‘People are our greatest asset’ is a mantra that companies have been chanting for years. But only a few companies have started putting Human Resources Management (HRM) systems in place that support this philosophy. In a comprehensive study of human resource practices in over 200 largest companies, Khatri (1998a; 1998b) found that human resource management was considered a relatively unimportant function in most of the companies and those human resource managers did not have sufficient training and technical expertise in human resource management. The assumption of senior management in the majority of the companies was that any manager could manage human resource. Consequently, human resource management function was poorly managed in most of the companies.

The past few years have been the most threatening period for enterprises that use, manage or deal in information technology (IT). The source of the tumult has been people—i.e. the demand, supply, selection, recruitment and especially retention of IT professionals worldwide (Ermel and Bohl 1997; Guptill et al. 1999). Since late 1996, IT professional compensation has soared, turnover has rocketed to 15% to 20% annually, job-hopping has become the norm and only eight out of ten IT positions get filled with qualified candidates (McNee et al. 1998). These trends place both IT executives and human resources (HR) managers under intense pressure. The risks are effectively high, not only for the IT department, but for the business as a whole and until and unless, senior enterprise executives and IT executives work together to correct or refine corporate policies that inhibit retention and recruitment, the problem is likely to blow out of proportion beyond repair. Consequently the literature reveals that a heavy investment in the human capital and the implementation of HR practices may contribute to organizational success (Pfeffer and Veiga 1999), specifically by reducing the turnover of the IT staff (Agarwal and Ferratt 1999; Roepke et al. 2000).

Similar is the case with the Indian IT (Information Technology) industry which require the serious attention of HR managers to ‘find the right candidate’ and build a ‘conducive work environment’ which will be beneficial for the employees, as well as the
organization. The IT industry is already under stress on account of persistent problems such as attrition, confidentiality, and loyalty. Other problems are managing people, motivation to adopt new technology changes, recruitment and training, performance management, development, and compensation management. With these challenges, it is timely for IT organizations to rethink the ways they manage their people.

A S Murti, the Senior Vice-president, HR, Satyam Computer Services, explains, “Since the IT industry is growing at an encouraging rate, the supply-demand issue will pose a major challenge for the industry, particularly for experienced professionals. Retaining the best talent will also be equally important. We can’t retain professionals only by paying higher salaries and offering attractive perks; that is not the best way. We need to create enthusiasm in their role, their work and the organization.”

Another dimension to the challenges faced by the industry is the growing pace of talent acquisition, which creates with it the challenge of smoother assimilation of new employees into the organization fold. The pressure of delivering the best quality service in reduced time-frames calls for ensuring that employees maintain a work-life balance.

Managing people in the knowledge-based industry is critical as the human resource is the soul of the organization. Since there is a high demand for knowledge workers, talented professionals often enjoy high bargaining power due to the knowledge and skills they have. The attitude is different for those who are taking up responsibilities at a lesser age and a lower level of experience. These factors have resulted in the clear shift to individualized career management from organization career commitment. Managing the pool of people talent is essential for the growth of knowledge-based sectors like IT.

A growing body of literature reveals that a heavy investment in human capital and the implementation of HR practices may contribute to corporate financial performance (Huselid 1995; Huselid et al. 1997) and intermediate employee outcomes such as turnover of IT personnel (Agarwal and Ferratt 1999; Roepke et al. 2000). This research effort doweled in order to explore the recruitment practices, retention practices, compensation practices and other predictors of job satisfaction in the Indian information technology industry to check what are the factors of attraction for the IT professionals, what turns them off and what strategic human practices need to be promulgated by the HR managers so as to motivate IT professionals, minimize the job hopping and turnover amongst the IT professionals.

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1 www.expresscomputeronline.com/20050718/technologylife01.shtml
The idea is first to study the actual practices prevalent in Indian IT sector, present a test model based on the review of literature and test an integrated model of turnover intentions and the intervening variables that addresses the unique nature of the IT profession thus determine the factors of attraction and job satisfaction. Consequently HR practices were derived and suggested for increasing the overall productivity in the IT sector from the HR point of view.

This study identified a multidimensional set of HR practices likely to increase retention among IT employees and considers organizational citizenship behaviors (OCB) as well as two distinct types of organizational commitment as key antecedents of turnover intentions. Thus what HR practices are needed to implement an effective strategy for managing IT professionals? & what intervening variables mediate the effects of HR practices on the retention of IT personnel were the sparkling platform for this research.

This study departs from previous IT literature in this area in several ways. First, although sets of innovative HR management practices have been proposed to retain talented IT employees (e.g., Foote 1998; Scheier 1998; Morello 1999), the present empirical study is the first to propose a theoretically grounded configuration of HR practices based on the intrinsic intentions of the IT professionals. Second, this is the first time the mediating influence of citizenship behaviors and organizational commitment has been presented in the IT literature. Third, this study explores the moderating influence of both intervening variables on HR practices, and fourth such a study is being conducted in blooming Indian information technology set-up.

WOMEN IN INFORMATION TECHNOLOGY

Before we onset on major issues, pertinent to mention is that throughout the research effort every care has been taken to bring out the differences contextually along all variables among people of different sexes. It was considered necessary because literature is testimony that the Indian cultural heritage, norms and values ostensibly do not allow women in the role of information technology person, a hardware maintenance engineer or a in-house software developer and modifier. Many of the IT firms very recently have gone for information technology women in the software development either exclusively or in some proportion with information technology men but the dominance of the male still remains.

Surprisingly, women and occupational choice was not a topic of research prior to the 1960s. Finding the "right man" to do the job was critical to job efficiency as defined
by Frederick Taylor (1911). Most studies of occupational choice have examined the distinctive characteristics of individuals in different occupations (usually professionals) and experiences and situations that influence their career choices (Mottern, 1980). Few studies looked at the tasks associated with the jobs, or at the perceived sex-roles associated with different jobs. In addition, up until 1980, very few of the studies focused on the occupational choices of women.

In the Asian Region, rapid changes in industrialization and economic development have taken place during the 1970s. The trends in the employment situation in India and other developing countries over the last two decades suggested that though the employment rate has decreased, yet in urban area and organized sector there has been important "Gender Structure changes" in the labour force. There has been an increase in women workers as a percentage of total workers in different industries (Jose, 1993).

Many IT firms are concerned about not attracting female employees and retaining them for long. A 1994 study found that, compared to men over a seven-year period, women were almost twice as likely to leave their computing-related occupations for employment in other fields, and 15 times more likely than men to leave the work force altogether. The reasons for this include a feeling of being excluded from these organizations either by the inability to advance, or by under use of their skills, often because of subtle gender bias.

The trend is discernible even in the foreign context. In America, Department of labour figures show females holding fewer than 8% of the managerial jobs in information technology (Swan et al, 1984). In March 1970, a study on the employment of women, conducted jointly by the American Society for Personnel Administration and the Bureau of National Affairs, reported that, in 82% of the firms studied, not more than 15% of the employees were women engaged in computers and in the same companies, 91% reported less than 10% of their managers in information technology were women (Janice & Stephen, 1973).

Researchers (Wilder, Mackle, & Cooper, 1985; Kiesler, Sproull & Eccles, 1985) have suggested that women have a less positive attitude towards computers than do men, which could dissuade some women from entering the field. The general environment and culture of computing and the way computing is presented in the educational system is sometimes cited as possible explanations why young women do not consider computing careers (Balcita, Carver, & Soffa, 2002). Others (Geigner, 2001) have attributed the low participation rate to a perception of a "geek-like" aura that surrounds the profession of computer programming.
There also exists a general societal perception that some professions, of which the IT profession may be one, are “masculine” in nature, whereas a profession like teaching is “feminine” in nature. Sex-role identity (Bem, 1974; Block, 1973; Spence, Helmrich & Stapp, 1975, Wolfe & Betz, 1981) has been linked as a factor in choice of occupation. A person’s sex-role identity, both “masculine-typed” males and females, and “feminine-typed” males and females, has been related highly to choice of career.

The curious questions for researchers have been to study why the IT industry is having problems retaining women. What are the criteria and opportunities for promotion within the high-tech industry? What are the main areas of dissatisfaction? And what are the future career plans of those planning to leave?

The purpose of this research is not to argue whether or not discrimination exists; there is already ample evidence that it does exist in both jobs and pay (Cynthia, 1970). However, the above facts do illustrate that discriminatory practices appear to have blocked the entry of women into information technology sector both in the hardware and the software development to a greater degree than in other areas. What is the explanation for it?

MAJOR ISSUES

RECRUITMENT

Ironically, the country, which has been such a popular ‘people resource’ for the IT industry the world over, is struggling with numbers to meet its own demand. To meet the overall software and services (domestic and export) target of $87 billion by 2008, according to the Nasscom-McKinsey report, the country will require a minimum of 2.2 million IT professionals for its domestic needs.

US, already with a 10-million-strong IT workforce, needs to fill 1.6 million new jobs in the next one year or Europe where a shortage of over 200,000 IT professionals is projected. Japan is no different and estimates close to a million new jobs. Germany is looking for 20,000 IT specialists and Italy is seeking 15,000 additional manpower. Though 40,000 people have already been benched due to recessionary trends in business in US, the newspaper reports¹ do signify that Indians still have the openings in the Germany, France, Austria, Norway and so on.

Under the circumstances, one must have a clear policy laid down to hire and retain quality people. Earlier, the top management was worried more about business

development, stock markets and investments. Today, top managers realize the need to invest in human capital. The managers of IT companies are today completely seized of this issue.

Companies continuously aim to analyze what attracts people and what turns them off. What is current brand attraction of the company? Who is influencing their decision to come to an organization? Who takes the final decision on which company the prospective employee should join?

Maintaining this critical balance between business targets and people needs is not an easy task for any company, and more so because the employee has more options to choose from. On an average an IT professional has 3-4 jobs offer at any given point when he approaches the HR manager in his present organization to explore his option. An HR manager, therefore, not only has to assess and offer what he is looking for, but also, needs to ascertain whether the employee wants to continue in the organization, and for how long.

The challenge is to use a cliché, how to differentiate the men from the boys? How do you find a person who will fit into your company like a glove? But, before that, what are the key traits that an HR manager should look for while recruiting a person?

Besides technical capability and qualifications, the aspect that crept into appointments and choice of employer is that the candidate and company should both fit in with one another's culture. If there is a misalignment in this fact, employees leave quickly. If you hire the right people, they stay. Therefore, culture, on both sides, is becoming an important qualification for the prospective employee. The ability to deal with uncertainty and learn quickly from mistakes is another core trait that one must look for. Logical thinking, quick delivery capability, time to grasp and respond must be minimal.

Evidence exists for TCS (Tata Consultancy Services) which ensures that it hires only the best of the lot. TCS has a rigorous selection process. Senior employees of TCS visit only accredited institutions and the candidates are screened through a written test for analytical and logical skills, a psychometric test, an interview and finally a technical test.

Also the Microsoft, for instance, has employed 300 people focused only towards keeping track of the best talent across the industry all over the world. NIIT likes to spend more time in understanding the attitude of the person they hire than they look for formal qualifications. Furthermore, online recruiting technology that can help corporations target candidates, sort resumes, and evaluate prospects on the web is
being developed. With 180,000 new jobs set to open up this year (2006) and only 121,000 prospective coming off the educational system, competition to lure these people in has to be fierce along with poaching by fellow recruiters from rival firms.

