. Autonomy and lifestyle orientations were also found to be moderately represented in the sample. Women were more lifestyle oriented and less technically oriented than men. Employees whose career orientations were compatible with their job setting reported high job satisfaction, high career satisfaction, strong commitment to their organization, and low intentions to leave their organizations.		
27. Igbaria and Siegel, 1992	Demographics: gender, marital status, education, job	Intentions to leave	N=571 Members of	Results found that organizational tenure, age, job tenure, and		Quantitative

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	level, organizational level, organizational tenure, IS tenure, job type Role conflict, role ambiguity, boundary spanning activities, job involvement, advancement prospects, job satisfaction, career satisfaction, organizational commitments, salary, career opportunities, job characteristics		ACM from Pennsylvania, Southern New Jersey and Delaware	number of years of IT experience are negatively related to turnover intentions, and education was positively related to turnover intentions. Also, role stressors and boundary spanning activities are positively related to turnover intentions. Job involvement, job satisfaction, career plateau, organizational commitment, salary, promotability, status and projects are negatively correlated while career opportunity is positively related to turnover intentions.		
28. Igbaria, M., and Chidambaram, L. 1997	Age, organizational tenure, job tenure, number of years in IS, education, organizational level Boundary spanning activities, role ambiguity, role conflict, tangible rewards, intangible rewards, salary, promotability Mediators: Job satisfaction, organizational commitment	Intentions to leave	N=350 employees in USA (Mid atlantic chapters of DPMA)	The results suggest that significant gender differences do exist. Women were younger, had fewer years of job tenure, were in lower-level positions and 'were paid less than men. Women had fewer opportunities to interact with people outside their departmental boundaries and were motivated more by intangible rewards compared to men. The study did notfind any gender-based differences in role ambiguity, role conflict or career outcomes. Results also show that organizational commitment and job satisfaction mediated the relationships between individual and work factors and intention to stay among men only.		

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29. Igbaria, M., Meredith, G., and Smith, D.C. 1995	Gender, education, marital status, organizational level, age, organizational tenure, job tenure, IS tenure. Career orientations	Task based reward, organizational reward, Job satisfaction, career satisfaction, organizational commitment Intentions to leave	Members of computing society of South Africa	Rich diversity of career orientation held by IS employees in SA. IS employees are mostly service and security oriented and scored low on technical and entrepreneurial orientation.	Career orientations	Survey, quantitative
30. Jiang and klein, 2002	Gender, position, years in current organization, working experience, age, education, Discrepancy between career want and career have	Intentions to leave, career satisfaction	Members of AITP- American Institute of Technology Professionals.	The impact of the discrepancy between the wants of employees and employee perceptions of how their organization satisfies those wants is significantly related to turnover intentions.	Career orientations and discrepancy theory	Quantitative
31. Josefek Jr, Kauffman, 2003	Demographics: Age, gender, tenure. Pressure to separate, separation threshold, retention frontier	Turnover behavior	661 IS employees in a large multidivision firm	Alternative theoretical perspective for understanding IS professionals' separation and retention is introduced. Three new constructs: pressure to separate, retention frontiers and separation thresholds are provided as a basis for identifying when an employee is close to leaving the firm and for a new approach to analyze the potential effectiveness of action taken by a firm to change separation behavior: pre-implementation retention intervention assessment.	Economic model for turnover	
32. Joseph and Ang, 2001	Demographics: gender, education and organizational tenure	Turnover and turnaway	192 IT professionals (not specified)	Initial results of the field study provide strong support for the threat-rigidity hypotheses with	Professional obsolescence theory	Quantitative; PLS

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	Professional obsolescence, restriction of information processing (mediator), constriction of control, professional commitment (moderator)			professional commitment moderating the relationship between the cognitive coping mechanisms and occupational mobility.		
33. King, R and Xia, W.	Socialization tactics(sequential, collective, investiture, formal, fixed) Mediators: role adjustment (role conflict, role ambiguity), job satisfaction, organizational commitment (affective and continuance)	Turnover intentions	93 organizations in mid west and three in major east-coast metropolitan areas in USA	The results showed that the six socialization tactics affected new IS professionals differently. Investiture tactics affected directly all the variables studied except role ambiguity. Serial tactics had a direct and positive effect on continuance commitment but a negative effect on intention to quit. Both sequential and collective tactics had direct effects on role ambiguity. Overall, the social aspects of the socialization process had the most significant effects on new IS professionals' role adjustment and organizational attachment.	Socialization	Quantitative
34. Korunka, C, Hoonakker, P., Carayon, P	Same as above	Same as above	N=677 austrian IT workers			
35. Kym, H and Park, W.W. 1992	Career path, status of IS department, job security, management control mechanism	Cultural fit/misfit between corporate and IS department culture			Conceptual paper based on Schein's organizational culture	Conceptual
36. Lee, P.C.B. 2000	Gender, age, organizational tenure	Turnover intentions	N=273 IS personnel from		Social support theory	

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	Social support (supervisor), social support(colleagues), social affiliation needs (moderator) Job satisfaction(mediator)		Singapore			
37. Lee, P.C.B. 2002	Age, tenure, career plateau, professional plateau	Career satisfaction, Job satisfaction and intentions to leave	N=309; Subscribers of ComputerWorld (Singapore edition)	Results show that professional plateau accounts for a significant variance in work outcomes - namely, career satisfaction, job satisfaction, and turnover intentions beyond those accounted by the objective and perceptual measures of career plateau. Also, professional plateau is negatively correlated with career satisfaction and job satisfaction, and positively correlated with turnover intentions. Finally, career plateau is negatively correlated with career satisfaction and job satisfaction, and positively correlated with turnover intentions.	Career plateau	
38. Lim, V.K.G. and Teo, T.S.H	Demographics: Gender, job tenure Work demands, relationship with others, career concerns, system maintenance, role ambiguity and administrative tasks	Sources of stress	N=257; IS suppliers in local supplier firm in Singapore providing services to Singapore and asia pacific region			
39. Mahantanakoon, P. 2007	Formal professional development, informal	Intentions to stay	N=91 Information		Igbaria and Wormley's	Quantitative

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	professional development Mediators: Promotion, career satisfaction		technology professionals in mid west region of USA.		model of career experiences	
40. Meland, H., Waage, R.P., Sein, M.K. SIGMISCPR 2005	Stages: Assessing employee intentions Deciding on intervention measures Enacting intervention	Turnover accepted as an organizational fact and treated as a strategic facilitator	Case study at a Norwegian branch of Cap Gemini.		Theory of planned behavior	Conceptual paper
41. Moore, 2000	Demographics: Age, organizational tenure, negative affectivity© Perceived work load, role conflict, role ambiguity, fairness of rewards, autonomy, work exhaustion (mediator)	Turnover intentions	N=252 Members of Association of Information technology Professionals (members of USA for this study)	Results show that work exhaustion partially mediated the effects of workplace factors on turnover intention. Also, results of the study revealed that: (1) technology professionals experiencing higher levels of exhaustion reported higher intentions to leave the job and (2) of the variables expected to influence exhaustion (work overload, role ambiguity and confiict, lack of autonomy and lack of rewards), work overload was the strongest contributor to exhaustion in the technology workers	Work exhaustion model	Quantitative and qualitative
42. Niederman and Sumner, 2003. 43. Mourmant, G., Gallivan, M. 2007	MBTI types for IS professionals Extraverts, introverts, thinking and feeling, sensing and intuition, judging and perceiving	Decision paths	Dataset from Niedermand and Sumner (alumni from private metropolitan university in Midwestern USA)	A large majority of respondents reported "image violation" and either job search or an offer in hand prior to job change. In contrast to previously theorized decision pathways, the majority of respondents following a wide variety of 'atheoretical'" paths.	Unfolding model of turnover	

