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**The Impact of Human Resources  
Practices on IT Personnel  
Commitment, Citizenship Behaviors  
and Turnover Intentions**

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# The Impact of Human Resources Practices on IT Personnel Commitment, Citizenship Behaviors and Turnover Intentions\*

Guy Paré<sup>†</sup>, Michel Tremblay<sup>‡</sup>

## Résumé / Abstract

De nature conceptuelle, cet article présente un modèle de recherche portant sur la rétention des spécialistes en informatique au Québec. Ce modèle, inspiré largement de la littérature en gestion des ressources humaines, en comportement organisationnel et en technologies de l'information, examine les diverses relations entre sept types de pratiques de ressources humaines, deux formes particulières de comportements discrétionnaires, deux dimensions de l'engagement organisationnel et les intentions de quitter des spécialistes en technologies de l'information. La méthodologie utilisée pour tester les différentes hypothèses sous-jacentes au modèle de recherche est brièvement décrite. En dernier lieu, les limites principales de l'étude ainsi que les implications pour les recherches futures sont mises en lumière.

*The past few years have been the most threatening period for enterprises that use, manage or deal in IT. The source of the tumult has been the demand, supply, recruitment and especially retention of IT professionals. Recent literature reveals that a heavy investment in the implementation of HR practices may contribute to organizational success, specifically by reducing the turnover of IT professionals. As of today, very few empirical studies have rigorously examined the influence of relevant HR practices on turnover intentions of IT people. This study offers to fill that gap by testing an integrated model of turnover intentions that addresses the unique nature of the IT profession.*

**Mots Clés :** Gestion du personnel en technologies de l'information, mouvement (rétention) des spécialistes en technologies de l'information, attitudes

**Keywords:** Information technology (IT) staffing issues, turnover among IT specialists, attitudes

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## 1. Introduction

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.

The problems in the IT labor market will not go away for many years. During that difficult period, senior enterprise executives and IT executives must work together to correct or refine corporate policies that inhibit retention and recruitment. Recent 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).

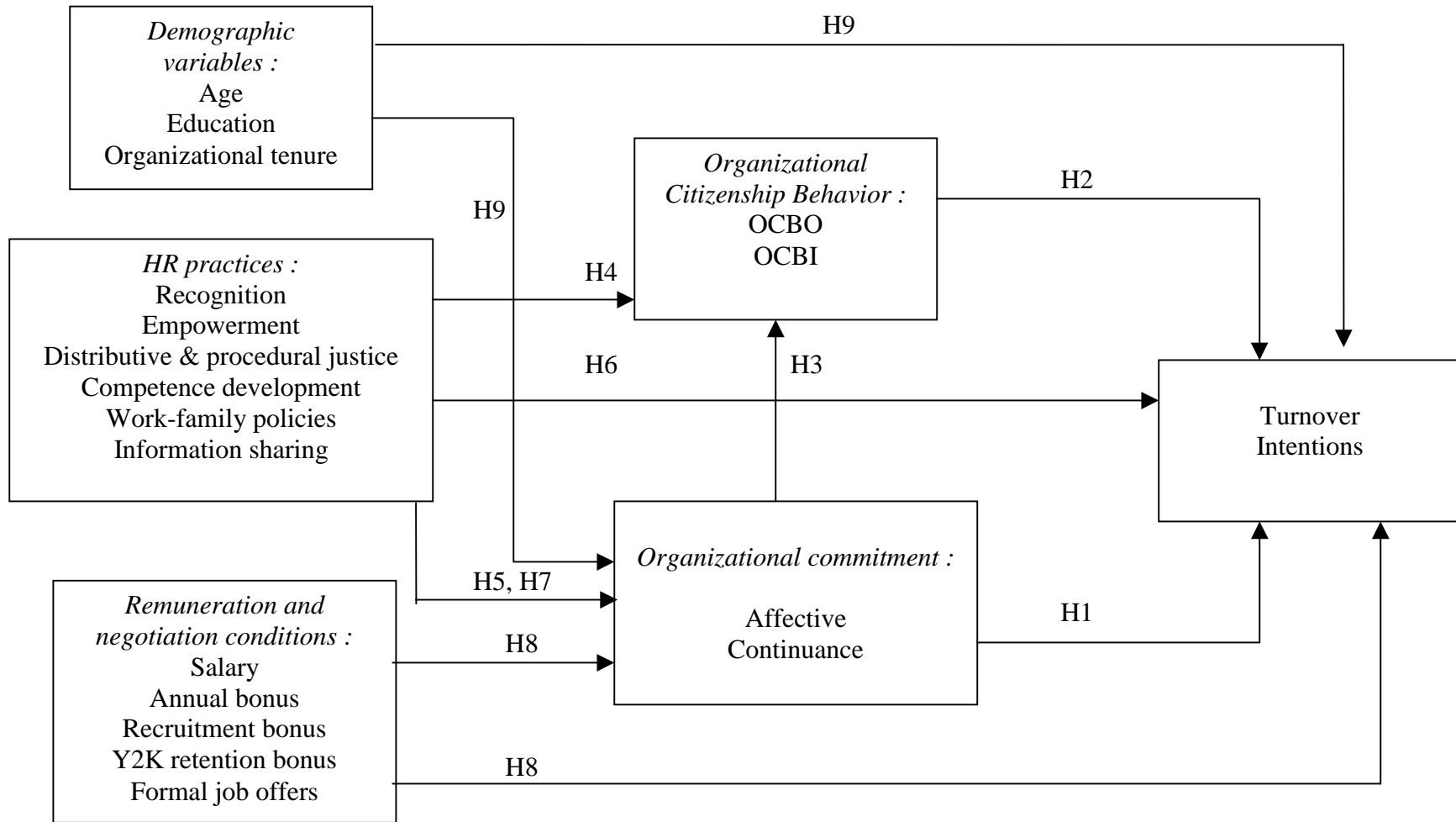
The purpose of the present study is to present and test an integrated model of turnover intentions that addresses the unique nature of the IT profession. We identified a multidimensional set of HR practices likely to increase retention among IT people and considered organizational commitment and citizenship 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?