The problem of inadequate supply of IT professionals is accompanied with the problem of knowledge obsolescence. According to an estimate, 30% percent of the knowledge gained by a professional becomes redundant with in 12 months and by three years, the entire knowledge goes waste. Technology is developing at such a rapid pace\(^2\). To meet out this challenge, it is important for a company to recruit professionals who are eager to learn, unlearn, and relearn and take the challenge of technology upgradation in a positive manner.

Thus one objective of this research is - how firms recruit IT professionals in India, what they are looking for and what is the selection criterion? This should help readers understand the intricacies of recruitment and selection in a highly competitive field where the demand has outstripped supply.

**COMPENSATION IN INFORMATION TECHNOLOGY**

To motivate their IT professionals, managers often rely on elaborate incentive schemes besides making the usual pay structure very attractive for the staff and others. Numerous studies exist on how financial incentive programmes contribute to IT professionals’ motivation (Harry 1953, Ralph & Peter 1962, John 1994, Frederick 1966, Richard 1968). Yet, little systematic research has been done on the contribution of financial as well as non-financial incentives to IT professionals’ level of job satisfaction especially in field of information technology. The satisfaction and motivation of IT professionals is one of the more difficult problems of HR managers today especially in India. Effective levels of performance and morale depend heavily on the manager’s ability to build and sustain the IT professionals’ motivation.

There has been a significant change in the compensation structure and the compensation methods of the employees of the IT sector in India. Studies suggest that in the mid-1990s, salaries for programmers and systems analysts were 4-5 times lower in India than in the UK and 6-8 times lower than in the United States (Lateef, 1997). Apart from the wage increases, the overall monetary compensation has increased significantly with schemes like the ESOP (Employee Stock Option Scheme) announced by a number of the larger IT companies. These wage increases however, are primarily in

the large Silicon metros like Mumbai and Bangalore. Still it leaves no doubt that today the IT industry is one of the highest payers in the Indian market (Lateef 1997) and one needs to be aware of various tactical schemes that have been devised for compensating the employees in the IT industry so as to understand the factors of attraction for IT professionals.

Formal bonus or incentive plans are common and popular in the IT organizations. These plans are typically available for upper management employees although participation in the plans is widening. A survey conducted by the American Compensation Association early in 2000 indicated that this was the top motivator for participants (Heller, 1990).

The study determines the satisfaction of the IT professionals with the compensation structure prevalent in their companies. It is also intended to examine the relationship between job satisfaction and the amount of incentive/s, financial or non-financial, which the IT professionals feel they receive from management. This way the HR managers are likely to become cognizant of the factors of the compensation that may lead to the satisfaction and dissatisfaction of the IT professionals which are in great demand these days and the most crucial HR resource for the IT companies.

Thus efforts concentrate on

- What is the current level of satisfaction with the financial and non-financial pay and incentives of the IT professionals? The financial and the non-financial factors shall be delineated separately and assessed. The financial factors include base salary, commission, gifts - cash and kind, incentives, contest prizes etc. etc. Whereas the non-financial incentives include status pay, privilege pay, and power pay?

- What are the relationships between the job satisfaction and the financial and non-financial incentives for the IT professionals?

- What is the effect of financial and non-financial incentives on the IT professionals given by various Information Technology companies in the form of `pay', `commission', or `status pay', `privilege pay', or `power pay'? The study shall also examine the relationship between job satisfaction and the amount of incentive/s, financial or non-financial, which the IT professionals received from management and thus the performance and the effect of various other variables on performance.

- What are the effects of contests on productivity and other factors of interest?

- What is the reward and incentive structure in the various IT companies especially with regard to cash incentives, travel incentives, merchandise incentive, dinner incentive, family outing incentive, recognition in party incentive or issuance of certificates.
Based on the extensive literature survey, the compensation to the IT professionals has been explored along two dimensions viz. financial awards and non-financial awards. Literature is a witness that both financial awards such as base salary, cash incentives etc. and non-financial awards such as power pay, privilege pay, status pay, excellent work conditions etc. contribute to the job satisfaction of the IT professionals.

**Financial rewards**

Reward systems are frequently used by companies to retain staff (Farris, 2000). Financial rewards are extrinsic monetary rewards that organizations pay to their staff for services delivered by them. These financial rewards include: base salary, cash recognition, incentives, flexible pay, stock options/initial price offerings (IPOs) and hot skills premiums.

Money is still the primary incentive used to lure information technology professionals. However, most experts agree that money is not the long-term answer for hiring, and especially for keeping, skilled information technology employees (Leinfuss, 1998).

According to Higginbotham (1997) high salaries are not essential, but "good" and "fair" salaries showed a strong correlation with intention to stay, indicating that as long as the compensation is competitive, financial rewards are not the primary factor in retention. Kochanski and Ledford (2001) support this statement, which indicated that the actual level of pay is less important than feelings about pay raises and the process used to administer them. Employees want to understand how the pay system works, and want to know how they can earn pay increases. Once the pay level has been reached other things become important, the intangibles, e.g. career, supervisor support, work and family balance etc. (Tomlinson, 2002).

Stock options and profit sharing are not universally available in the information technology industry. However, when they are offered, information technology employees are very receptive to stock options, and are likely to base retention decisions on such options, particularly in organizations with high growth potential (Higginbotham, 1997; Kochanski & Ledford, 2001).

Balkin and Gomez-Mejia (1984) studied 33 information technology and 72 non-information technology companies and reported that profit sharing was more popular in information technology firms than in non-information technology firms. It appears that salary alone provides insufficient motivation for many information technology employees, but monetary compensation in the form of bonuses and profit sharing
provides a measure of performance feedback that is often more effective with information technology professionals, e.g. engineers.

According to Farris (2000) one time recognition awards are not effective in preventing turnover, rather small non-cash rewards and good old fashioned permanent salary increases were the most effective in reducing the likelihood of turnover.

Non-financial awards

Elaborate benefit packages are becoming increasingly common in information technology firms, making them more of a compensation issue and less of an incentive to stay with the current organization. These are the indirect financial rewards employees receive for their labour. They consist of time off, perquisites, benefit processes and benefit levels.

Information technology employees do not work normal office hours, but work at a pace that invites burnout. Time off, according to Kochanski and Ledford (2001), is more important than any other indirect benefit in predicting retention. Information technology employees seem to care less about how benefits are administered than about the value of benefits. As mentioned above, a competitive financial package is a requirement for information technology employees. In addition, DeYoung (2000) supported that the latest retention benefits are of an environmental and personal nature, for instance, luxury automobiles for anyone who has surpassed their goals, pets in the office because information technology workers spend a lot of time away from home, playrooms and quiet rooms to improve teamwork and reduce stress and on-site gyms for employee to work out their stress.

What is the present state of affairs in Indian IT industry has never been reported especially the non-financial rewards despite the evidence of its existence. This research effort thus attempted to explore the status of financial and non-financial awards and their relevance for the IT professionals in motivation and attraction for a particular organization.

JOB SATISFACTION

Job satisfaction is a pleasurable or positive emotional state resulting from the appraisal of one's job experience. In short job satisfaction is a synchronization of what an organization requires of its employees and what the employees are seeking of the organization.

Job satisfaction is highly personalized, as the level of satisfaction differs from
### Ability to influence decisions that affect you
- Ability to influence decisions that affect your department
- Ability to influence day-to-day company success

### Supervisor Ratings
- Recognition received from your manager
- Your supervisor's managing abilities

### Training

### Employee Suggestions for Improvement

### Company's Image

### Job Content/Career Development
- Opportunities to discuss career goals
- Opportunities for advancement
- Workload

### Compensation and Benefits
- Satisfaction with salary
- Frequency and amount of bonuses
- Connection between pay and performance

### Job Security/Stability
- Job security

### Facilities/Resources/Support

### Technology
- Opportunities to use new technologies
- Opportunities for interesting projects

### Work Climate/Organization Culture

### Training & Development
- Company-sponsored training and seminars

### Interpersonal Relationships
- Relationship with your manager
- Communication with your manager
time to time and situation. One gets satisfaction in any of the activities depending upon how he/she perceives the situation and what is expected in exchange of effort.

According to Smith (1995), job satisfaction is a person's emotional response to aspects of work such as pay, supervision and benefits; or the work itself. Job satisfaction is determined by various factors, e.g. how well our needs and wants are met through work, work conditions, sense of belonging to the company, self-achievement, fulfilling personality traits, relationships with superiors, etc. A job that is rewarded fairly, a service that is recognized by the employer or a client, or a product that often generates feedback from the public, could be a positive motivational factor to an employee.

This study brief examines the determinants of job satisfaction of information technology workers which has been researched both in terms of its determinants and its predictive power. Researchers have noted that job satisfaction is directly related to employee turnover/retention rates (Cotton and Tuttle 1986; Shore, Newton et al. 1990) and absenteeism (Scott and Taylor 1985) and indirectly to job performance and productivity although the findings for productivity have been somewhat contradictory.

Determinants of job satisfaction:

Job satisfaction is derived from and is caused by many inter-related factors. Although these factors can never be completely isolated from one another for analysis, they can by the use of statistical techniques, be separated enough to give an indication of their relative importance to job satisfaction. Especially in the field of information technology, the factors concerning the job satisfaction are apparently so complacent that it would be a complimenting effort if the differential factors responsible for the low or high job satisfaction in information technology can be brought to fore.

Thorough investigation of the literature brings us to the following attributes (see Exhibit 1.1) important for the information technology employees.

Exhibit 1.1

1. Leadership, Planning, and Communications
2. Corporate Culture
3. Teamwork and Cooperation
4. Working Conditions
5. Employee's Role
6. Recognition and Rewards
The purpose of this study is to determine the job satisfaction levels of IT professionals and find if there are relationships between job satisfaction and motivation, compensation, organizational commitment and turnover intentions.

MOTIVATIONAL FACTORS:

The retention of technical staff has been perceived to be of strategic importance to information technology employers because of the potential return on them in the long term (Turbin & Rosse, 1990). Alternately, the galore over the retention factors should put forward the factors of attraction for the IT professionals. Managing turnover is an increasing challenge, especially for companies employing information technology professionals. Some of the world’s fastest growing technological companies’ CEOs reported that the most significant challenge facing them was retaining qualified employees. The American Management Association (2001) sees retention as one of the top five business issues. Reasons for this development include: The growing gap between supply and demand for skilled labor (Despres & Hilltrop, 1996). Small companies offer a wealth of opportunities, that very few large companies cannot match. Yet, these work opportunities in small and medium-sized enterprises provide a high level of autonomy and opportunities for high impact jobs (Hall & Moss, 1998).

If recruiting the right talent has become important in the IT industry, the retention of the same has become rather a bigger challenge (Evans et al 2000). Every single HR policy is coined keeping retention and employee satisfaction in mind. Retention doesn't mean you have to keep everyone around. Retention means retaining the right people - the good performers. Given the relatively high market power, the information technology professionals enjoy in the external labor market, organizations have limited control over the choices a worker makes regarding career versus business interest (Rogers, 2001). At the same time, the competing managers use aggressive recruitment tactics to try and woo away these valuable employees thus making retention even more critical.