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44. Palmer, Speier, Buckley, Moore, SIGCPR, 1998	Desirability and ease of movement, Job satisfaction,	Turnover intentions	twenty member companies of the Center for MIS Studies at the University of Oklahoma			Quantitative
45. Pare, Tremblay and Lalonde, P. SIGCPR 2001	Age, organizational tenure, number of job offers Recognition, competence development, procedural justice, distributive justice, empowerment, work life policies, information sharing- HR practices Mediators: OCB(Individual) OCB(Organization), Affective, continuance commitment	Turnover intentions	N=394; Quebec members of Canadian Information processing Society	Findings reveal that IT specialists are particularly sensitive to four types of HR policies and practices: distributive justice, competence development, empowerment, and recognition. Results also provide additional support for the generalizability of the two-component model of organizational commitment as predictors of turnover intentions in the IT context. Also, the study found that citizenship behaviors constitute another key indication of intention to quit.		Quantitative survey
46. Rasch and Harrell, 1989	Demographics: age, gender, education, position, years of experience Need for achievement, life stress, A/B personality type, influence orientation Work stress, job satisfaction	Turnover intentions.	N=32 ;MAS designers/consult ants employed by a Big Eight consulting firm	The study results imply those MAS personnel who possess relatively high achievement needs, the Type A personality, and an influence orientation are likely to experience less work stress, greater job satisfaction and lower rates of voluntary turnover than their contemporaries.		
47. Ridings, C.M. and Eder, L.B. 1999	Perceptions of career path equity, career planning tool equity, key decision making	Job satisfaction	N=172 Morning and evening IS	Data analysis showed that only the perception of equity of career planning tool availability is		

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	influence equity, monetary compensation equity		students in north eastern US university'	related to job satisfaction for these employees.		
48. Roepke, Agarwal and Ferret (2000)	Leadership initiatives	Develop skills and behavior, retention and recruitment	3M- a large multi-product diversified manufacturing firm based in US.		Leadership theory	Qualitative; case study
49. Rutner, Hardgrave, Mcknight (2008)	Role ambiguity, role conflict, perceived work overload, autonomy, **fairness of rewards**, negative and positive emotional dissonance, Mediators: work exhaustion and job satisfaction	Turnover intentions	N=161 from Fortune 100 company	Emotional dissonance predicts work exhaustion better than do perceived workload, role conflict, or role ambiguity, constructs which have long been associated with work exhaustion. Job satisfaction is influenced directly by role ambiguity and work exhaustion. In turn, job satisfaction influences turnover intention.	Work exhaustion theory by Moore, emotional dissonance theory	Quantitative survey and data analysis with AMOS
50. Samad, S. 2006	Job satisfaction, job characteristics	Turnover intentions	292 IT staff in Telecom Malaysia (TM).	The study found that demographic variables, job characteristics and job satisfaction had a significant contribution and negative effect on turnover intentions. The study revealed that job satisfaction accounted for larger variance in turnover intentions than from job characteristics. The finding also revealed that job satisfaction had more effect on turnover intentions than from job characteristics.		
51. Smith and Speight SIGMISCPR 2006	Demographics: Age, gender, race, education	Turnover intentions	N=129; Computing		Discrepancy model between	Quantitative survey

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	Autonomy, entrepreneur, challenge, geographical security, job security, life style, managerial competence, technical competence, service Mediators: Job satisfaction, career satisfaction, organizational commitment-affective, continuance, normative commitment		Society of South Africa		career want and career have Career orientations	
52. Sug-In Chang 2008	Role conflict, role ambiguity, work-family conflict Mediators: organizational commitment, Job satisfaction	Turnover intentions	N= 304; South Korea; IT personnel working in the Seoul and Gyeonggi region			SPSS and AMOS
53. Sumner, Niederman 2002	Age, gender, salary, job task, search process, job satisfaction	Turnover intentions	Students and alumni from SLU and SIUE	Career experiences, job tasks and job satisfaction of females and males in the IT field are relatively similar.	Shock theory	Quantitative
54. Tan, M. and Igbaria, 1993	Competition from other employers, limited advancement opportunities	Turnover rates	N= 4362 IT professionals in Singapore	This study also reports that the main reasons for turnover are competition from other employers in remuneration and limited advancement opportunities.		
55. Taylor, D.S. and Chin, W.W. 2004	Congruence of fit between job and Quality of life goals, job satisfaction	Thoughts of quitting, expectations of quitting and Turnover intentions	N=135 IS workers in an independent school district in the U.S.	A new construct is presented that examines the congruence of fit between the job and the person's quality of life goals. This construct is empirically shown to be a better predictor of various measures of turnover decision (i.e., thoughts of quitting,	Congruence or fit between life goals and job	Quantitative

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				expectation of quitting, and intention to quit) with an average explained variance of 0.50.		
56. Thatcher, J.B., Liu,Y., Stepina, L.P., Goodman, J.M. and Treadway, D.C.2006	Demographics: Gender, age, education, job tenure. Autonomy, task variety, task significance, feedback, task identity, supervisory satisfaction, pay satisfaction Mediators: Organizational commitment and Job satisfaction	Turnover intentions	N=228; IT professionals in 34 public agencies in Southeastern United States	Although intrinsic motivation did not fully mediate the influence of motivators and hygiene factors, findings suggest that intrinsic motivation positively influences workplace attitudes and has a mediated influence on turnover intent.		
57. Thatcher, J.B., Stepina, L.P. and Boyle, 2002	Perceived competitive pay, perceived job alternatives, demographics gender, age Job characteristics (task variety, task identity, task significance, autonomy and feedback), Mediators: Job satisfaction, organizational commitment, turnover intent	Turnover intentions	N=191 IT workers in a southeastern U.S. state government	Organizational commitment and perceived job alteratives demonstrated distinct effects on turnover intention. In addition, organizational commitment mediated the influence of job satisfaction, perceived job characteristics, and perceived competitiveness of pay on turnover intention.		PLS; quantitative
58. Wingreen, Blanton and Kittner SIGCPR, 2002	Self-efficacy, locus of control, Mediator: training fit climate	Turnover intentions	IT professionals in Tampa Bay	Not published	P-O fit; trainee characteristics and training climate fit	Quantitative

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APPENDIX II: Theories of Turnover

Professional obsolescence theory (Ang and Slaughter 2000): The theory argues for a negative relationship between human capital and ease of movement for IT professionals. This is because rapid and frequent changes in the technology landscape tend to erode the human capital held by IT professionals. Hence, IT professionals with long tenure in the profession and organization are likely to be professionally obsolete. Threatened by professional obsolescence, individuals cope by ignoring new technologies and narrowing their professional referent group to those with similar competencies (Pazy 1994).

Job embeddedness theory: According to Mitchel and Lee(2001), individuals stay with their organizations because they are enmeshed in a web that prevents them from quitting their jobs. Individuals are embedded when they have strong links with people or activities, have better fit with their jobs and communities, and need to make greater sacrifices if they leave their organizations.

Unfolding Model of Turnover: This model highlights different psychological paths that people take when quitting. Specifically, Lee and Mitchell (1994) propose that the process of turnover is often triggered by a shock, an event that jars employees toward deliberate judgments about their jobs. The shock is then interpreted and integrated into the person's system of beliefs and images. When a shock triggers the enactment of a preexisting plan of action, the person quits without considering personal attachment to the organization or job alternatives. Alternatively, if a shock does not trigger a preexisting script, the person undergoes additional cognitive deliberations, such as evaluations of job satisfaction and job alternatives.