## 2. Research model

Figure 1 presents the integrated model of turnover intentions tested in the present study. The rationale for each hypothesis in the model is presented below.

### Organizational Commitment

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. We omitted to consider normative commitment for three primary reasons: 1) affective and normative commitment have been found significantly correlated with each other (e.g. Meyer *et al.* 1993, Sommers 1995); 2) past research showed a strong overlapping in the determinants of both constructs (Meyer *et al.* 1993); and 3) in general prior findings are much more conclusive for the affective dimension than for the normative one (e.g., Bolon 1997).



**Figure 1. Integrated Model of Turnover Intentions of IT Personnel**

Prior empirical research showed a negative relationship between affective commitment and turnover intentions (e.g., Igarria and Guimaraes 1999). Meyer *et al.* (1993) found a negative correlation between continuance commitment and the dependant variable. 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 (H1a) and continuance commitment (H1b) are expected to be negatively related to turnover intentions. We also posit that the link between affective commitment and turnover intentions is stronger than the relationship between continuance commitment and turnover intentions (H1c).

### **Organizational Citizenship Behaviors**

The term “organizational citizenship behaviors” (OCB) was coined to depict employees’ willingness to go above and beyond the prescribed roles which they have been assigned (Baterman and Organ 1983). These behaviors are considered as a contribution to the maintenance and enhancement of the social and psychological context that supports task performance in the organization. At the same time, OCB are not explicitly recognized by a formal rewards system (Organ 1988). According to Williams and Anderson (1991), citizenship behaviors can be directed at the organization (OCBO) (e.g., carrying out role requirements well beyond minimum required levels) and/or they may benefit specific individuals (OCBI) (e.g., helping a specific other person with a relevant task). However, OCB have frequently been treated as a unidimensional construct (e.g., Bateman and Organ, 1983; George 1991), which may have led to results that are difficult to interpret.

The link between OCB and turnover has not received the attention it deserves. Only Chen *et al.* (1998) empirically tested this relationship and results revealed a negative relationship between the two constructs. Hence, lack of willingness to exhibit OCB may be an indication of *employee withdrawal* from the organization. In light of these preliminary findings, Hypothesis 2 posits that both OCBO (H2a) and OCBI (H2b) are negatively related to turnover intentions of IT personnel.

While few researchers have examined the nature of the association between OCB and turnover intentions, several empirical studies have tested the link between organizational commitment and OCB. Meyer and Allen (1991) found that OCB correlated positively with affective commitment and negatively with continuance commitment. More recently, a meta-analysis conducted by Organ and Ryan (1995) asserted that only affective commitment was related to OCB. A plausible explanation for the latter result is that employees are willing to invest their time and energy in OCB if and only if they are emotionally attached to the organization. Hence, Hypothesis 3 predicts that affective commitment will be positively related to OCBO (H3a) and OCBI (H3b). Moreover, we expect no significant relationship between continuance commitment and both types of OCB (H3c).

### **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. In our view, the conceptual model of Lawler (1986) may be

a good starting point. This model 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 baseball game, 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, we posit 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.