Turnover among information technology employees can result in interruptions in normal operations, increased replacement and recruitment costs, loss of efficiency,
incomplete projects, customer dissatisfaction, scheduling difficulties and the depletion of the company’s intellectual capital. The most critical problem occurs when a valuable and competent employee leaves to join a competitor, or worse still, leaves to start his or own firm which will compete with the former employer for commercial business contracts. As businesses face increasing competitive challenges, a strategy that develops committed and loyal employees holds the promise of exceptional financial returns (Chambers, 1998; Huselid, 1995).

A people-centered strategy is an important source of competitive advantage because, unlike technology, cost or new product development, people are difficult to imitate. Loyal, engaged employees tend to generate high performance business outcomes as measured by increased sales, improved productivity, profitability and enhanced employee retention (Rogers, 2001; Tsui et al., 1995). These employees commit themselves to the organization’s vision and mission. Thus commitment to the organization has evolved as a key indicator of an employee’s attitude to the organization. The concept of organizational commitment has been identified in employee behaviour and has been studied extensively and presented later in the chapter.

Swapping job locally to drive up the learning curve and personal brand equity is also a rampant trait and this movement within the domestic industry is yet another issue with HR managers. In the year 2000, the software professionals’ attrition rate was estimated at 16%, slightly higher than 14% seen last year. An average IT professional spends about 18 months in a job. The present generation is very ambitious and factoring loyalty are slightly down the scale of reasons to stay back. One needs to offer challenging projects and long term benefits. Career development opportunities are more consequential than swimming pools. But alongside, if you can provide them a life, king size, back at home, then you have cracked the retention riddle.

The mind-boggling question for HR managers is - how can we manage to retain the IT talent? Different dotcom companies are resorting to different strategies:

- Providing a technically challenging ethos, which encourages employees to test and deepen their skill sets. Companies offer the latest technology and machines and self-development opportunities that enable employees to keep abreast of new trends.

- Shift from shareholder value to the recognition of human capital make eminent business sense. Constant training and knowledge up-gradation only adds depth to an organization. It also acts as an emotional prop for the professionals who are paranoid about lagging behind in the knowledge race.

3 Barman, Arijit. “Retention Riddle”, Outlook, March 5, 2001
At WIPRO, for instance, switching departments has become a lot easier for the techies on roll. Moreover, it has collaboration with IIM Bangalore and BITS Pilani for Post Graduate Degrees for employees. There is thus a synergy between education and work. Tata Consultancy Services is also leveraging the expertise of premier educational institutions to externalize R & D and training program for the employees. The IIT tie up is a foolproof formula to enhance capability and assets for the future.

Along with the knowledge, the personal lives of the staff are at the epicenter of the dotcom companies which is custom-made to cater to the needs and aspirations, albeit in varying degrees. For HR practitioners, the call is to create the purpose that would drive people to find meaning in their lives, the challenge that would create communities that would add values to the customers and society. WIPRO initiatives, for example, are an outcome of a belief in its people and values. Continuous feedback from the staff is also supplemented through employee meetings and Gallup conducts regular perception surveys.

TCS has an attractive flexi time package - telecommuting, half day or ¾ day on request, employees who sit late are dropped home and food paid for on such occasions; this is besides free transport to and from locations difficult to access. It also has subsidized canteens at its centers across India. Its new software development facilities are equipped with recreational facilities, for instance the one at Sholainallur, Tamilnadu has squash and tennis courts, and a gymnasium. TCS’s attention to its employees is seen in its newly designed corporate office.

A crucial element to all people-centric exercises is the wealth creation opportunities. ESOPs have made all Infoscions owners of the company while 75% of the eligible staff at WIPRO are covered under WESOP resulting into several millionaires. Competitive pay, alluring loan schemes and allowances complete the monetary incentive list.

Further to all above, TCS’s compensation has seen dramatic changes over the past 3-4 years. The company has increased the variable pay and also introduced a concept called economic value added (EVA) which will bring in very large sums of money to the employee - an answer to the ESOP (Employee Stock Option Plan). With a fairly large amount in the bank, it becomes difficult to decide to leave. And to top this, TCS has bi-monthly appraisals, project-end appraisals, annual appraisals and performance reward evaluations to constantly keep employees motivated.

Around 50-60% of the staff moving out of TCS shifts to jobs abroad while some leave to pursue further studies. Employees may join because of the company’s image, but they stay, because of pay, continuous learning opportunities and challenging assignments. The training schemes provide sabbaticals of up to two years at full salary to those who pursue highly specialized courses. Their promotions and increments are taken care of. It also has full-fledged training center in Thiruvanthapuram, which can
train 600 people at given time. Through computer-based training, staff can log on to from their terminals and go through distance learning. The company insists that its employees go through minimum of 20 days of training every year.

WIPRO is a company with 14,000 consultants in 23 countries with an attrition rate of 12% - much below an industry average 20%. The behind-the-scenes to this success is a time-tested recruiting and retention program. Being among the biggest recruiters of engineers, TCS does not need extra effort to pull engineers to itself. And being the oldest software development company with an image of doing good quality engineering and software work, it manages to get day in campus recruitment.

At Wipro, they have a no-nonsense approach to HR. "We offer basic honesty and 100% professionalism. On compensation, we have a stated policy that we will remain in the 75 percentile. And since 1995 we have very individualized rating and appraisal system that takes into account among other things, the market value of the employee and the criticality of his job", as disclosed by HR Head, WIPRO. This leads directly to two things; a strong sense of loyalty and commitment and a steep learning curve. Even today, 80% of the top management of WIPRO consists of people who joined the company during campus recruitment, right from 1975 onwards.

This is not to say that Wipro hasn't had its share of employee migrations. The first wave was in the early 1990s and the last in 1999 when the start-up fever was high. The company does not have a trainee-ship concept. A person comes in and directly takes on responsibilities. Company believes in learning on the job. So whenever a new company is set up or people in the IT sector want to recruit, Wipro is their first hunting ground.

Professional satisfaction is to have a job that is exciting, that provides you with a lot of responsibility and intellectual challenge, allows you to work for world class customers in an environment that provides good peers, good resources, good induction and training, WIPRO provide all of that. Everyone today for instance wants to work on leading edge technologies and the inability to do so is a major source of employee attrition in the IT sector. Wipro deals with this through a system called WINGS, within where the job opportunities in the company both domestic and offshore, are announced. Whoever is interested, applies and the internal placement happens after an evaluation of skill set matching.

Infosys believes in a holistic compensation package. Along with money comes learning and emotional value - adds (EVA) which they have been able to extend to their employees that naturally makes Infosys the geek Mecca with everyone craving for a
break. The sectoral cognizance of HR not with-standing, Infosys is still the premier employer. Its awe-aspiring physical environment, incredulous stock options, open door policy and the brand association undoubtedly remain the key galvanizing agents.

So the old-hog maxim of flexi-timings, open work culture, casual dressing and round the clock parties – today’s hygiene factors are putting additional pressure on the HR managers. These perks are no longer key differentiators, simply because everyone is offering them. And this leads to greatest challenge – staving off advances on employees by the competition. While the new economy might have created issue for HR, it has also spun off HR’s earlier role as a mere administrator.

The Conflict

Information technology firms are noted for their high level of intellectual work (von Glinow & Mohrman, 1990) and hence a large proportion of their assets tied up in human assets. Along with high intellect are high ego needs for professional satisfaction and fulfillment (Gomez & Welbourne, 1991). These needs may conflict with organizational needs, or cut across traditional incentive and reward structures (von Glinow & Mohrman, 1990).

The work of information technology employees is governed primarily by their own expertise rather than by routine or systems. Three characteristics stand out from describing information technology workers (Mohrman & von Glinow, 1990; Turbin & Rosse, 1990): a high level of education, strong preference for independence, and a professional orientation rather than an organizational focus. The information technology worker identifies with an information technology culture apart from the organization where he/she works (Rogers, 2001). This focus leads to a loyalty clash (von Glinow & Mohrman, 1990). The information technology worker wants to work on projects that enhance his own career, knowledge assets and future earning power, while the organization generally wants current knowledge applied to developing value-added products. This clash is a common source of problems for firms wanting/needling to retain information technology workers.

The conflict between the IT and HR department is an old one. A common belief is that HR people do not understand the psychology of the IT world. As IT professionals are focused on getting the job done now; they have little patience for bureaucracy’s snail pace. At their end, the HR people find the techies too much focused on the task.

The question is not how to handle the IT talent, but how to build teams where these diverse disciplines can perform and contribute to the business growth in synergy. There is a perception - reality gap, where IT professionals feel that HR is tied down by
unnecessary bureaucracy, which results in a slower turnaround time. The reality is that HR tends to function within a framework of checks and balances deliberately designed to ensure smooth functioning of the entire system. People have to take into account the working of the larger organization. HR can't function in isolation. HR department feels its role is not appreciated as much as it should be. On the other hand, professionals feel that knowledge management has to be better. There should be proactive sharing and building of information. All this leads our research effort to conspire over "why I professionals leave an organization and what should be done to reduce such job shift?"

**Job Hopping/turnover intentions**

Khatri noted (1998): "...... job-hopping which is the most serious HR problem may be attributed more to poor recruitment and selection practices than to the tight professional market." Despite over 1500 studies in the turnover literature (Shaw et al. 1998), job-hopping has been mentioned in only a few studies in previous research with heavy contentions over recruitment and selection, and there has been no attempt to develop a measure for this important construct. Further, the findings of foreign studies may not be applicable to IT organizations in India due to vast differences in the economic, social, and cultural environments.

Psychologists argue that voluntary turnover is an important topic since such movements represent potential costs to organizations in terms of loss of valuable human resources and the disruption of ongoing activities (Cascio, 1991). Economists generally accept this point although they often tend to stress the benefits of labor turnover. For psychologists, turnover intentions are accordingly important, since such intentions are the immediate precursors to actual turnover.

A close relationship between the intention to quit and actual turnover exists in literature (e.g., Hulin et al., 1985; Mobley, 1977; Mobley et al., 1979; Price and Mueller, 1986; Rusbult and Farrell, 1983; Steers and Mowday, 1981). Thus, these intentions are good at forecasting actual quits (e.g., Mobley et al., 1979; Sager and Griffeth, 1998; Steel and Ovallle, 1984). Turnover intention reflects the (subjective) probability that an individual will change his or her job within a certain time period. As opposed to voluntary turnover, turnover intentions are not definite.

Voluntary turnover is a major problem for IT companies in many countries such as Hong Kong, South Korea, Malaysia, Singapore, and Taiwan (Barnett, 1995; Chang, 1996; Syrett, 1994). For example, for 1995 Barnard & Rodgers, 1998 quoted that the average monthly resignation rates were 3.4%, 2.9%, and 2.7% in Singapore, South
Korea, and Taiwan, respectively. Researchers are unanimous in their view that job-hopping had become so rampant in IT companies in many countries that it had become a culture (Asia Pacific Management News, 1997). Similarly, employee turnover is prevalent in China as well (Adweek, 1993; MacLachlan, 1996). In Singapore, reports in popular press highlighting the costs and disruptions associated with job-hopping continue unabated, and companies continue to call for help with this pressing issue\(^2\). The extent of the problem can be gauged from the fact that the issue of job-hopping was brought up in the country’s parliament. In fact, there is a deep concern at the national level that job-hopping is adversely affecting competitiveness (Chang, 1996; The Straits Times, 1996). Foreign investors, particularly manufacturers, are concerned about the frequency of job-hopping (Asian Finance, 1988; The Straits Times, 1996).