Linkage Model. : Mobley's (1977) linkage model proposes a series of intermediate linkages between job satisfaction and turnover. Specifically, job dissatisfaction is proposed to trigger a series of withdrawal cognitions (e.g., thoughts of quitting, job search utility evaluations, and job search intentions) that result in job search behaviors. When an alternative job is found and evaluated as more attractive than the current job, an individual develops an intention to quit and, consequently, leaves the organization.

Met Expectations Model (Porter and Steers 1973) : The theory posit that met expectations are a key determinant in turnover decisions. The concept of met expectations is defined as "the discrepancy between what a person encounters on the job in the way of positive and negative experiences and what he expected to encounter" (p. 154). The set of expectations a person has of an employer may include rewards, advancement, and relations with peers and supervisors. Specifically, Porter and Steers argue that dissatisfaction arising from the employer failing to meet a set of expectations is likely to cause turnover by an individual.

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Organizational Equilibrium Model (March and Simon, 1958): the theory argues that turnover occurs when individuals perceive that their contributions to an organization exceed the inducements they receive from that organization. This inducement–contribution balance is broadly influenced by two factors: (1) one's desire
to move, which is generally a function of one's satisfaction with the work environment, and (2) one's ease of movement, which is influenced by macro- and individual-level factors that determine employability.

Motivational theories of turnover: The Two Factor Theory (motivation and hygiene factors) suggests that when factors are fulfilled, Turnover is lower (Herzberg 1968). Another motivational theory is the Theory of Needs (affiliation, achievement and power needs) that suggests that when an individual's needs are met at an organization, turnover is lower (McClelland 1961). Turnover models of job design suggest that job characteristics (skill variety, task significance, task identity, autonomy, and feedback) determine job satisfaction which in turn determines turnover (Hackman and Oldham 1976, 1980). In IS research, study by Goldstein and Rockart(1984) tested the job characteristic model on programmers and analyst and found that role perception variables of conflict and ambiguity and leadership variables are important correlates of job satisfaction and that the job characteristics model should incorporate these variables.
The Job Investment Model posits that Job Rewards and Job Costs determine Job Satisfaction, that Organizational Alternatives and Investment in the organization determine Organizational Commitment, and that both job satisfaction and organizational commitment determine turnover (Rusbult and Farrell, 1983).

Career Anchors Theory(Schein,1978): Career anchor model defines career anchors as a pattern of "self-perceived talents, motives and values which guide, constrain, stabilize, and integrate the individual's career." These career anchors are self-perceptions which influence career choices and career decisions. If individuals are recruited into positions which are consistent with their career anchors, then this "fit" between individual expectations and job characteristics may facilitate greater levels of job satisfaction and lessen intention to turnover. Studies by Igbaria and colleagues have focused on career anchors and orientations amongst IS professionals. In a study by Igbaria, Greenhaus, Parasuraman, it was demonstrated that employees whose career orientations were compatible with their job settings reported higher job satisfaction and career satisfaction, stronger commitment to their organization, and lower intentions to leave their organization than employees whose career orientations were in- compatible with their job settings.

The organization-centric model(Agarwal and Ferrett, 2000): This model assumes that it is deliberate managerial actions in the form of human resource strategies and practices that result in specific joining and staying behaviors, and that they are proximal predictors of employee behavior. In the IT literature, Agarwal and Ferratt(2002) describe four distinct

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human resource strategies for managing information systems professionals, with each strategy embodying a specific set of managerial beliefs and values.

Individual-centric model(Agarwal and Ferrett, 2000), is one which posits that individual differences among IT professionals result in recruitment and retention effects. In this view it is the attributes and predispositions of an individual which are predictive of behavior. Drawing upon research in organizational behavior and psychology, such differences have been conceptualized in prior studies in a variety of ways. These include, among others, demographic variables (such as age, professional tenure, gender, and organizational tenure), motivational differences, and situational differences such as job type, role stressors including role conflict and role ambiguity, and job involvement. In the domain of IT, notable in this stream is the work of Igbaria and colleagues. For example, in a multi-organization study of 464 IS professionals, Igbaria and Seigel [20] examined the relationship between a large set of individual and situational differences and employee intentions to stay with their In another study Igbaria and Baroudi [19] examined the effects of gender differences in performance evaluations, and the effects of gender on job performance attributions and career advancements prospects. In yet another study by Igbaria *et al.* (1994), apart from demographic characteristics, role stressors and boundary spanning activities, an important job attitude- job involvement was shown to be important for satisfaction with career, job and organizational commitment (labeled as quality of work life). In a study by Sumner and Niederman(2002) have also examined gender differences amongst IT people in terms of job satisfaction, turnover intentions, turnover behavior and job search activities and found the variables to be similar across genders.

Preferred Employment Duration Theory (Agarwal and Ferrett, 2000): Drawing upon Rousseau's(1995) conception of psychological contract, the theory proposes that a critical antecedent of staying behavior is an IT employee's preferred employment duration which is determined by career anchor, life stage and employee competencies. This theory has been tested on entry level IT employees(Agarwal, De Ferratt, 2002).

Apart from these theories, 'turnover culture' based on social contagion and social information processing theories has been proposed by Moore and Burke(2002) which builds on the premise that individual turnover decisions are influenced and spread through workgroups, companies, and even professions.

Important antecedents to job satisfaction, organizational commitment and turnover intentions which are specific to IT context have also been researched upon extensively within the premise of existing theories. Boundary spanning activities, role conflict, role ambiguity, work overload, and work exhaustion are some such variables. Specifically, Baroudi(1985) investigated the antecedents of job satisfaction, commitment and turnover intentions amongst IS employees in several industries and found that role ambiguity was the most dysfunctional variable for IS personnel. In a study by Igbaria and Guimaraes(1999), it was found that telecommuters who faced less role ambiguity and conflict reported higher job satisfaction and organizational commitment. In yet another IS personnel study by Moore (2000), work exhaustion was shown to be an important

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mediating variable leading to turnover amongst IT professionals. The main cause of work exhaustion was found to be work overload.

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APPENDIX III: Interview Protocol and Guide (Part I)

<u>Confidentiality policy administered prior to phone interview:</u>

The CONSENT FOR PARTICIPATION form was administered prior to the interview by sending an email to the participant. When the participants consented for an interview, they were requested to send their confirmation with the following message-

"I have read the attached confidentiality statement and have had the opportunity to express my concerns, to which the investigator has responded satisfactorily. I believe I understand the purpose of the study, the benefits and risks involved, and I agree to be a participant in this study."

Such consent messages from respondents were saved and printed for records.

At the beginning of the interview, the respondents were reminded about the confidentiality policy and told that the interview duration would be between 30-45 minutes.

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I am going to begin the interview by asking you some questions about your current employment, prior work experiences, and demographic information.

<u>Demographic and control variable questions:</u>
        Name of the company you work for:
        Place/City you work:
        Age:
        Years of IT experience:
        Years in the current company:
        Current Role/Title:
        Number of years in the current role/title:
        Married:
        Children:

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CONSTRUCT	INTERVIEW QUESTIONS	NOTES	Measurement	Understanding
Job satisfaction	Next I would like to ask you how much you like your job. How would you rate your job satisfaction with your current job on scale of 1 to 5, with 1 indicating very dissatisfied and 5 indicating very satisfied?	The scale is: 1 very dissatisfied 2 somewhat dissatisfied 3 neutral 4 somewhat satisfied 5 very satisfied	JS1	
	Can you please explain your rating/answer?			X
Turnover intentions	Next, I am going to ask you some questions about your likelihood of remaining with this company.			
	In the next six months, how likely is it that you will be still working for this company on a scale of 1 to 5 with a 1 indicating very likely you will stay with this company and a 5 indicating very likely you will leave?	The scale is: 1very likely to stay 2 somewhat likely to stay 3 neutral 4 somewhat likely to leave 5 very likely to leave I will follow the verification pattern as previously described.	TI1	
	Can you explain why you feel that way?			X

