

By Contribution

Turnover Intentions among Indian Software Professionals

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The paper explores the influence of Maslach's three burnout dimensions (Depersonalization, Personal Accomplishment and Emotional Exhaustion) on various Job Attitudes in combination with Work Environmental factors, represented by Organizational Politics and Distributive Justice. Job Satisfaction is conceptualized as Intrinsic and Extrinsic components to identify the relative importance in the development of Turnover Intention. Results indicate the relative importance of Intrinsic Satisfaction; there was no empirical support for hypotheses involving Extrinsic Satisfaction. Results also indicate that process model of burnout is not applicable among software professionals. Organizational Politics became a central variable through multiple significant relationships with other study variables. The paper discusses the theoretical and managerial implications of these results and identifies various themes for future research.

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Introduction

During the past 20 years, Information Systems function has experienced a rapid growth in almost every organization resulting in the development of more complex and specialized jobs for software professionals (Hurang, 2001). Employment relationship has also undergone a dramatic shift wherein employees prefer to move across various organizations during the course of their working life without any commitment. For most of the software firms, retention of the organizational knowledge is closely linked with the ability to retain the employees. Approximately two thirds of the IT managers who participated in Longenecker & Scazzero (2003) study reported serious consideration about leaving the current organization. Turnover of Information System professionals has shown relationship with failed system projects and inadequate deployment of organization's resources (Igbaria & Guinmaraes, 1999). As one of the largest avoid-

able expenses, preventing employee turnover becomes an area of prime concern for most of the software firms.

Organizational issues cause more turnover than technological issues among managers in software firms (Longenecker & Scazzero, 2003). It means majority of the factors driving software professionals' retention are controllable for most organizations. This study is an attempt in that direction and makes three important contributions to the related literature. An inverse relationship between Turnover Intention and Job Satisfaction has been established in the literature. As the first contribution, this paper treats Job Satisfaction as two components, Intrinsic and Extrinsic Satisfaction to identify the relative importance of both in the development of Turnover Intention. Second, we consider the influence of three Burnout dimensions on various Job Attitudes in combination with Work Environmental factors, represented by Organizational Politics and Distributive Justice. Third, Distributive Justice has got comparatively less attention within justice literature in comparison with other facets of justice. This study contributes more towards the literature on this understudied facet of Justice.

Burnout among Software Professionals

Burnout among software professionals has been examined only to a limited extent in literature. Salanova, Peiro & Schaufeli (2002) in their review on the relationship between the use of information technology and Burnout have identi-

fied just three empirical studies with complementary results. Software professionals are reported to suffer from either similar or higher stress than many of their colleagues (Hurang, 2001). Analysis of typical software professionals has provided evidence of work overload, role ambiguity, and role conflict.

The three-dimensional conceptualization used by Maslach and her colleagues and its various modifications (Maslach, Schaufeli & Leiter, 2001) is still the most popular inventory to measure Burnout. Emotional Exhaustion is characterized by the lack of energy and a feeling that one's emotional resources are used up. It will usually coexist with feelings of frustration and tension. Depersonalization is characterized by the tendency of employees to treat people as objects. They start to display a detached and emotional callousness, and become more cynical towards coworkers and clients. Diminished Personal Accomplishment refers to the tendency to evaluate oneself negatively. Empirical evidence suggests that Burnout is a process that gradually develops over time resulting in various process models (Lieter & Maslach, 1988).

We also propose relationship among the three dimensions, leading to the development of Burnout among software professionals. Depersonalization is considered a dysfunctional coping and those software professionals who are not able to balance the work stressors will exhibit a tendency to distance themselves from job. Decreasing involvement with work may result in reduced accomplishments

and inability to achieve success, as in past, may lead to increasing Emotional Exhaustion. A process model with Depersonalization as the starting point and Emotional Exhaustion as the final stage will help us consider Emotional Exhaustion as the connecting link between Burnout and various Job Attitudes such as Job Satisfaction, Organizational Commitment and Turnover Intention as in existing literature (Brown & Benson, 2003; Moore, 2000). Hence

H1a: Burnout development among software professionals follows a sequence wherein Depersonalization leads to reduced Personal Accomplishment and reduced Personal Accomplishment leads to Emotional Exhaustion.