There is literary evidence that in addition to low productivity, there is a high cost of recruitment and poor quality of products and services due to high turnover. Even more important, high turnover was found to be the major source of poor morale in many organizations.

The definition of job-hopping has two parts. First, people switch jobs because they have an itch to try out new things or simply because it is fun doing so. Ghiselli (1974) was the first to document a concept similar to job-hopping which he termed as ‘hobo syndrome’. He defined the hobo syndrome as ‘the periodic itch to move from a job in one place to some other job in some other place’. Ghiselli argued that this wanderlust is derived from instinctive impulses and does not seem to result from organized logical thought, but rather from the internal impulsiveness of individuals.

The second part of job-hopping consists of social influences or turnover culture. Abelson (1993) defined turnover culture as the shared cognition by organizational members that influence their decisions regarding job movement. Turnover culture makes hopping from one job to the other an acceptable behavior. If an employee has not changed his or her job for a long time, he or she feels increasing pressure to do so because of social influences/turnover culture.

If one scans through the literature concerning what influences people to leave three sets of independent factors: demographic, controllable, and uncontrollable emerge responsible for job hopping.

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\(^2\) The recent economic crisis has had only marginal impact on employee turnover as the resignation rates for the third quarter of 1998 published by the Ministry of Manpower (Singapore) show. The data are contrary to the popular belief in Singapore that employee turnover has declined greatly since the onset of the economic crisis. A Member of Parliament (Singapore) also noted in the Parliament that job-hopping is still prevalent (The Straits Times, 1999).
**Demographic Factors**: Demographic factors that have been found to have a stable relationship with turnover intention in past research include age, tenure, level of education, level of income, and job category (managerial or non-managerial). Several studies have reported a negative relationship between turnover intention and three demographic factors, age, tenure, and income level (e.g., Arnold & Feldman, 1982; Cotton & Tuttle, 1986; Gerhart, 1990; Mobley et al., 1979; Price & Mueller, 1986; Wai & Robinson, 1998; Weil & Kimball, 1995, and others). Amount of education, on the other hand, is found to be positively associated with turnover, suggesting that the more educated employees quit more often (Berg, 1991; Cotton & Tuttle, 1986). Finally, Wai and Robinson (1998) and Price and Mueller (1986) found that non-managerial employees are more likely to quit than managerial employees.

Findings of the studies on the relationship between gender and turnover are mixed, however. While Cotton and Tuttle (1986) and Weisberg and Kirschenbaum (1993) found females more likely to leave than males, Berg (1991), Miller and Wheeler (1992), and Wai and Robinson (1998) reported no relationship between gender and turnover. Elaine (1997) and Summers and Hendrix (1991) found males more likely to quit than females.

In India, we expect males to quit more than females. This is because, despite the increasing participation of females in the workforce, females work basically to supplement the family income. Males are the breadwinner for the family and have greater achievement-orientation than females (Elaine, 1997). Consequently, males may leave the current job in favor of a more attractive job if their expectations are not met.

Conclusively we can say that demographic factors are associated with turnover intentions as far as the IT industry is concerned. Specifically, age is negatively associated with turnover intention. Males have greater intention to leave than females and level of education is positively associated with turnover intention. Tenure of an employee in a company is negatively associated with her intention to leave. Level of income is negatively associated with turnover intention. Non-managerial employees have greater intention to quit than managerial employees.
Controllable Factors: Job satisfaction (satisfaction with pay, satisfaction with nature of work, and satisfaction with supervision), organizational commitment, and organizational justice (distributive and procedural) are the controllable factors. As shown in modular framework exhibit 1.2 the three together result in turnover intention.

The relationship between job satisfaction and turnover is one of the most thoroughly investigated topics in the turnover literature. Many studies report a consistent and negative relationship between job satisfaction and turnover (e.g., Cotton & Tuttle, 1986; Arnold & Feldman, 1982; Bluedorn, 1982; Mobley, 1982; Price, 1977, and many others), as dissatisfied employees are more likely to leave an organization than satisfied ones. Turnover studies that supported the negative relationship between job satisfaction and turnover include Lam et al. (1995), Koh and Goh (1995), and Aryee et al (1991). Although past research suggests a stable negative relationship between job satisfaction and turnover, job satisfaction alone has been found to account for small percentage of the total variance in a turnover model – less than 15% (Blau & Boal,
1989). The fact that the relationship (between job satisfaction and turnover) is not stronger does not suggest that satisfaction should not be measured. It does suggest that measures of satisfaction must be combined with other measures to effectively predict and understand turnover (Mobley, 1982). Efforts have been made in this study as well to measure the relationship between job satisfaction and turnover.

A scrutiny of past research on job satisfaction suggests that most of the studies have examined the effect of overall satisfaction on turnover with only a few investigating the relationship between turnover and the specific aspects of job satisfaction such as pay, supervision, and nature of work. Koh and Goh (1995) noted that the use of overall satisfaction conceals the vital effects of different job facets on turnover. Koh and Goh's (1995) study investigated the effects of various types of job satisfaction on turnover intention. They classified job satisfaction into eight categories: supervision, company identity, kind of work, amount of work, physical working conditions, co-workers, financial rewards, and career future.

Based on personal experiences and innumerable anecdotes, the researcher feels that pay is considered one of the most important factors influencing employee turnover in Indian setup. Indians, especially the younger IT professionals, are thought to be very materialistic, and as a result they are believed to hop from one job to the other for a few extra dolls (Campbell & Campbell, 1997).

Salary has been found to be positively related to organizational commitment and negatively to turnover intentions among IT personnel (e.g. Igbaria and Greenhaus 1992). Similar results are anticipated for annual bonus, recruitment bonus and retention bonus. Meyer and Allen (1990) found continuance commitment and lack of alternative job offers to be positively associated. Four remuneration variables (salary, annual bonus, recruitment bonus and retention bonus) and one negotiation condition (number of formal job offers) are examined in this study.

The nature of work is becoming an important consideration because of greater affluence as well as higher education levels. The previous generation did not pay much attention to the kind of work they were doing. Koh and Goh (1995) found that satisfaction with the nature of work was negatively associated with turnover intention in their sample of clerical employees in the banking industry.

Debrah (1993) noted that a supervisor with poor interpersonal skills and who is also inflexible very quickly drives employees away. The author emphasized the critical role of supervision in retaining employees.
Thus it was hypothesized that job satisfaction is negatively associated with turnover intention. Specifically, satisfaction with pay is negatively associated with turnover intention. Satisfaction with nature of work is negatively associated with turnover intention. Satisfaction with supervision is negatively associated with turnover intention as far as the IT professional in Indian organizations is concerned.

Before Porter et al.'s (1974) study, scholars focused on job satisfaction as the major cause of turnover. However, Porter et al.'s study highlighted the importance of organizational commitment in explaining turnover. In their study, they demonstrated that organizational commitment was a better predictor of turnover than job satisfaction. Since then organizational commitment has been frequently explored in the turnover literature, and like job satisfaction, has been shown to be negatively related to turnover (e.g., Wong, Chun & Law, 1996; Arnold & Feldman, 1982; Bluedorn, 1982; Porter et. al, 1974, and many others).

Aryee et al.'s (1991) study in Singapore on professional accountants also showed a negative relationship between organizational commitment and turnover intention. Similarly, Wong et al. (1996) in their longitudinal study of 485 graduate students in Hong Kong found organizational commitment a strong predictor of turnover.

Several other scholars (Arnold & Feldman, 1982; Ben-Bakr et al., 1994; Kim et al, 1996; Tett & Meyer, 1993) have also found organizational commitment an important predictor of turnover.

Organizational commitment comprises three dimensions (Meyer and Allen 1990). First, employees with a strong affective commitment (personal attachment and identification to the organization) continue employment because they want to do so. Second, employees whose primary link to the organization is based on continuance commitment (awareness of the costs associated with leaving the organization) remain because they need to do so. Third, employees with a high level of normative commitment (feeling of obligation due to social pressures) feel that they ought to remain with the organization. Organizational commitment has been discussed in detail later in this chapter.

The idea that employers should retain and develop their human resources in order to obtain competitive advantage is one of the core beliefs of human resources literature (DeYoung, 2000; Storey, 1992). Walton (1985) urged employers to change their employment practices from employee control to one of employee commitment. The goal of control is to reduce direct labour costs, or improve efficiency, by enforcing employee compliance with specific rules and procedures, and base employee rewards on
some measurable output criteria (Eisenhardt, 1985; Walton, 1985). By contrast, commitment strategies shape desired employee behaviors and attitudes by forging psychological links between the organization and employee goals. Thus, the focus is on developing committed employees who can be trusted to use their discretion to carry out job tasks in ways that are consistent with organizational goals. Employee retention, productivity, quality and corporate financial success are characterized as high performance, high commitment strategies. The assumption is that integrated sets of management strategies focusing on commitment (as opposed to control) produce high levels of employee affective commitment and subsequent organizational performance (Tsui et al., 1995). Such strategies will empower the employees to take greater responsibility and participate in decision making. This view relates to what Storey (1989) has characterized as the ‘soft’ version of human resources management in which the overall management philosophy is to carefully nurture and invest in human resources in order to evoke commitment. Here employers seek to treat employees as valued assets who can be a source of competitive advantage through their commitment, trust, adaptability and high quality skills and knowledge (Storey, 1992). This empowerment should increase the competitiveness of the business. Arthur (1994) concluded that by using commitment strategies, organizations had significantly higher performance and lower turnover, compared to those using control strategies.

Prior empirical research showed a negative relationship between affective commitment and turnover intentions (e.g., Igbaria and Guimaraes 1999). Meyer et al. (1993) found a negative correlation between continuance commitment and the turnover intentions. Interestingly, Sommers (1995) and Chen et al. (1998) found a stronger relationship between affective commitment and turnover intentions than between continuance commitment and turnover intentions. This result suggests that employees are more willing to remain in an organization when they have an emotional attachment to the organization than when they only perceive a cost of leaving it. Consequently, affective commitment and continuance commitment are expected to be negatively related to turnover intentions.

Hence, the Organizational commitment was conformingly negatively associated with turnover intention in IT organizations as well.

In the past two decades, there has been an increasing amount of research on organizational justice. Organizational justice is a term used to describe fairness in the workplace. It is concerned with the ways in which employees determine if they have been treated fairly in their jobs and the ways in which this determination influences
other work-related variables (Moorman, 1991). There are two forms of organizational justice: distributive justice, which describes the fairness of the outcomes an employee receives; and procedural justice, which describes the fairness of the procedures used to determine those outcomes (Folger & Greenberg, 1985). Previous research mostly on American samples has shown that organizational justice affects turnover intention negatively (Randall & Mueller, 1995; Dailey & Kirk, 1992; Berg, 1991; Price & Mueller, 1986).

Thus it was hypothesized that Distributive justice is negatively associated with turnover intention. Procedural justice is negatively associated with turnover intention.

In this study, the researcher included a comprehensive list of independent variables some of which are relatively unexplored in turnover literature even in the West such as procedural and distributive justice, and examine their relationships with turnover intention in IT industry. The researcher partitioned the effects of demographic variables (such as age and gender), uncontrollable variables (such as perceived ease of movement and job-hopping), and controllable variables (such as satisfaction with pay and organizational commitment) on turnover intentions. The partitioning of the effects has led to better diagnosis of the turnover problem.