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	Are you looking for other positions within the current company? Why?		X
Organizational alternatives	Now I would like to ask you about other job alternatives available to you outside the current **organization**.		
	How easy would it be to find a similar job in another company on a scale of 1 to 5 with a 1 indicating very difficult to find a similar job and a 5 indicating very easy to find a similar job.	The scale is 1 very difficult 2 somewhat difficult 3 neutral 4 somewhat easy 5 very easy I will follow the verification pattern as previously described.	OrgAlt1	
	Why do you think so? Can you please explain?		X
	How easy would it be to find a better job in another company on a scale of 1 to 5 with a 1 indicating very difficult to find a better job and a 5 indicating very easy to find a better job	The scale is 1 very difficult 2 somewhat difficult 3 neutral 4 somewhat easy 5 very easy I will follow the verification pattern as previously described.	OrgAlt2	
	Please explain why you think so.		X
	Have you been actively searching for alternative job opportunities either within this company or with a different company? Please explain		X
	How has the global economic recession affected your desire to remain employed with this company?		
	Have headhunters or recruiters called you/emailed to discuss other job opportunities?		X
Social Norms	Next I'd like to talk about how your family feels about you working for this company.		
	How would you rate the pressure from family to stay in your current company on a scale of 1 to 5 with 1 indicating very pressured to stay and a 5 indicating very pressured to leave?	The scale is: 1 very pressured to stay 2 somewhat pressured to stay 3 neutral	SN1	

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		4 somewhat pressured to leave 5 very pressured to leave I will follow the verification pattern as previously described.		
	Can you explain why you feel that way?			X
	How would you rate the pressure from most people who are important to you (peers and friends) to stay in the current company on a scale of 1 to 5 with 1 indicating very pressured to stay in the current company and a 5 indicating very pressured to leave?	The scale is: 1 very pressured to stay 2 somewhat pressured to stay 3 neutral 4 somewhat pressured to leave 5 very pressured to leave I will follow the verification pattern as previously described.	SN2	
	Why do you think so? Can you please explain?			X
Job Attributes	The next sets of questions are about the nature of your current job.			
	Considering a normal workweek, what percentage of your time goes in **systems analysis** tasks?		JA1	
	Considering a normal workweek, what percentage of your time goes in coding/programming tasks?		JA2	
	Considering a normal workweek, what percentage of your time goes in testing?		JA3	
	Considering a normal work week, what percentage of your time goes in project management tasks?		JA4	

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	Considering a normal work-week , what percentage of your time goes in client interaction?		JA5	
	Considering a normal workweek, what percentage of your time goes in maintenance and production support tasks?		JA6	
Supervisory justice perceptions	Next I would like to ask you some questions about your supervisor, the person you report to.			
	To what extent do you believe your supervisor has fair *procedures* for distributing *rewards and outcomes related to you* on a scale of 1 to 5 with 1 indicating very unfair procedures and 5 indicating very fair procedures?	1 very unfair 2 somewhat unfair 3 neutral 4 somewhat fair 5 very fair	SPJ1	
	In general, if you had to rate his decision making policies for outcomes related to you like promotion or bonus, how would you rate it with 1 being very unfair and 5 being very fair?	1 very unfair 2 somewhat unfair 3 neutral 4 somewhat fair 5 very fair	SPJ2J1	
	Given your performance, to what extent do believe such outcomes controlled by the supervisor (like a bonus or a raise or an award or recognition) are fair on a scale of 1 to 5, with 1 indicating very unfair and 5 indicating very fair?	1 very unfair 2 somewhat unfair 3 neutral 4 somewhat fair 5 very fair	SDJ1	
	Given your contributions, to what extent do believe such outcomes controlled by the supervisor (like a bonus or a raise or an award or recognition) are fair on a scale of 1 to 5, with 1 indicating very unfair and 5 indicating very fair, given your contributions?	1 very unfair 2 somewhat unfair 3 neutral 4 somewhat fair 5 very fair	SDJ2	
	Can you please explain why you believe your supervisor has fair/unfair decision making procedures for reward distribution?			X

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Can you please explain why you believe your supervisor is fair/unfair in distributing rewards and resources?			X
To what extent do you believe your supervisor treats you with respect in everyday encounters on a scale of 1 to 5 with 1 indicating small extent and a 5 indicating large extent?	1 small extent 2 somewhat moderate extent 3 neutral 4 moderate extent 5 large extent I will follow the verification pattern as previously described.	SIPJ1	
To what extent do you believe your supervisor treats you with dignity in everyday encounters on a scale of 1 to 5 with 1 indicating small extent and a 5 indicating large extent?	1 small extent 2 somewhat moderate extent 3 neutral 4 moderate extent 5 large extent I will follow the verification pattern as previously described.	SIPJ2	
Can you explain why you believe your supervisor treats you the way he/she does? Can you explain why you have chosen to give it such a rating?			X
To what extent do you believe your supervisor keeps you informed on why things happen the way they do with 1 indicating never and 5 indicating always? Do you believe he is open and transparent about his decision making procedures?	1 never 2 rarely 3 sometimes 4 often 5 always	SIFJ1	
To what extent do you believe your supervisor keeps you informed about work related issues on a scale of 1 to 5 with 1 indicating never and 5 indicating always?	1 never 2 rarely 3 sometimes 4 often 5 always	SIFJ2	
Can you explain why you believe so?			X
Now I would like to ask you about whether you believe your			X

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Category	Question			
	organization is fair to you. Do you believe your organization is fair in distributing rewards (like compensation), given your contributions to the organization? Why do you think so			
	Do you believe your organization is fair in its decision making procedures for rewards allocation? Please explain why you think so.			X
	Do you believe your organization treats you with respect and dignity in everyday life? Why do you think so? Do you feel valued by the organization? Please explain why/why not.			X
	Do you believe your organization keeps you well informed about organizational issues? How? Please explain			X
Client justice perceptions	Next I would like to ask you similar questions in relation to your clients. Does your work involve a lot of client interaction?			X
	Do you believe your clients treat you with respect and dignity in everyday encounter? Please explain.			X
	Do you believe your clients keep you well informed about work related issues? Please explain.			X
	Are they involved in decision making procedures like performance appraisals? If so, are they fair in their decision making procedures? Please explain.			X
justice	Finally, I would like to ask you some questions concerning your team members that you work with. Does your work involve a lot of coordination with other team members?			
	Do you believe your team members treat you with respect and dignity in everyday encounter? Please explain			X
	Do you believe your team members keep you well informed about work issues? Please explain.			X
Team-member perceptions	Are they involved in decision making procedures like performance appraisals? If so, are they fair in their decision making procedures? Please explain.			
	Do you believe your rewards are fair in comparison to what your team members get for similar contributions?			

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		The scale is: 1 very dissatisfied 2 somewhat dissatisfied 3 neutral 4 somewhat satisfied 5 very satisfied I will follow the verification pattern as previously described.		
Job satisfaction	Coming back to how much you like your job, I would like to ask how you would rate your general satisfaction with the kind of work you are currently doing on a scale of 1 to 5 with a 1 indicating very dissatisfied and 5 indicating very satisfied.	The scale is: 1 very dissatisfied 2 somewhat dissatisfied 3 neutral 4 somewhat satisfied 5 very satisfied I will follow the verification pattern as previously described.	JS2	
Turnover intentions	And finally before I wrap up, I would like to ask again about your likelihood of being in the current company. How would you rate your intention to leave this company in the next 6 months on a scale of 1 to 5 with a 1 indicating very likely to stay and a 5 indicating very likely to leave?	The scale is: 1 very likely to stay 2 somewhat likely to stay 3 neutral 4 somewhat likely to leave 5 very likely to leave I will follow the verification pattern as previously described.	TI2	
	Is there anything else you may want to talk about?			