These HR practices have been found to be positively related to affective commitment (e.g. Grover and Crooker 1995; Rodwell *et al.* 1998). Further, a positive relationship between continuance commitment and distributive justice has been found (Meyer and Allen 1990; Ward and Davis 1995). As in the case of affective commitment, all seven HR practices, but work-family policies, have been determined to have a direct and positive impact on OCB (e.g. Cappelli and Rogovsky 1998; Allen and Rush 1998; Tremblay *et al.* 1998). Given these recent empirical results, we predict that HR practices are positively related to OCBI and OCBO (H4a to H4n) and affective commitment (H5a to H5g), and are negatively related to turnover intentions (H6a to

H6g). We also posit that rewards related to distributive justice perceptions, work-life policies and affective commitment will be positively related to continuance commitment (H7a to H7c).

### **Remuneration and negotiation conditions**

Four remuneration variables (salary, annual bonus, recruitment bonus and Y2K retention bonus) and one negotiation condition (number of formal job offers) are examined in this study. Salary has been found to be positively related to organizational commitment and negatively to turnover intentions among IT personnel (e.g. Igarria and Greenhaus 1992). Similar results are anticipated for annual bonus, recruitment bonus and Y2K retention bonus. Meyer and Allen (1990) found continuance commitment and lack of alternative job offers to be positively associated. In consequence, Hypothesis 8 predicts that all four remuneration variables are positively related to continuance commitment and negatively related to turnover intentions (H8a to H8h), whereas the negotiation variable is negatively related to continuance commitment (H8i) and positively related to turnover intentions (H8j).

### **Demographic variables**

Prior research reveals that age and organizational tenure are positively related to affective commitment (Meyer and Allen 1991), while education has been found to be negatively related to continuance commitment (Meyer and Allen 1990). Regarding OCB, there is little evidence that demographic variables have a direct influence on citizenship behaviors (Organ and Ryan 1995). Lastly, prior research suggests that demographic variables may have direct effects on turnover intentions over and above their effects on OCB and organizational commitment (Chen *et al.* 1998). Therefore, Hypothesis 9 predicts that age and organizational tenure are positively related to affective and continuance commitment (H9a to H9d) and are negatively related to turnover intentions (H9e and H9f). In contrast, education is predicted to be positively related to turnover intentions (H9g) and is negatively related to continuance commitment (H9h).

## **3. Methodology**

A questionnaire was sent to the Quebec members of the Canadian Information Processing Society (CIPS). A pretest of the questionnaire was conducted with a convenient sample of 10 IT practitioners. The revised version of the questionnaire was sent to all Quebec members (n=2,398) of CIPS. Three weeks following the initial mailing, a follow-up letter was sent to the Quebec members of CIPS. A total of 394 questionnaires were returned within an 8-week period; and 134 questionnaires were returned because of unspecified address changes (net response rate of 17.4%).

The measure associated with turnover intentions was adapted from Meyer *et al.* (1993). The ten items used to construct the commitment scale were derived from the instrument developed by Meyer and Allen (1990). OCB was measured using a 12-item scale adopted from Podsakoff *et al.* (1990) and Williams and Anderson (1991). Recognition and empowerment practices were measured using a 14-item and a 9-item scales, respectively. Both of these measures were adapted from Tremblay *et al.* (1997). Based on the work of Tremblay and Guay (1998), two scales were designed to measure distributive justice (11 items) and procedural justice (12 items). Competence development practices were measured using a 9-item scale based on the work of Tremblay *et al.* (1997). Work-family policies were measured using a 6-item scale based on



Beehr *et al.*'s (1976) study of work overload and Kopelman *et al.* (1983) research on work-family conflict. Information sharing was measured by a 5-item scale developed by Tremblay *et al.* (1997). All remuneration and demographic variables were each measured by one item.

#### **4. Data analysis**

Our sample will be divided into three sub-samples. One hundred respondents will be randomly selected and will be assigned to the initial sample (S1) while another 100 respondents will be randomly selected and grouped in a holdout sample (S2). S1 will be utilized for instrument validation purposes only while S2 will serve for further validation purposes and preliminary hypothesis testing (correlation analyses). The remaining 194 questionnaires (S3) will be used to test the revised research model using linear regression analyses. The reason for selecting 100 cases in both the initial and the holdout samples was to provide us with enough cases to adequately perform a factor analysis (Kerlinger 1986).

#### **5. Limitations**

Several limitations must be acknowledged. First, common method variance is a major concern and in an attempt to control for it, we will use Harman's one-factor test (Podsakoff and Organ 1986). A second issue concerns the use of more objective HR practices measures. Indeed, IT professionals' perceptions regarding HR practices may differ from a more objective assessment of these practices obtained via interviews with executives and/or HR professionals. Third, the exclusion of actual turnover should also be taken into account in future research efforts. Longitudinal studies are needed in order to validate the predictive dimension of the model. Furthermore, researchers could view turnover as an extreme on one side of a withdrawal continuum. Less extreme manifestations might include increased sick days and formal job interviews. This approach would move turnover from a binary to a continuous variable, at the same time increasing insights into what causes IT people to leave.

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