**Uncontrollable Factors:** Perceived alternative employment opportunities (PAEO) and job-hopping are two uncontrollable factors in this framework in exhibit 1.4 PAEO refers to an individual's perception of the availability of alternative jobs in the organization's environment (Price & Mueller, 1986), and it is the function of professional market conditions. Employees perceive more alternative job opportunities when the job market is tight and less alternative job opportunities when there is unemployment. It should be noted, however, that PAEO is not the same thing as actual professional market conditions. Past research suggests that both PAEO and professional market conditions are positively associated with turnover (Hulin et. al, 1985; Steel & Griffeth, 1989). Although professional shortage is considered one of the most important factors contributing to employee turnover, no study has yet examined the effect of PAEO on turnover intention.

Hence keeping in view the circumstantial evidence portrayed in IT organizations, it was hypothesized that Perceived alternative employment opportunities are positively associated with turnover intention for the IT professionals.

The researcher proposes job-hopping (or bad attitude) as the second uncontrollable factor in the turnover framework. According to popular belief in both academic and practitioner circles, job-hopping is considered one of the most important
factors causing turnover. The following quote by a human resource manager (in Indian context), after one of the executives in the company left, reflects job-hopping tendencies in IT industries: “He worked for only three months and complained that we didn’t use his brain or talent enough; the job is not interesting; the pay is not enough ... so he quit.” Another quote by Chew (1993) is typical “In the past, clerical employees used to look for an alternative job before resigning the current one. Nowadays, IT professionals resign from their jobs even before securing another one.”

Thus it confirmed beyond doubt that Job-hopping is positively associated with turnover intention as far as the IT professionals was concerned.

**Controllable Versus Uncontrollable Turnover**: The common perception or misperception especially among human resource managers, is that professional shortage and resulting employee attitudes are two of the most important factors causing high employee turnover (Debrah, 1993; 1994; Cheng & Brown, 1998; Koh & Goh, 1995). The argument is that since there is a professional shortage in the IT industry, professionals have plenty of jobs available. Consequently, they can afford to switch jobs for a few extra dollars. Many employees are believed to job-hop for no reason or even for fun. For example, an employee changes his or her job because some of his or her friends or relatives have done so. Employees may job-hop over trivial things such as a dislike for the hairstyle of the boss. Or, if an employee faces a minor problem (e.g., minor disagreement with the boss or other colleagues), he or she may simply resign. HR managers believed that IT professionals have developed a turnover culture or bad attitude.

The argument that professional shortage and job-hopping in IT field explain only part of the reality at best. It is true that professional shortage compounds the problem of employee turnover, but, turnover intention is not triggered by perceived alternative employment opportunities alone.

Igbaria and Greenhaus (1992) tested a model of turnover intention among 464 MIS employees using data from a questionnaire survey. They described the reasons to leave the organization on the part of employees owing to five sets of variables: 1) demographic variables; 2) role stressors; 3) career experiences; 4) work-related attitudes; and 5) turnover intention. Results indicated that two work-related attitudes, job satisfaction and organizational commitment, had the strongest and most direct influence on turnover intention, and that the impact of other variables on turnover intention was primarily mediated by these two variables. Education was the only
demographic variable that had a direct effect on turnover intention. Higher educated employees had higher turnover intention and lower levels of job and career satisfaction.

Employees with low salaries and those who perceived limited career advancement opportunities tended to hold stronger turnover intention than those with higher salaries and more career advancement opportunities, through both direct and indirect effects. Role stressors had a positive, indirect effect on turnover intention through low job and career satisfaction and organization commitment. Organizational commitment had a strong, negative effect on turnover intention, but inconsistent with prior research, job satisfaction had stronger effects than organizational commitment on turnover intention (Igbaria & Greenhaus, 1992).

Another powerful factor that prior research has repeatedly shown to be significantly correlated to organizational commitment, job satisfaction and turnover intention, is burnout. In a study among 270 IT professionals and managers in various industries across the US, Moore (2000) studied the role of burnout. The results of the study revealed that: 1) technology professionals experiencing higher levels of exhaustion reported higher intention to leave their job and, 2) of the variables expected to influence exhaustion (work overload, role ambiguity and conflict, lack of autonomy and lack of rewards), work overload was the strongest contributor to exhaustion.

Hoonakker et al. (2004) combined the research by Igbaria (1992) and Moore (2000) and developed a conceptual turnover model for the IT industry, based on a sample of 624 IT professionals (see exhibit 1.3). In the model, job and organizational factors are related to Quality of Working Life (QWL: job satisfaction, organizational commitment and burnout), which in turn is related to turnover intention. The model shows that most of the relationships between job and organizational factors and turnover intention are mediated by QWL.
Moore and Burke (2002) discuss the evolution of the turnover culture within the IT workforce as a factor contributing to intention to turnover. They state that turnover attitudes at the occupational group level are learned from others (both at work and outside of work) through formal and informal communication channels as normal occurrences. They contend that looking at intention to turnover within the IT workforce as turnover culture can help to understand how turnover breeds more turnover. Furthermore, they argue that high turnover in the IT workforce allows for incorrect situations (those that are not aligned with corporate goals) to go uncorrected since it is easier and more expedient for IT workers to leave the situation than voice objections, feelings, and ideas in the hope of improving the work environment (Moore & Burke, 2002).

The notion of a turnover culture is further substantiated by Griffeth (2000), who notes that the turnover rate of women is similar to that of men (Griffeth et al., 2000). Rouse (2000) argues that IT professionals may choose to leave their jobs in the absence of job dissatisfaction. Levy (2003) cites Horn and Griffeth’s (1991) Modified Model of Turnover uses job satisfaction as a key element in the decision-making process of staying with or leaving a job. Levy also points out that individual circumstances may impact one’s decision to leave a job, such as relocating because of a spouse or to be near a sick relative. However, in most turnover models the concept of what happens after one leaves a job is missing.
Thus we find that previous studies on intention to turnover, in particular in the IT workforce, leave gaps in our understanding of turnover intention. It is argued that we need to look at turnover and recruitment strategies, job satisfaction and compensation practices together in order to understand the reasons of attraction and motivation in IT industry. Specifically, the question that needs answer is "What is the relationship of demographic factors to the negative and positive causes and consequences of intention to turnover?" By looking for individual factors that cause one to consider leaving her/his current job, we hope to discover the factors that are similar or different for say men and women or for higher paid or lower paid employees etc. etc. within the IT workforce. By discovering whether similarities exist, we will better understand how demographic factors, job satisfaction and compensation play a role in the relationships between intention to turnover and the decision to stick in one organization or leave a job, leave a company, leave the IT workforce, or leave the workforce all together. This relationship, combined with job/organizational factors and quality of working life factors, may help to better understand the IT workforce, with a special emphasis on the underrepresented population. This research will serve as the basis for the development of a set of “best practices.”

One of the purposes of the present study is to present and test an integrated model of turnover intentions that addresses the unique nature of the IT profession. We identified a multidimensional set of HR practices likely to increase retention among IT people and considered organizational commitment and citizenship behaviors as key antecedents of turnover intentions. Precisely, this study addresses four research questions: 1) What specific HR practices motivate IT professionals to stay with one organization? 2) What is the impact of remuneration and negotiation conditions on the turnover intentions of IT personnel? 3) What is the effect of employee demographic characteristics on the turnover intentions of IT personnel? and 4) Do organizational commitment and citizenship behaviors mediate the effects of HR practices, remuneration and negotiation conditions as well as demographic characteristics on the turnover intentions of IT personnel?

ORGANIZATIONAL COMMITMENT

Theorists mostly describe organizational commitment from their own perspective and for their own purposes; it becomes difficult to define the concept concisely. This ambiguity led to organizational commitment being described as a multidimensional concept and the use of "nested" organizational commitment profiles to describe it.
(Lawler, 1992b). In exhibit 1.4, a graphic summary of organizational commitment will illustrate the different concepts used in the organizational commitment literature. Commitment phenomena have been widely investigated because it affects individual attitudes and behaviours towards the workplace.

Since the concept of organizational commitment was defined by Mowday and colleagues (1982) as "... the relative strength of an individual's identification with and involvement in a particular organization" it has attracted its fair share of those skeptical about its distinguishability from other behavioural constructs. According to Meyer and Allen (1997) the concept of organizational commitment is a construct distinguishable from other familiar concepts such as job satisfaction, job involvement, career salience, occupational commitment, turnover intentions, work group attachment and Protestant work ethic (Cohen, 1993; Mathieu & Farr, 1991; Meyer et al., 1993; Morrow & McElroy, 1986; Mueller et al., 1992). Apart from being a distinguishable construct, organizational commitment contributes uniquely to the prediction of important outcome variables such as performance and withdrawal behaviours (Mathieu & Zajac, 1990; Meyer et al., 1993; Tett & Meyer, 1993).

Theorists, who provided a general definition of commitment in exhibit 1.2, noted that commitment is different from motivation or general attitudes (Brickman, 1987; Brown, 1996; Scholl, 1981). They suggest that commitment influences behaviour independently of other motives or attitudes and, might lead to the persistence in a course of action even in the face of conflicting motives or attitudes. Thus commitment can lead individuals to behave in ways that, from the perspective of neutral observers, might seem in contrast to their own self-interest, e.g. a temporary employee who is productive despite having no job security (Meyer & Herscovitch, 2001).

For the purpose of this study, and in the context of IT industry where the retention of professionals is a big problem, the definition of organizational commitment as provided by Allen and Meyer (1990) was considered to be sufficient and explored for its relationship with other variables of interest.
"Commitment is a psychological state that binds the individual to the organization..."

Definitions of Commitment

**Commitment in general**

"... engagement which restricts freedom from action." (Oxford English Dictionary, 2000)

"Commitment comes into being when a person, by making a side bet, links extraneous interests with a consistent line or activity." (Becker, 1960)

"... A state of being in which an individual becomes bound by his actions and through these actions to belief that sustain the activities of his own involvement." (Salancik, 1977)

"... a stabilizing force that acts to maintain behavioural direction when expectancy/equity conditions are not met and do not function." (Scholl, 1981)

"... Forces that stabilizes individual behaviour under circumstances where the individual would otherwise be tempted to change that behaviour." (Brickman, 1987)

"... one's inclination to act in a given way toward a particular commitment target." (Oliver, 1990)

"... an obligation force which requires that the person honour the commitment, even in the face of fluctuating attitudes and whims." (Brown, 1996)

**Organizational Commitment**

"... The totality of normative pressures to act in a way which meets organizational goals and interests." (Wiener, 1982)

"... The psychological attachment felt by the person for the organization; it will reflect the degree to which the individual internalizes or adopts characteristics or perspectives of the organization." (O'Reilly & Chatman, 1986)

"... a psychological state that binds the individual to the organization ..." (Allen & Mayer, 1990)

"... a bond or liking of the individual to the organization." (Mathieu & Zajac, 1990)

Exhibit 1.4

Individuals’ behaviours and attitudes are affected by organizational factors in terms of the psychological contract. The importance of organizational factors in affecting
attitudes or behaviours of employees has been widely advocated (Allen & Meyer, 1990; Cohen, 1993; Mathieu & Zajac, 1990; Meyer & Allen, 1984; O'Reilly & Chatman, 1986).