Thank you so much for your participation. Please let me know if you leave your current company within the next six months. If I have not heard from you, I will contact you in six months to see if you are still working for this company. Do you have any questions for me before we end?

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APPENDIX III: Interview Protocol and Guide (Part II)

Thank you for your effort and time to participate in this study. This is a follow up on the interview we conducted six months ago. It will not take more than 10-15 minutes of your time.

1. As we informed you 6 months ago, we are getting back in touch with you to know if you are still working in the same company as you were at the time we interviewed you.

2. Can you please tell me if you are working with the same company that you were employed in six months ago when we interviewed you?

3. What is your current title? Is it the same as what it was when we interviewed you six months back?

4. Why do you still want to work with the same organization? Why did you change your company?

5. Have the following things changed in the last six months since we interviewed you?

   o Your supervisor:

   o Your work:

   o Your clients

   o Your team

   o Your compensation and other rewards:

   o Market conditions:

   o Family constraints (married/children) etc:

Thank you so much. Is there anything you would like to ask me or tell me before we conclude this interview?

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APPENDIX IV: Coding for stress

Details	Quote	STRESS	JS[*]	TI[**]
1. P11	The environment in which I am working, the **work pressure** that I have is very **stressful**. Everybody talks about the project interests but when you talk about anyone else the value they give to the project is very less.	HIGH	LOW (3)	HIGH (2)
2. P12	It becomes **very stressful** to do everyone's work all by myself because my manager wants results. In many organizations it is important to have the number of head count and not the quality of work.. When the freshers are joining they just want money but they do not want to work. This is the biggest problem. My manager has given me two resources who are freshers . I have to make them skilled employees. But their attitude is not good. They are only thinking of making money. They are coming to office to increase their number of years of experience and then they want to switch. When I have to report what they do, then I have to sometimes do my work and then do their work also. The manager just wants the results. He says I have to deal with them and then I end up doing their work.	HIGH	HIGH (4.25)	LOW (1)
3. P17	So, this is a big jargon when we deal with client and every time there is a responsibility that has been parceled to off-shore, it is basically me who is the one who is taking care of all the responsibilities. Whereas, I think it is basically the off-shore manager, my manager in the offshore should basically take this responsibilities. As he is not taking any responsibility. As far as the project is like, I am driving it. It gets **very stressful** to handle everything but I have no choice.	HIGH	LOW (1.5)	LOW (1)
4. P18	Actually, what I feel in IT industry means I think this is the kind of job where if there are 100 people then only 20 are applying their mind and the 80 people are just doing monotonous job… I do have to put a lot of hours. If a person is loaded then he is loaded, if someone is free then they are free. The only concern is that it causes a **lot of stress**. My wife also complains why you came late. But I cant do something about it. It is work. But it becomes tough sometimes.	HIGH	HIGH (5)	LOW (1)

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5.	P22	They expect us to do a lot. That's one part and the client they themselves don't know what they want but they are sure about the deadlines. Lets say they want it to be completed by March 31st, they want it by March 31st no matter what happens. But they don't know the requirements. At the final stages, they just say they need this and this. The **timeline is very limited** and we end up putting a lot of hours to finish the work. It does get **stressful and takes a toll on personal life**.	HIGH	LOW (3)	LOW (1)
6.	P26	Sometimes I have really **hard deadlines and pressures**. At that time I work from home also. I usually come back home at around 7-7:30, have dinner and then work again from home. I can take calls and do conferences from home. We have releases every two months and the 10 days before release it gets very hectic.. Now after I had a family, I have started working from home after I come back which is an alternate to staying there till very late. Continuously working like that for a week and my wife starts complaining and all . Then I have to convince her that it is work.. There is **work pressure**, especially since we are doing this so aggressively. People expect you to ship every two months.	HIGH	HIGH (5)	LOW (1)
7.	P30	Its not a 5 because I cant spend time with my family, the kind of work load I have to deal with is **stressful and very exhausting**. In the starting of the project I had to deal with 1-2 clients who were not very courteous.	HIGH	HIGH (4)	LOW (1)
8.	P32	The main reason is that we have a time difference and we cannot setup regular calls on a regular basis. So I try and stress so that we have more calls on a regular basis, so that I am informed about things, I also don't want all communication through email. Lot of decisions are taken during the US hours and I am not informed about them. I do miss out on a lot of information. Its **stressful** to deal with miscommunication and information lost due to communication happening in different times… It's just the transition from one time zone to other is not handed over in correct manner. It's a **little frustrating and creates stress** but its part and parcel of your job.	HIGH	LOW (3.5)	LOW (1)
9.	P60	Last two three months I have been in production support tasks also and sometimes I had to work on weekends too whenever there was a high priority call. So that was quite difficult, specially being a woman to manage that with home. It was **very stressful** but you cant even bill them beyond certain hours but the company expects you to slog on till the work gets done.	HIGH	LOW (3.5)	LOW (1)

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10. P64	Second thing is there is a lot of stress. Since it is not a big company, small company has limited number of resources. There are 40 resources between Hyderabad and US. We are always **overloaded with work**. There is lot of chaos and confusion. Communication becomes a problem. There are people who do not want to communicate everything properly. They just want other people to come and pull out the information. That adds to the confusion and chaos… In small companies, we don't have back ups. If two people are working on something, we need both of them. If one doesn't come, then things become out of control. It's a very different kind of work environment… I think it does **create a lot of stress**. Your absence has to be planned. If you are sick, that has to be planned, kind of. I always have to prepare someone- calling up from home or something to tell them what needs to be done, how to do the work in my absence. Till I am back in office, it can be very frustrating. Sometimes in a project we have only one tester and when he goes sick, I have to work on his work and mine. So it does **add to the stress**.	HIGH	LOW (3)	HIGH (3)
11. P73	**Mental pressure is more** & politics is more. Initially the work was excited but after doing the same job only I am frustrated.	HIGH	LOW (1.5)	HIGH (4)
12. P15	Yes at times it seems to be some **work pressure** because for example my project has got 24 team members, from that I work with 4 members. I have told you I joined 1 year 8 months ago in Capgemini and between 1 year and 8 months 2 of my team leads have left the organization. So the whole pressure came on me. As a good technical and being an application owner the pressure came on me. So there has to be some pressure if somebody is moving out of your team.	HIGH	LOW (3)	HIGH (5)
13. P4	it affects your health and personal life. At times we don't go for lunch. Because we feel going for lunch is one hour and we can finish this work in that time. So that we can leave by 6 o clock. Our health really gets spoiled. And too much of stress. **Lot of mental stress**. People sitting in their chairs for 14-15 hours. You get lot of back pain, lot of issues. Health and personal life – they have major impact. If you go to a doctor for back pain, the first question they ask is " are you working for a software company"?... There is nothing like a KM session or a training session. Stuff like that. They just tell you that you are on this project. The problem is that everyone is on a tight schedule and everyone is busy so even the old employees dont have to devote time to KT sessions. So its like you have to put	HIGH	LOW (3)	HIGH (4)

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	your own extra efforts at work to learn. Time constraint is also there. They don't give you enough time to learn. They tell you like if it's a one week learning thing, they expect you to know it in two days. They put you on the project and expect you to start the work immediately. And right now we are having some infrastructure issues. Like less number of seats and desktops. So, right now we are coming in shifts. So seat constraint is a problem too. Secondly we are working on virtual machine. So, for a person who joins, it takes them two months to get a virtual machine ID for them to work. But even before the id comes, they start with the project. Like around 4-5 people using 1 id… But what the problem here is at cognizant or any other IT company- you have to finish the work before you can go. No matter what. They don't give you work that you can finish in 8 hours. They give you a 10-12 hour work and expect you to finish it in 8 hours. You can't do it so you end up extending your office time to 10 hours.			
14. P71	There is a **lot of stress**. When we our required to do work from our side, we give in our 100% and work as long as it requires to finish the task and do our best to provide efficient service. Then it is quite discouraging when the company doesn't recognize what we are putting in and provide us with dissatisfying compensations	HIGH	LOW (2)	HIGH (5)
15. P50	That's why a 4 and not 5 because of the **work pressure** and my personal reasons…. I am quite happy with the work but the stress and work pressures are too much sometimes. I can't say 5 because of that. Yeah that s true (work is very stressful) and as I told you I am single so I could handle the work pressure and stress. I didn't find it that difficult to handle the work and the project I got it was almost 10 month proj. and since last 10 months I am in the same tempo. I have worked in the project at the same pace so now you might understand that being single; I was able to contribute myself fully…. Because whatever the last project I worked in, the 10 month proj it was very challenging and used the agile methodology. and the project had 3 vendors or clients. so each and every day and every hour there was competition in between the clients and there was no scope of doing any small mistake as EMC would lose it impression in front of the client. It was **very stressful** to work in that atmosphere..So with this goal set, I have worked in the last 10 months and been successful.	HIGH	HIGH (4)	HIGH (3)

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16. P46	Couple of them were extremely bad, they do not know what's happening and try to boss around you treat you almost like a slave. Its not the cultural aspect, I would say it's a financial aspect. Basically its like if you pay for 1 rupee you expect for 10 rupee. In India it's like if you pay 10 rupee you expect for 100 rupee. So that makes a lot of difference. The Indian clients are like that- they will pay you 10 and expect work for 100 Rs. They think because they are paying for the services, they can be rude to us. The international clients are a lot better in that aspect. All these things causes a **lot of stress** for me but it's part of my job.	HIGH	LOW (3.5)	HIGH (4)
17. P43	Yes, **all the time (about stress)**. There are times during release that **we experience that really ba**d. We follow no pre-planned structure or pattern. The release, the pattern and the batch can be changed on any day even the last day of the release. So such things require us to stay in office for long hours. Also, critical issues or production issues demand our time. So sometimes we have to experience the pressure. And being a woman, its worse. I have a baby too. All this makes it hard to balance everything.	HIGH	LOW (3.5)	LOW (1.5)
18. P65	I like the work, it is challenging. And we also have enough opportunities at the company. Sometimes it is **quite stressful** but one has to do it and doesn't have much of an option there.	HIGH	HIGH (4)	LOW (1)
19. P44	I have flexibility to work from home and that relieves me from lot of **pressures and stress.**	LOW	HIGH (4)	LOW (1)
20. P35	I think that in service based organization I feel the delivery aspect you work on- it has extremely hard deadlines. Sometimes the estimates are extreme, tight, rigid, day after you have to finish the work. As you always trying to under promise and over deliver with the client. Whereas with the partner you can discuss, negotiate better and explain why the requirement is going to take one week. So I feel the equation between service providers compared to captive unit is completely different, the partners are more open and they treat you as equal. After I started working for Fidelity, I have **less stress** because of the way the relationship is between our partners in the U.S. My previous job was full of tension and trying to match up to unreasonable deadlines. Obviously you cant be terribly lax and say that you will take 3 months, but it's a little more flexible.	LOW	LOW (3)	HIGH (2)

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21. P54	**Yes, all the time (about stress**). There are times during release that we experience that really bad. We follow no pre-planned structure or pattern. The release, the pattern and the batch can be changed on any day even the last day of the release. So such things require us to stay in office for long hours. Also, critical issues or production issues demand our time. So sometimes we have to experience the pressure. And being a woman, its worse. I have a baby too. All this makes it hard to balance everything.	High	LOW (3.5)	HIGH (5)
22. P25	There are lot of aspects to job satisfaction. People with whom I work are great, company policies are great, and compensation is good. The only thing is working in India for US Company sometimes become **very hectic** because of time constraints. There are some projects, which I handle, are in 3 time zones; pretty much all my evenings 2 hours are gone in meetings and then have a large team and managing that becomes very hectic. Apart from time factor I am very much satisfied.	HIGH	HIGH (4)	LOW (1.5)
23. P29	I get time to manage my family and kids well and at the same time also manage the work, nothing gets between the work. It's a very good mix of both. That makes me enjoy my work and **not get stressed and pressured at work too much.**	LOW	HIGH (5)	LOW (1)
24. P7	No, though that is a reason, but the few problems concern to the work level only. Though I enjoy the current role, there is a scenario where i am expecting a promotion but i am not getting properly. There are lots of things going on and it has caused a lot of **anxiety and tensions for** me. Not work per se, but issues related to my growth and promotion.	HIGH	HIGH (4)	HIGH (4)
25. P14	Actually Fidelity is a good company **if you want to just relax and take it easy** and you just want a job in hand. They have very good employee policies and concerns, I like it very much in that way. My family is very happy with Fidelity as they have cab facility, flexibility in time, which is favorable for me.	LOW	LOW (1)	HIGH (5)
26. P39	I will say 5 – almost likely to leave because of what I told you before- the state of affairs in Satyam being the biggest reason. Because of the upheaval in Satyam, which you must have heard in the media, we have lost projects and reputation in the market. **Everyone is stressed about whether we will have any job tomorrow**. Instead of them asking us to go, its better we	HIGH	LOW (2.5)	HIGH (5)

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			JS*		TI**
27.	P66	I was working with one of essentially good companies that was taken over by Mind tree. One thing there have been changes in the policies which are more favorable to the company than to the employees. And Pay structure is quite an issue over here. And more than that, I feel very uncomfortable with the politics and my manager is playing a lot of politics and that's giving me a lot of **mental tension**. I am also looking for good salary, even though there is good salary here, the take home amount is very less.	HIGH	LOW (2.5)	HIGH (4.13)
28.	P24	Company trust you so at the same time you have to maintain that trust and at the same time you have to make sure you contribute as well. It's like you are working from home and you have **nice laid back life**.	LOW	HIGH (5)	LOW (1)

JS*-job satisfaction; TI-turnover intentions**

APPENDIX V: Coding for work-life-conflict

Details	Quote	WLB***	JS*	TI**	STRESS
1. P25	The only thing is working in India for US Company sometimes become very hectic because of time constraints. There are some projects, which I handle, are in 3 time zones; pretty much all my evenings 2 hours are gone in meetings and then have a large team and managing that becomes very hectic. Going back to what I said earlier, my only concern is that I have to devote 1-2 hours in meetings almost every evening and that **makes it difficult to spend time with my family.** I have a 4 year old and recently we had twins, and I would like to help out my wife more with the kids in the evenings after I come back from work.	BAD	HIGH (4)	LOW (1.5)	HIGH
2. P22	Lets say they want it to be completed by March 31st, they want it by March 31st no matter what happens. But they don't know the requirements. At the final stages, they just say they need this and this. The timeline is very limited and we end up putting a lot of hours to finish the work. It does get **stressful** and takes a **toll on personal life.**	BAD	LOW (3)	LOW (1)	HIGH
3. P24	Most important thing is flexibility at work, as I mentioned my family is not concerned when I am working from home. IBM follows excellent culture they are real broad minded they don't mind if you are working from home, contribute from home , take a day off. What else do we require from life, especially living in country like India & staying with your family. One of the best, my wife is homemaker, **so she is quite happy when I am at home and working and contributing, it's not like I am at home and not working**.	GOOD	HIGH (5)	LOW (1)	LOW