According to Chang (1999) after entering the company, members evaluate whether the company has fulfilled the psychological and employment contract. The psychological contract is a perceptual belief about what employees believe they are entitled to receive or should receive (Robinson, 1996). Robinson and associates (1994) suggests that when employees feel that their employers have failed to fulfill their obligations, the employees tend to reduce their obligation by showing withdrawal behaviour, e.g. decreased level of commitment and turnover.

As already mentioned organizational commitment comprises three dimensions (Meyer and Allen 1990). First, employees with a strong affective commitment (personal attachment and identification to the organization) continue employment because they want to do so. Second, employees whose primary link to the organization is based on continuance commitment (awareness of the costs associated with leaving the organization) remain because they need to do so. Third, employees with a high level of normative commitment (feeling of obligation due to social pressures) feel that they ought to remain with the organization.

DEVELOPMENT OF ORGANIZATIONAL COMMITMENT

When a new employee enters the organization, the employee will learn the values and goals of the organization. For the successful completion of a goal, the employee will receive a return (salary). This exchange develops over time into a certain concept of commitment. The development of organizational commitment is largely facilitated by the social exchange theory. The theory of social structure is based on the principle that “most social behaviour is predicated on the individual expectation that one’s actions with respect to others will result in some kind of commensurate return” (Reber, 1995).

DEVELOPMENT OF AFFECTIVE COMMITMENT

Personal characteristics

Research has focused on two types of variables: demographic (e.g., gender, age, organizational tenure) and dispositional variables (e.g., personality, values). Relations between demographic variables and affective commitment are neither strong nor consistent (Meyer & Allen, 1997). People’s perception of their own competence might play an important role in the development of affective commitment. From the several
personal characteristics that Mathieu and Zajac (1990) have examined, perceived competence and affective commitment have the strongest link. Employees who have strong confidence in their abilities and achievements have higher affective commitment. A possible explanation for the observed relation between the two variables is that competent people are able to choose higher-quality organizations, which in turn inspired affective commitment. This is highly true of IT organizations.

**Work experience**

According to Meyer and Allen (1997) work experience variables have the strongest and most consistent correlation with affective commitment in most studies. In Mathieu and Zajac's (1990) meta-analytic study, affective commitment has shown a positive correlation with job scope, a composite of three variables, e.g. job challenge, degree of autonomy and variety of skills used. Affective commitment to the organization is stronger among employees whose leaders allow them to participate in decision-making (Rhodes & Steers, 1981) and those who treat them with consideration (DeCotiis & Summer, 1987).

On the basis of antecedent research on affective commitment, Meyer and Allen (1997) suggested possible universal appeal for those work environments where employees are supported, treated fairly, made to feel that they make contributions. Such experiences might fulfil a higher order desire to enhance perceptions of self worth.

**Consequences of affective commitment**

Mottaz (1988) suggests that intrinsic rather than extrinsic rewards are powerful determinants of organizational commitment. Meyer and Allen (1997) verify this. They found employees with strong affective commitment feel emotionally attached to the organization. It follows that the employee will have greater motivation or desire to contribute meaningfully to the organization than would an employee with weak affective commitment. Meyer and Allen (1997) reported that employees will develop affective commitment to an organization to the extent that it satisfies their needs, meets their expectations and allows them to achieve their goals, thus, affective commitment develops on the basis of psychologically rewarding experiences.

**Development of continuance commitment**

According to Meyer and Herscovitch (2001) most models of commitment acknowledges that individuals can become committed to a course of action because of
the perceived cost of failing to do so. Commitment accompanied by the cost-avoidance mindset has commonly been referred to as continuance commitment (Jaros et al., 1993; Meyer & Allen, 1984, 1991).

Continuance commitment originates from the side bets tradition (Becker, 1960) and refers to employee's sacrifices (e.g. losing seniority or pension benefits) associated with terminating employment, thus the employee becomes aware of the costs that are associated with leaving the organization. Employees who have strong continuance commitment to an organization stay with the organization because they believe they have to do so. Continuance commitment can develop as a result of any action or event that increases the costs of leaving the organization, provided the employee recognizes that these costs have been incurred (Meyer & Allen, 1997).

Meyer and Allen (1997) show continuance commitment to be related to employees' perceptions about transferability of their skills (Allen & Meyer, 1990) to other organizations. In these studies, employees who thought their training investments were less easily transferable elsewhere, expressed stronger continuance commitment to their current organization.

Employees whose primary link to the organization is based on strong continuance commitment, stay with the organization not for reasons of emotional attachment, but because of a recognition that the costs associated with doing otherwise are simply too high. All things being equal, there is no reason to expect that such employees will have a particular strong desire to contribute to the organization (Meyer & Allen, 1997).

**Development of Normative commitment**

Perceived obligation to pursue a course of action was identified as a separate dimension of commitment by Meyer & colleagues (Meyer & Allen, 1991; Meyer et al., 1993). It has been established to be distinguishable from the affective and cost based forms of commitment (Dunham et al., 1994). This commitment concept, which is the employee's internalisation of the organizational goals and values, such that they become committed to the organization because they believe it is the moral or "right" thing to do (Allen & Meyer, 1990; Scholl, 1981) is called, normative commitment. Meyer and Allen (1997) suggest that normative commitment develops on the basis of a particular kind of investment that the organization makes in the employee, specifically, investments that seems difficult for employees to reciprocate (Meyer & Allen, 1991; Scholl, 1981).
Strong normative commitment is tied to the organization by feelings of obligation and duty. Meyer and Allen (1991) argued that, generally, such feelings would motivate individuals to behave appropriately and do what is right for the organization. It is expected that normative commitment to the organization will be positively related to such work behaviours as job performance, work attendance and organizational citizenship.

Integration of the consequences of organizational commitment

Sethi and associates (1996) suggest that organization needs to re-examine policies that lead to building commitment. Commonly employed strategies in an information technology environment, such as non-vested pension plans, participation in stock options and the development of organization specific skills may, in fact be working against the organization. Although these steps make it difficult for employees to leave, they may not encourage them to stay. Some employees may find themselves in a position where they may want to quit, but may not be able to afford to do so. Some may be motivated to do just enough to maintain their jobs. In these cases, commitment fostering steps may actually be counterproductive. Affective commitment may be harder to foster but is strongly related to the results that organization values – employee’s desire to contribute to the organization’s effectiveness. Thus, affective, continuance and normative commitment will all be related to employee retention, i.e. each form of commitment should be negatively correlated with employees’ intention to leave the organization and with voluntary turnover behaviour.

THE RELEVANCE OF ORGANIZATIONAL COMMITMENT

The IT organization has changed in recent years with the business focus moving from manufacturing to technology, services and the rise of the knowledge worker. Companies have started working “smarter” and have moved away from the need for “brawn” to the need for “brains” (Peters, 1993). Mowday (1999), one of the pioneers of organizational commitment, confirms that the economy, organizations and the workplace have changed since he started studying commitment over 25 years ago.

Organizational commitment was originally intended as a tool with which to manage human resources within a hierarchical organizational structure. Such organizations are now decreasing in number, with the unit of activities becoming smaller. However, due to its potential for increasing productivity, whatever its form, strategies to encourage commitment will continue to be important in managing human
resources in the future (Sano, 1999). Managers therefore rely less on formal rules and more on building a committed workforce to attain organizational objectives (Carson et al., 1999).

RETENTION & ORGANIZATIONAL COMMITMENT

Literature survey bears testimony that the following (see exhibit 1.5) set of retention factors induces organizational commitment and can thus increase the retention of information technology employees.

Independent variables
- Compensation
- Job characteristics
- Training and development opportunities
- Supervisor support
- Career opportunities
- Work-life policies

Dependent variables
- Affective commitment
- Continuance commitment
- Normative commitment
- Organisational commitment

Exhibit 1.5

COMPENSATION

The compensation part has already been discussed earlier in the chapter. As regards organizational commitment and compensation one must agree that modern society values acquisition. Compensation offers an opportunity for security, autonomy, recognition and an improved self worth (Hoyt & Gerdloff, 1999). These increased feelings of self worth and importance should lead to affective commitment. Mathieu and Zajac (1990) indicated a low positive correlation between salary and commitment (rt=0.182). Igbaria and Greenhaus (1992) found salary to be positively related to organizational commitment and negatively related to turnover. Salary generally represents the "side bet theory" (Becker, 1960). According to this theory, employees
make certain investments or side bets, e.g. shorter organizational tenure versus larger pension, in their organizations. Such an investment is a sunk cost, which reduces the attractiveness of alternative employment opportunities, and thereby increases continuance commitment (Sethi et al., 1996). Perceptions of fairness in compensation have been shown to be positively linked to affective organizational commitment (Schaubroeck et al., 1994).

**JOB CHARACTERISTICS**

Information technology employees want to do interesting work that challenges them and uses their skills and talents. Repetitive, narrow work experience with little individual discretion repels information technology employees (Kochanski & Ledford, 2001). Research has shown that the design of information technology professionals' work content influences the stability of the technical work force (Amabile et al., 1996). Furthermore, when information technology professionals view their tasks as challenging with opportunities for learning and information exchange they are also less likely to leave. According to Amabile and colleagues (1996) and Glynn (1996), information technology professionals appeared to be more involved, more satisfied with their jobs, and more committed to the organization than non-technical employees did.

Job characteristics, such as variety and autonomy, are well-established determinants of organizational commitment (Mottaz, 1988), and are known to be particularly important to management information systems employees (Cougar & Zawaski, 1980).

**Job autonomy**

Job autonomy relates to increased feelings of personal responsibility. It is defined as "the degree to which the job provides substantial freedom, independence and discretion to the individual to schedule work and determine the procedures used in carrying it out" (Hackman & Oldham, 1980).

Information technology professionals have a reasonable degree of autonomy in their application of that knowledge. Although information technology professionals rarely decide on the organizational policy to which their expertise contributes, there is a reasonable degree of autonomy in the process of performing their work (Bailyn & Lynch, 1983). When job autonomy is high, workers will view their work outcomes in terms of their own efforts, initiatives and decisions, rather than instruction of the supervisor or procedure (Marx, 1996).
Loyal, information technology employees enjoy the autonomy they receive in their current jobs according to Dubie (2000). This relates to the elusive factor that information technology employees are looking for, i.e. empowerment. Agarwal and Ferratt (1999) established that successful information technology organizations are devoting resources toward empowering information technology professionals to take responsibility for their work and decision-making.

The degree of freedom and independence enjoyed by employees and their participation in planning and organizing their work has an influence on organization commitment (Bailyn & Lynch, 1983). According to Marsh and Mannari (1977) the high level of autonomy that the individual possesses, correlates negatively with turnover.

**Skill variety**

Skill variety is defined as “the degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the person” (Hackman & Oldham, 1980). Technology employees will leave the organization if their skills are under-utilised. McEachern (2001) reported that information technology employees had skills and training, but are not fully utilised, e.g., a software architect who ends up in a supportive role. Information technology companies are addressing the personal needs of their employees to enhance retention. Some firms keep information technology professionals satisfied by giving them a chance to be creative, master different skills and pursue projects that interest them (Merrick, 1998).

When a task requires an employee to stretch his/her skills and abilities, the task is almost invariably experienced as meaningful by the individual. When a job draws on several skills of an employee, they may find the job to have highly personal meaning even if it is, not of great significance or importance (Marx, 1996).