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4.	P26	Sometimes I have really hard deadlines and pressures. At that time I work from home also. I usually come back home at around 7-7:30, have dinner and then work again from home. I can take calls and do conferences from home. So in that way, it is **stressful** for family. When I was a bachelor I could do it. But when you are passionate about something and love doing your work, you cant crib about **work life balance** and all that because what you are doing is because of your passion. Now after I had a family, I have started working from home after I come back which is an alternate to staying there till very late. Continuously working like that for a week and my wife starts complaining and all . Then I have to convince her that it is work. We have releases every two months and the 10 days before release it gets very hectic. There is work pressure, especially since we are doing this so aggressively. People expect you to ship every two months.	BAD	HIGH (5)	LOW (1)	HIGH
5.	P29	I think this is a perfect match of **work life balance** and flexibility that I need. I am working mom, so this is the best thing that I could have… I think Oracle that way is a best employer because we have the best work life flexibility that we enjoy in Oracle. It enables us to manage things well- as a mom of 2 kids I get time to manage my family and kids well and at the same time also manage the work, nothing gets between the work. It's a very good mix of both.	GOOD	HIGH (5)	LOW (1)	LOW
6.	P30	On an average I work 13-14 hours each day. **Work life balance** has been very difficult. My family has been adjusting and accommodating. Even when I am working from home its bad. In fact from home I spend 15 hours a day. Family life has to be sacrificed most of the times/.	BAD	HIGH (4)	LOW (1)	HIGH
7.	P34	The thing is that I don't feel any pressure from my family but thing is like job itself is like when you work 24*7 may be in night time you need to take call, morning also, so **you hardly get any time to spend with your family**. That's the only challenge, which can happen in any company, all across IT industry.	BAD	LOW (3)	LOW (1)	NA

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8. P36	I will tell you -I leave at 8:45 in the morning and come back by 9:15 in the evening so most of the day goes in that. This is from Monday to Friday sometimes we have job on Saturday also. 10 hours a day you can say from Mon to Fri for sure. Commuting will be 1 hour every day. .. Its not easy. Any job in IT comes with all this. I am single and can handle it. **I don't really have a life outside office. I don't have time for anything else.**	BAD	LOW (3)	LOW (1)	NA
9. P43	Being a mother I went for maternity leave two times and it sort of cut my growth prospects and am unhappy about not getting promoted. In a way it **does support working mothers** but there are some policies wherein you have to clear your mandatory certifications which come in the way of advancing further.	BAD	LOW (3.5)	LOW (1.5)	NA
10. P45	My company gives me flexibility of working from home & that **helps me maintain a balance between work and personal life**…(They are of course happy with all the little perks I get from IBM like flexibility to work from home and all. Family)… Most of the last 10 years very few days I have worked more than 8 hours. I can decide my 8 hours, I can decide my vacation, The day when I don't feel like working, I can take day off, I can take off from office or take remaining work and work from home. I can go for smoke 6 times a day. Lot of freedom is there. Once I came late to office around 1, I had to go to hospital to take my daughter. Those things they understand. What they say is as long as you are doing their job; you are delivering the work its ok.	GOOD	HIGH (4)	LOW (1)	NA
11. P56	Actually the company is good **not that much workload** is there. The company is providing good money. I am not saying no workload or no pressure is there but if you compare salary and work load, so this job is good.	GOOD	HIGH (4)	LOW (1)	NA
12. P18	Actually, what I feel in IT industry means I think this is the kind of job where if there are 100 people then only 20 are applying their mind and the 80 people are just doing monotonous job… **I do have to put a lot of hours.** If a person is loaded then he is loaded, if someone is free then they are free. The only concern is that it causes a lot of stress. **My wife also complains why you came late**. But I cant do something about it. It is work. But it becomes tough sometimes.	BAD	HIGH (5)	LOW (1)	HIGH

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13. P60	last two three months I have been in production support tasks also and sometimes I had to work on weekends too whenever there was a high priority call. So that was quite difficult, **specially being a woman to manage that with home**. It was very stressful but you cant even bill them beyond certain hours but the company expects you to slog on till the work gets done.	BAD	LOW (3.5)	LOW (1)	HIGH
14. P4	Its not at all proper. Its like when you have some personal work to be done, and you want to go home after the eight hours, then you have to ask for prior permission. And they expect you to come early that day and finish off the work and go. Then its like their job has to be done no matter what. That's their attitude. **I can't attend social functions**… Here the working hours are 9 to 6. 9 hours which includes lunch time. So what happens is that if I want to go for some function at 7 or 8 o clock and the days I want to leave at 6 sharp that days especially, I get critical work to finish. So if I extend and finish then I miss out on a lot of personal things and occasions. Also, most of the software companies are located very far off from the city. SO it takes 1-1.5 hours to commute. Its around 25-30 kms one way. For the morning 9 o clock entry I have to start at 7 or 7:30. From morning 8 to evening 8-8:30, I am in office…**You don't concentrate on the personal stuff .** you become tired. On weekends we don't plan anything. Because on Friday they will say suddenly that this is not working and will ask us to come on Saturday and work. They will tell you on Friday evening when you are going home and you cant say no. The problem is that they want to satisfy the client and say that they can finish it by the weekend for you. By Monday they promise the clients that the issue will be resolved. So, you have to come. You can't plan for any weekend or holidays.	BAD	LOW (3)	HIGH (4)	HIGH
15. P42	I am happy with the **work life balance**, with my manager and also the overall work culture in my company. Apart from the salary part, I am happy with things… IBM gives a good balance of work and family which I like…	GOOD	HIGH (4)	HIGH (3)	NA
16. P7	But why I don't rate it 5 is because sometimes in this IT area, you are required to devote a lot of time towards work actually and **family is left behind** and thats why i can't give a 5 rating and i may be get very dissatisfied and want to leave this field actually.	BAD	HIGH (4)	HIGH (4)	HIGH

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17. P13	If you talk about my division, Enterprise solution division, Infrastructure division demands 24*7 support. So basically, it's **very difficult compromise with your personal life because of job profile**. If anytime server crashed or anytime some disaster happens then you have to compromise with your personal life. If at night time you get a call from a client that server is not functioning or storage related issue or network is crashed or server is crashed you have to up and do the work. So basically, this kind of problem you are facing in this kind of job role…. See, the kind of job we have, the kind of work we have, we are in a 24*7; so nobody wants to do that 24*7 support. Somehow if you are a bachelor, than you can manage but once you are married, once you have kid, you will look 8-6 jobs.	BAD	HIGH (4)	HIGH (3)	NA
18. P50	My biggest concern is that I have to put in too much time and the work pressure and stress is a lot. I can cope only because I am single and **can work till late and come back and just sleep.** But in future I cant do the same thing.	BAD	HIGH (4)	HIGH (3)	HIGH
19. P14	Actually Fidelity is a good company if you want to just relax and take it easy and you just want a job in hand. They have very good employee policies and concerns, I like it very much in that way. **My family is very happy with Fidelity as they have cab facility, flexibility in time, which is favorable for me.**	GOOD	LOW (1)	HIGH (5)	LOW
20. P54	**Yes, all the time (about stress). There are times during release that we experience that really bad.** We follow no pre-planned structure or pattern. The release, the pattern and the batch can be changed on any day even the last day of the release. So such things require us to stay in office for long hours. Also, critical issues or production issues demand our time. So sometimes we have to experience the pressure. **And being a woman, its worse. I have a baby too. All this makes it hard to balance everything.**	BAD	LOW (3.5)	HIGH (5)	HIGH
21. P62	Actually with me in very rare cases (I have put in long hours of work), I have free timings, anytime I can come and anytime I can go, and if I have work I can work till anytime and if I dont have work, I can leave anytime , so its is flexible.	GOOD	HIGH (4)	LOW (1)	NA

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22. P21	**I am very clear about what I want to do and very particular about not working on weekends. I stretch from my regular work timings maximum by half an hour or one hour.** Otherwise I come back home and work from home.	GOOD	HIGH (4)	LOW (1)	NA
23. P44	My company is in Bangalore but I am in Tamil Nadu…It is one of the thing (work from home facility) which I need to stay with sun. **My family is happy that I am working from home and am able to spend good quality time with them.**	GOOD	HIGH (4)	LOW (1)	LOW
24. P6	At Amazon, we have flexible hours- we come in anytime and we can go anytime. sometimes I work from home , so the work hours I put in is depending upon the day but if I talk about myself , about my work life balance , I don't have much to do apart from work. **I live away from home and I don't have much to do at home. I enjoy doing it so i don't feel pressurized**.	GOOD	HIGH (4.15)	LOW (1)	NA

JS[*]-job satisfaction; TI[**]-turnover intentions; WLB[***]- work-life-balance

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APPENDIX VI: Coding for organizational satisfaction

Details	Quote	OS***	JS*	TI**
1. P5	so far I am **very happy and satisfied with my work and company**, team and manager.	HIGH	HIGH (4.25)	LOW (1)
2. P6	**This is a very good company to work with. I want to be here for some time and learn as much as I can.** The work culture is very good, the team is good and I am workingon projects that people are using every day	HIGH	HIGH (4.13)	LOW (1)
3. P18	TCS is my first love. **It has been my dream company since I was in college.** I didn't get time the time to even think of leaving this company… **During times like recession you feel how safe the company like TCS is… A company which has 1lac 80, 000 people, it gives you strength**. It gives you strength at risky times.	HIGH	HIGH (5)	LOW (1)
4. P20	**I feel I am already working with one of the best companies**. If I have to move on today I would need to find something equal- if not better then as good as this. Its easy to get used to certain style of working, certain culture etc where you can't shed that culture and walk into a new one because you embrace it once you start working.	HIGH	LOW (3.25)	LOW (1.25)
5. P22	**But I find TCS a good company as such., the work environment and culture at TCS is good I think.**	HIGH	LOW (3.25)	LOW (1.38)
6. P24	**IBM is an excellent company**. I am planning to stick to a company for another 5 years at least… Basically if you see, IBM is a kind of company,	HIGH	HIGH (5)	LOW (1)

	which is very employee friendly kind of company.				
7. P26	. **I like the value Microsoft has and the impact**. If you ask me in the order, I would say that first is value of Microsoft and second is the impact my work has on people. That gives me satisfaction… Microsoft does not have ISO or CMM certifications but the internal structures and processes are so structured in Microsoft. **It feels good to be working there every day.**	HIGH	HIGH (5)	LOW (1)	
8. P27	**I have very good company to work with**… **But GE culture is very good, you have an open culture, you can approach anybody and your work doesn't go unrecognized.**	HIGH	LOW (2.75)	LOW (1.25)	
9. P29	**I think Oracle that way is a best employer** because we have the best work life flexibility that we enjoy in Oracle.	HIGH	HIGH (5)	LOW (1)	
10. P32	No I think, in my experience what I have worked for Indian companies as well as Accenture & **I am very much satisfied with Accenture even considering the salary point of view and the management point of view its been good.** …**Its like Accenture is very good company** and I know managers and lot of people within Accenture. So I see my growth in Accenture… **So I have noticed that Accenture is more generous in appreciating**, or they have lot of things and policies in place to appreciate the employee, and you have bonuses in the form of awards.	HIGH	LOW (3.25)	LOW (1)	
11. P33	I feel great to be a part of IBM. **Culture is very good here.**	HIGH	LOW (2.5)	LOW (1)	
12. P35	I like **the environment in the organization**. I like my team and I have good comfort level with my team.	HIGH	LOW (3)	HIGH (2)	
13. P41	In companies like Wipro, you have so many clients with different background and vertical and you can definitely make a career in it. Its kind of switching to different company within single company. You get to work with different technologies, different verticals, and different locations… Wipro stands for	HIGH	HIGH (4)	LOW (1)	

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	integrity… I am very lucky to be part of Wipro. **They have a good work culture where you can learn and develop your skills. .**				
14. P45	**I enjoy the work & work environment**. I can go to my manager & talk openly person-to-person.	HIGH	HIGH (4)	LOW (1)	
15. P48	According to my knowledge and experience in Capgemini, there is flexibility in my work- there are different platforms, different projects you can work in. Right now we don't have any concept like working from home but there is flexibility in work. **Also it has a brand image in the market. I will stick with the company for its name and for what it has given me**… **I am here because of the work environment** I am sticking to that	HIGH	LOW (3)	LOW (1.5)	
16. P47	**Oracle has a very good name in the market and I have learnt a lot in these years.**	HIGH	HIGH (4)	HIGH (2)	
17. P52	Everything is going good and fine in Oracle. I have been here for long time; **I am comfortable with people, comfortable with work and work environment**, processes and everything.	HIGH	LOW (3.25)	LOW (1.25)	
18. P56	If we find that from other company that Capgemini is Europe based and most of the IT companies in India are US based. So as per **employee satisfaction Capgemini is much better.** They are not forcing people to do stuff, like if few people are on bench then other company might force you to go somewhere and take some other job but Capgemini are more focused towards the employee satisfaction.	HIGH	HIGH (4)	LOW (1.25)	
19. P59	**The current role and the current company where I am working, there is lot of scope or room to do work the way you want to**.	HIGH	HIGH (4)	LOW (1)	

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20. P63	The way the employees are treated, the way like the work wise it is pretty good. There is nothing like which is bad.. and the **employees are treated well in CapGemini.**	HIGH	HIGH (4.25)	LOW (1)
21. P62	Because **work is very good and I like the environment**, the manager is very good and you are given freedom of work and he is ready to encourage you in whatever I am doing.	HIGH	HIGH (4)	LOW (1)
22. P65	**I like the work culture, my management and colleagues** here.	HIGH	HIGH (4)	LOW (1)
23. P39	You can say that if a company holds its reputation right to get better project and better growth perspectives then you definitely see, you will have attachment to the company. **This hasn't happened with Satyam** and I feel that it has affected how I feel about it.	LOW	LOW (2.5)	HIGH (5)
24. P54	When we tell them our concerns, we get same answers time and again which de-motivates us from raising the issue again for they are never resolved. So there is no one-on-one communication focusing on employees concerns. It's the way the company is. **The work culture is not open and it demotivates you. ..** What I consider is that any employee who works in the industry he should be satisfied, one with the work, then with compensation also given certain recognition. I haven't seen any of this in Infosys.	LOW	LOW (3.5)	HIGH (5)
25. P4	One advantage I would say is the pay. For that reason, many people are agreeing to extend their hours and slog and work just for the pay**. I really do not like the work environment and the work culture. Everyone is stressed and struggling to finish work without proper support from the company.**	LOW	LOW (2.75)	HIGH (4)
26. P15	**I don't have any issues with the company in fact I like the company very much.** The thing is the kind of work that they have given me and the kind of interview they took at the time of joining are very different… **As a company Capgemini is a very good company.** During the time of recession, they	HIGH	LOW (3)	HIGH (5)

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			JS*	TI**	OS***
		sacked negligible employees.			
27.	P38	Some policies are really good **and like the work culture- its not like too hectic or something and then they care for employees too much and its not like small accident they take too much care and then you keep getting goodies stuff and then some fun activities are going on**. That ways cultural way it's fine. With all these curricular activities, you are happy.	HIGH	LOW (2.25)	HIGH (3.8)
28.	P37	**The way they treat people is much better than others. The work culture is very open and caring.** There is lot more individual attention. Accessibility wise you can walk into anybody's cube as far as representative even to vice president or somebody who is on operation side.	HIGH	LOW (2.25)	HIGH (3.25)

JS*-job satisfaction; TI-turnover intentions;OS*** - organizational satisfaction**

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