Mathieu and Zajac (1990) found a medium positive correlation (r = 0.207) between skill variety and organizational commitment. One way that individuals may develop a sense of competency is by working in a job with high skill variety (Hackman & Oldham, 1975, 1976). Skill variety relates to feelings of belonging and sense of attachment to the organization (Meyer & Allen, 1991). Skill variety is thus more related to attitudinal commitment than continuance commitment because of the increased feelings of belonging.
TRAINING AND DEVELOPMENT OPPORTUNITIES

Current skills sets are proving to be inadequate to meet the rapidly changing, fast paced world of technical and business needs. A top priority is keeping skills fresh, and staying current with emerging technologies (Gable, 1999). Since 1999, employees with key information technology skills have become increasingly hard to find. Many companies have realized that proactive strategies are required for building and maintaining a information technology company’s knowledge reservoir (Cataldo et al., 2000). Strategies that focus on continuous learning, retraining and retaining knowledge can decrease the time it takes to move the workforce from intermediate to expert competence, by bridging its technical skills gap. Organizations have significantly boosted investments in internal information technology training, at least partly, in an effort to attract and retain information technology talent (Lundquist, 2001; Seminerio, 2001).

According to Raghunathan and associates (1998) the difficulty of the retention of qualified information technology personnel cannot be understated, and a particular problem in the retention of information systems personnel is attributed to their “higher growth needs” (Cougar & Zawacki, 1980).

Training is essential for the livelihood of any information technology worker, and is the only way employment can be maintained over their careers. Tomlinson (2002) suggests it is critical that organizations keep the leading edge by having their employees well trained in the latest technologies. Employees stay at companies that promote career opportunities through learning, and the ability to apply their newly learned skills (Cataldo et al., 2000; Jiang & Klein, 2000).

The primary mechanism by which training is predicted to increase organizational commitment is through increased self worth and importance. Tsui and colleagues (1995) and Agarwal and Ferratt (1999) argued that job rotation programmes, mentoring and training convey to employees that the organization considers human resources to be a competitive advantage and that it is seeking to establish a long-term relationship with them.

Employee training is intended to provide an opportunity for advancement and might be perceived as “the organization values them and bolster their sense of self worth, therefore building a stronger affective commitment” (Meyer and Allen, 1997). Training, if put to use on the job, should increase affective organizational commitment through its link to increased job scope. This response can be a function of closer psychological attachment to the organization and its goals (McElroy, 2001). Paré and
colleagues (2001) found training to be positively related to affective commitment ($r=0.384$).

Chang (1999) stated that company-provided training might affect the psychological states of employees. When employees believe that the company is doing a good job of providing proper training, they feel that the company is concerned with improving an employee's skill and ability, making them attached to their company. If training is perceived as providing organization-specific skills that contribute to status or economic advantage within the company, but will not transfer to jobs outside the organization, a stronger continuance commitment will develop. Extensive training should have little effect on continuance commitment, unless the training involves organization-specific skills. Paré and colleagues (2001) found training to be negatively related to continuance commitment ($r=-.02$).

Employees who are aware of the expense of training, or appreciate the skills they have acquired, might develop a sense of obligation (normative commitment). This will hold them in the organization at least long enough to "reciprocate". The employees might develop a moral obligation to give the organization its money's worth (normative commitment), particularly if the company funds the training (McElroy, 2001).

**SUPERVISOR SUPPORT**

Researchers have clearly recognized the role of supervisory support in employee empowerment (Amabile, 1993; Spreitzer, 1995). Conger and Kanungo (1988), cited in Ramus and Steger (2000), define empowerment as "the motivational concept of employees' feelings (self-efficacy) that they can influence their work." Spreitzer (1995) differentiated psychological empowerment from situational empowerment and defines the former as "an active orientation of the individual that reflects the individual's belief that he/she shapes his/her work role and context". Bowen and Lawler (1992) and Spreitzer (1995) described two consequences of psychological empowerment as "effectiveness" and "innovative behaviour." Thus, work environments that support employees' sense of empowerment are directly linked to innovations.

For the purpose of this study, supervisor support refers to supervisory behaviours that sustain information technology employee's innovation. Most valuable information technology employees are staff with critical innovation skills, the people with knowledge of core products or services.

Lack of personal recognition translates to the employee as a lack of success. Regardless of the organizational level, employees want to feel good about themselves.
and their work, have a sense of purpose, and to be recognized when they do their jobs well. Most information technology professionals' motivation comes from the recognition they get from managers for a job well done and the feeling that they are an important part of the organization (Agarwal & Ferratt, 1999).

In order for individuals to feel empowered they must understand the goals of their work unit and how their own work can contribute to those goals (Spreitzer, 1996). Most of the information technology employee's work is tacit and often ambiguous and difficult to measure. Kochanski and Ledford (2001) argued that information technology employees value the feedback from their co-workers and supervisors. Providing sufficient performance feedback to employees (Greenhaus, 1987) helps bolster positive attitudes toward the organization, and helps prevent early intentions to leave the organization.

According to Eisenberger and associates (1990) affective commitment may be enhanced under conditions of high feedback. As individuals are provided with praise and feedback, stronger feelings of loyalty to the organization may develop.

Eby and colleagues (1999) indicated a work environment is characterized by participation in important work related decisions, supervisory feedback and support and rewards, that are perceived as fair and equitable (Bandura, 1986). This provides individuals with the chance to make a difference on the job, try out new skills, exercise discretion and receive feedback on their performance. These work conditions are expected to increase individuals' intrinsic motivation by providing affirmation that their efforts are worthwhile and valued (Thomas & Velthouse, 1990). The proposed outcome of this mastery-based motivation is affective commitment to the organization and general job satisfaction. In turn, these affective work reactions are expected to impact outcomes such as turnover and absenteeism.

Paré and colleagues (2001) indicated that recognition from the supervisor was found to be related to affective commitment (r=0.424) but not to continuance commitment (r=0.030). The reason for this might be that information technology employees explore new solutions and get feedback and recognition from supervisors, which increases their feelings of self worth, and not their obligation to stay at the company.

**CAREER OPPORTUNITIES**

Labour market trends in the information technology field have continued to present increased career opportunities for information technology employees and hiring and retention challenges for the organizations that employ these workers. Kochanski and
Ledford (2001) survey showed that career opportunities yielded more significant predictors of retention than any other type of reward, followed by training opportunities and an employee’s relationship with his or her supervisor.

According to Bird (1994) this is paving the way for broadly based organizational learning and “boundary less careers,” where individuals move within and between organizations. This trend, and the flattening of the organization, is requiring that more information technology employees view their career as opportunities for experiences in many different areas, rather than a progression up the traditional hierarchy (Reich, 1999).

Igbaria and Greenhaus (1991) found that employees whose career orientations were compatible with their job settings reported high job satisfaction, high career satisfaction and strong commitment to their organizations and low intention to leave the organization.

**WORK/LIFE POLICIES**

Paré and colleagues (2001) define these as, “work/life policies correspond to work conditions provided by organizations to take into account the needs of the information technology workforce and to minimize the consequences of conflict between the work and family issues”. Friedan (1989) and Leinfuss (1998) recognize work and family policies as positive for employers as a means of attracting and retaining a dedicated workforce.

Work/life policies include flexible work scheduling (e.g. part-time work, job-sharing, variable starting and quitting times), family leave policies allowing periods away from work for employees to take care of family matters, and child care assistance (e.g. referral service, on-site or off-site care centers) (Grover & Crooker, 1995).

Agarwal and Ferratt (1999) argued that it is a sensible business practice to accommodate those employees who may not join the workforce for a typical 9-to-5 workday because of other constraints in their personal life. Work life policies correspond to work conditions provided. The organization should take into account the needs of the information technology workforce and try to minimize the consequences of conflict between the work and family issues (Honeycutt & Rosen, 1997).

McCrory (1999) indicated that the majority of information technology workers value work/life initiatives as very meaningful. Loyal, information technology employees (those who cannot envision changing jobs in the foreseeable future) are more concerned with leave (vacation, holidays etc.), flexible work schedules, family friendliness and a
proximity to their homes than job seeking employees who are actively looking for a new position (Dubie, 2000). The mere existence of these work/life policies demonstrates progress, but does not show that installing such a set of policies necessarily constitutes a "family-friendly" environment. Those information technology companies that back up their work/life programmes with management support will more likely be rewarded with employees that show more commitment to company success, greater loyalty, and a stronger intention to stay with their companies (Merrick, 1998).

Grover and Crooker (1995) empirically tested the effects of work and family benefits on organizational commitment. These benefits include parental leave, flexible schedules, childcare assistance and childcare information. Employees who had access to work/life policies showed significantly greater organizational commitment and expressed significantly lower intention to quit their jobs. Work/life policies were reported by Paré and colleagues (2001) to be minimally related to affective commitment (r=-0.074), and negatively to continuance commitment (r=-0.195). This might be the result of the individual being forced to stay at the organization to increase investments rather than to have less work/life conflict. Due to the lock-in effect, the employee is forced to focus more on work than their families. This may not make for a committed employee.

**HR practices**: Although sets of innovative HR practices were recently proposed to enhance effectiveness in organizations and to retain talented employees (Arnett and Obert 1995; Pfeffer and Veiga 1999; Dessler 1999), the configurations of such practices are narrowly focused and these suggestions are often not theoretically grounded. Literature suggests that four organizational practices may influence work-related attitudes and behaviors, namely, information-sharing, empowerment, competence development and reward. However, recent studies have shown that reward is a complex process that may not be fully understood without taking into account some of its underlying dimensions, namely the distributive, procedural and non-monetary recognition aspects (Sheppard et al. 1992; Milkovich and Newman 1998). In addition, recent literature suggests the work-family conflict is a critical challenge for an organization owing to its consequences on individual attitudes and behaviors (Chiu and Ng 1999).

In short, the present study will examine these seven practices that an organization can employ to increase commitment, favor extra-role behaviors and decrease turnover intentions among IT employees.
First, for most IT professionals, a significant part of their motivation comes from the recognition they get from managers for an outstanding job (Agarwal and Ferratt 1999; Gomolski 2000). In this study, non-monetary recognition practices refer to the means by which an organization tangibly signals its appreciation of the accomplishments of individuals pertaining to highly valued actions. Examples of such practices are extended vacations, tickets to a PVR, and organizational recognition events.

Second, Agarwal and Ferratt (1999) found that successful IT organizations are devoting resources toward empowering IT professionals to take increasing responsibility for their work and for decision making.

Third, it is easier to recruit and retain people in an organization where IT professionals have a sense of equity. Specifically, we distinguish between distributive and procedural justice. Distributive justice refers to the perceived equity with regard to issues such as mandates and compensation while procedural justice relates to the perceived equity with regard to the rules and procedures in place to determine these very same issues.

Fourth, competence development practices (e.g. job rotation programs, mentoring, training) convey to the employees that the organization considers human resources to be a competitive advantage (Schwochau et al. 1997), and that it is seeking to establish a long-term relationship with employees (Tsui et al. 1995). That signal is likely to be an important factor in retaining productive IT professionals (Guptill 1998; Agarwal and Ferratt 1999).

Fifth, with the shortfall of IT staff not expected to disappear in the near term, it is sensible business practice to accommodate those employees who may not join the workforce for a typical 9-to-5 workday because of other constraints in their personal life (Agarwal and Ferratt 1999). Here, work-family policies correspond to such support (e.g. flextime work arrangements) provided by organizations to take into account the needs of the IT workforce and to minimize the consequences of conflict between the work and family issues.

Last, IT professionals need to be made aware of the larger context within which their work fits and to develop a sense of community (Agarwal and Ferratt 1999). One path to accomplish this is through information sharing practices (e.g., group meetings to discuss timely issues) which aim at clarifying the expectations of the organization along with efforts made by the organization to listen to preoccupations and employee suggestions.
RESEARCH MODEL

The model (see exhibit 1.6) comprises two sets of independent variables (HR practices, and compensation & market opportunities), two mediating variables (organizational commitment and organizational citizenship behaviors), and one criterion variable (turnover intentions). Previous IT empirical studies on turnover have used intent to leave rather than actual turnover behavior as a criterion variable (Baroudi 1985; Igbaria and Greenhaus 1992; Guimaraes and Igbaria 1992; Igbaria and Guimaraes 1999; Moore 2000). These researchers evoked, among other factors, the modest costs associated with collecting turnover intention statements. Additionally, turnover intentions which are under more individual control can provide results much more quickly, and are less difficult to predict than actual turnover (Price and Bluedorn 1977). For these reasons, turnover intentions have been used in the present study.

Organizational Citizenship Behaviors (OCB)

The present study investigated the influence of OCB on the turnover intentions of IT specialists. OCB is defined as an employee’s willingness to go above and beyond the prescribed roles which he/she has been assigned (Organ 1990). These extra-role behaviors are considered to be a contribution to the maintenance and enhancement of the social and psychological context which supports task performance in the organization (Organ 1997). At the same time, such discretionary behaviors are not explicitly recognized by a formal rewards system, and their contribution to organizational success is based on resource transformations, innovativeness and adaptability (Organ 1988). Shore et al. (1995) and Chen et al. (1998) argue that a high level of OCB reflect employees’ true willingness to be involved in the organization. Conversely, lack of willingness to exhibit citizenship behaviors may be a clear indication of employee withdrawal from the organization.

The study considered a major form of citizenship behavior, namely, helping behaviors (Podsakoff et al. 2000). Helping behavior involves voluntarily helping others with, or preventing the occurrence of, work-related problems. The first part of this definition (helping others with work-related problems) includes Organ’s altruism, peacemaking, and cheerleading dimensions (Organ 1988, 1990); Graham’s interpersonal helping (Graham 1989);William and Anderson’s OCB-I (William and Anderson 1991); and the helping others constructs from George and Brief (1992) and George and Jones (1997). The second part of the definition captures Organ’s (1988, 1990) notion of courtesy, which involves helping others by taking steps to
Controlling for AGE and ORGANIZATIONAL TENURE

Exhibit 1.6

prevent the creation of problems for coworkers. Past empirical research has generally confirmed that all of these various forms of helping behavior load on a single factor (e.g., MacKenzie et al. 1993; Podsakoff and MacKenzie 1994; Podsakoff et al. 1997).

Chen et al. (1998) and MacKenzie et al. (1998) have empirically tested the relationship between OCB, quit intentions and actual turnover. The results of the first study revealed a negative relationship between OCB and quit intentions while an even
stronger negative association between OCB and actual turnover was reported in both studies. In a recent meta-analysis, Podsakoff et al. (2000) showed that helping behaviors enhance morale, group cohesiveness, and the sense of belonging to a team, all of which may enhance performance and help the organization retain better employees. Therefore, it was posited that citizenship (helping) behaviors will be positively related to turnover intentions (H1).

Organizational Commitment

As already mentioned a number of empirical studies confirm the important role of organizational commitment in the turnover process for IT personnel (Igbaria and Greenhaus 1992; Igbaria and Guimaraes 1999). Organizational commitment was found to comprise three distinct dimensions: affective, continuance and normative commitment (Meyer and Allen 1997).

Prior studies of turnover intentions among IT personnel have considered the first and most studied dimension of the construct, namely, affective commitment (e.g., Igbaria and Greenhaus 1992; Igbaria and Guimaraes 1999). In order to further push the understanding of the mediating role of organizational commitment, this effort considered both affective and continuance commitment, as suggested recently by King and Sethi (1997). The normative commitment was omitted for two primary reasons: 1) past research showed a positive relationship between affective and normative commitment (e.g., Meyer and Smith 2000) and a strong overlapping in the determinants and consequences of both constructs (e.g., Sommers 1995); and 2) prior findings are much more conclusive for the affective dimension than for the normative one (e.g., Bolon 1997).

Results (Griffeth et al. 2000) confirmed that affective commitment is negatively and strongly related to actual turnover. Past research has also found a negative relationship between continuance commitment and turnover intentions (e.g., Jaros et al. 1993; Chen et al. 1998). Interestingly, most empirical studies have found a stronger relationship between affective commitment and turnover intentions than between continuance commitment and turnover intentions (e.g., Sommers 1995; Chen et al. 1998). This result suggests that employees are more willing to remain in an organization when they have an emotional attachment to the organization than when they perceive a cost of leaving it. Thus the Hypothesis 2 posited is that organizational commitment will have a direct effect on the turnover intentions of IT personnel. Specifically, affective and continuance commitment are expected to be negatively related to turnover intentions.
Also that the link between affective commitment and turnover intentions will be stronger than the relationship between continuance commitment and turnover intentions.

Several empirical studies have tested the link between organizational commitment and OCB. Allen and Smith (1987), Meyer and Allen (1991) and Chen et al. (1998) found that affective commitment correlated positively with self-report measures of OCB and continuance commitment correlated negatively with citizenship behaviors. However, studies conducted by Organ and Ryan (1995) and Podsakoff et al. (2000) asserted that only affective commitment was related to OCB. A plausible explanation for the latter finding is that employees are willing to invest their time and energy in extra-role activities if and only if they are emotionally attached to the organization. In light of these recent empirical findings, Hypothesis 3 proposed is that affective commitment is associated with OCB. Specifically, that affective commitment will be positively related to helping behaviors.

**HR Policies and Practices**

Although several sets of innovative HR management practices have recently been proposed to enhance effectiveness in organizations and to retain talented employees (Arnett and Obert 1995; Pfeffer and Veiga 1999; Dessler 1999), these configurations of practices are narrowly focused and are often not theoretically grounded. For example, Stokes (1995) identified team-based reward and recognition practices as a major factor; and Gilliam (1994) recommended that IT managers focus on moving computer people out into the user community, offering non cash inducements, and stressing teamwork.

The conceptual model of Lawler (1986), which is seen as the primary contributor to the evolution of contemporary strategic HR management (McMahan et al. 1998), was thought to be a good starting point for analysis. Specifically, Lawler suggested that four organizational processes may influence work-related attitudes and behaviors: empowerment; competence development; information sharing; and reward. However, recent studies have shown that reward is a complex process which may not be fully understood without taking into account some of its underlying dimensions, namely the distributive, procedural and recognition aspects (Sheppard et al. 1992; Milkovich and Newman 1998). In addition, recent literature suggests that work-family conflict is a critical challenge for an organization owing to its consequences on individual attitudes and behaviors (Chiu and Ng 1999). Greater individual and organizational effectiveness is expected when all these processes and human resource policies are spread throughout
the organization. Therefore, the present study examines six HR policies and practices that an organization can employ to increase commitment, induce extra-role behaviors and decrease turnover intentions among IT employees to be described here in turn.

First, for most IT professionals, a significant part of their motivation comes from the recognition they get from managers for a well job done and the feeling that they are an important part of the organization (Agarwal and Ferratt 1999; Gomolski 2000). In this study, recognition practices refer to non-monetary means (e.g., extended vacations, tickets to a entertaining games, awards ceremony, thank you notes by which an organization tangibly signals its appreciation of good quality work and accomplishments. These practices also included those efforts made by the organization to study employee suggestions carefully and provide them with regular feedback. Second, Agarwal and Ferratt (1999) found that successful IT organizations are devoting resources toward empowering IT professionals to take increasing responsibility for their work and for decision making. Third, it is posited that it is easier to retain people in an organization where IT professionals have a sense of justice. In this study, distinguish between distributive and procedural justice (Tremblay et al. 2000b) has been made. Distributive justice refers to the perceived fairness of various job outcomes including: compensation conditions, performance evaluations, and job assignments. Procedural justice relates to the perceived fairness of the means, rules and/or procedures used to assign jobs as well as the determination of compensation conditions and performance evaluation criteria (Folger 1977). Fourth, competence development practices (e.g. job rotation programs, mentoring, training) convey to employees that the organization considers human resources to be a competitive advantage (Schwochau et al. 1997), and that it is seeking to establish a long-term relationship with them (Tsui et al. 1995; Guptill 1998; Agarwal and Ferratt 1999). Last, with the shortfall of IT staff not expected to disappear in the near term, it is sensible business practice to accommodate those employees who may not join the workforce for a typical 9-to-5 workday because of other constraints in their personal life (Agarwal and Ferratt 1999). Here, work-life policies correspond to work conditions provided by organizations to take into account the needs of the IT workforce and to minimize the consequences of conflict between the work and family issues (Honeycutt and Rosen 1997; Kopelman et al. 1983).

Given recent empirical results in the HR field (e.g., Grover and Crooker 1995; Rodwell et al. 1998; Schwochau et al. 1997; Chen et al. 1998; Appelbaum et al. 2000), it is posited that HR practices will have direct effects on organizational commitment, OCB, and turnover intentions. Specifically, it is predicted that all six practices will be...
positively related to both affective commitment (H4) and OCB (H5), and negatively related to turnover intentions (H6).

**Compensation and Market Opportunities**

Four compensation variables were examined in this study: salary, annual bonus, odd time bonus and retention bonus. These variables are differentiated from distributive justice practices because they represent objective variables and they are not founded on judgments or comparisons with other individuals or groups of employees. Market opportunities correspond to the number of formal job offers (Griffeth et al. 2000). It is expected that both compensation conditions and market opportunities will have a direct impact on organizational commitment and turnover intentions. Salary has been found to be positively related to organizational commitment and negatively to turnover intentions among IT personnel (e.g., Igbaria and Greenhaus 1992). Similar results are anticipated for annual bonus, signing bonus and retention bonus. Meyer and Allen (1990) found continuance commitment and lack of alternative job offers to be positively associated. In consequence, Hypothesis 7 predicts that compensation conditions and market opportunities will have direct effects on organizational commitment and turnover intentions. Specifically, salary, annual bonus, signing bonus, and retention bonus are hypothesized to all be positively related to continuance commitment and negatively related to turnover intentions, whereas the number of formal job offers will be negatively related to continuance commitment and positively related to turnover intentions.

**Control Variables**

Organizational behavior and management researchers have also identified two demographic variables which tend to correlate with turnover intentions. Indeed, age and organizational tenure have shown consistent association (in a negative direction) with voluntary turnover (Griffeth et al. 2000). Furthermore, organizational tenure has consistently been found to be positively associated with organizational commitment (Arnold and Feldman 1982; Cotton and Tuttle 1986). Accordingly, age and organizational tenure were assessed and statistically controlled in the present study. It is worth noting that age and organizational tenure have not been found to be related to OCB in past studies (Podsakoff et al. 2000).