Job Attitudes

Various review papers and meta-analysis have identified Job Satisfaction and Organizational Commitment as intervening variables in turnover process (Hom & Griffith, 1995; Tett & Mayer, 1993). Job satisfaction is generally recognized as a multifaceted construct with intrinsic and extrinsic job elements and research on software professionals emphasized the need to treat them separately (Hars & Ou, 2002).

Highly motivated individuals, who are strongly committed to their work, are more prone to suffer from Burnout. Working in a stressful environment will result in development of Burnout among software professionals with high intrinsic work motivation. Managers may fol-

low a tendency to assign critical projects to highly regarded employees, and these high performers find themselves trapped in an exhaustive situation which will ultimately result in a higher propensity to leave the job (Moore, 2000). Employees who get trapped in an exhaustive situation may not be able to derive satisfaction in those motivators which had been intrinsically rewarding before. Hence,

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H2a) Greater the Emotional Exhaustion among software professionals, lower their intrinsic Job Satisfaction.

While conducting research on professionals involved in open-source projects, Hars & Ou (2002) identified certain extrinsic rewards important to software professionals. Mainstream literature on Burnout and Job Satisfaction has treated both Extrinsic and Intrinsic Satisfaction as a combined variable with a negative relationship. Another objective is to compare the relative strength of the relationship of Emotional Exhaustion with both Extrinsic and Intrinsic Satisfaction. Employees suffering from Burnout may not be able to appreciate extrinsic factors such as pay, quality of supervision and administration of fringe benefits. Hence,

H2b) Greater the Emotional Exhaustion among software professionals lower their extrinsic Job Satisfaction.

Studies that have analyzed the relationship with Job Satisfaction, Organizational Commitment and Turnover have come up with conflicting results. While some researchers predict a direct negative relationship between Job Satisfaction and Turnover (Tett & Meyer, 1993) majority of studies conducted across a wide range of employees suggest a mediator role played by Organizational Commitment (Griffeth, Hom & Gaertner, 2000; Price & Mueller, 1986). Degree of Job satisfaction is associated with specific and tangible facets of job and requires relatively lesser time to develop than Organizational Commitment. Commitment with an organization develops over a period of time and more stable in nature. Satisfaction/dissatisfaction with extrinsic and intrinsic aspects of the job influences the development of organizational commitment over a period of time. Hence,

H3a) Greater the Intrinsic Job Satisfaction, greater the Organizational Commitment.

H3b) Greater the Extrinsic Job Satisfaction, greater the Organizational Commitment.

Organizational Commitment is a strong predictor of Turnover.

Organizational Commitment is a strong predictor of Turnover (Griffeth et al, 2000; Tett & Meyer, 1993). Mayer & Allen (1991) have come up with three-component conceptualization of Organizational Commitment involving affective, continuance and normative commitment

components. Affective Commitment refers to (a) strong belief and acceptance of the goals and values of the organization (b) readiness of employees to exert considerable effort on behalf of the organization and (c) represents a strong desire to remain as a member of the organization. Committed employees may have a desire to remain within the company because they identify the success and future of the organization with themselves and therefore exhibit a reduced Turnover Intention. Hence,

H4) Greater the Organizational Commitment lower the Turnover Intention.

Work Environment

Previous research has shown the influence of Work Environment factors on Job Satisfaction and Turnover Intention (Griffeth et al, 2000). This study focuses on Work Environment factors such as Organizational Politics and Distributive Justice to study its interaction with Burn-out dimensions in the development of Job Attitudes.

Understanding Organizational Justice as a Work Environment is important for organizations because of its relationship with Job Attitudes such as Job Satisfaction and Organizational Commitment and subsequently to their propensity to search for another job (DeConinck & Stilwell, 2004). It has four distinct justice dimensions such as distributive, procedural, interpersonal and informational justice. Several studies have showed Distributive Justice as a better predictor of Job Satisfaction than procedural in line with Dis-

tributive Dominance Model suggested by Levanthal (1980). Distributive Justice has its roots in Equity Theory. Employees determine whether an outcome was fair by calculating the ratio of one's contributions such as experience and efforts to outcome such as pay and promotion and then comparing this ratio with that of others. Any perceived inequity in this comparison process may result in dissatisfaction. Some of the previous studies (DeConinck & Stilwell, 2004) have studied the relationship of Distributive Justice with extrinsic factors such as pay but not on intrinsic factors. In line with Equity Theory we hypothesize a positive relation with both extrinsic and intrinsic factors. Hence,

H5a) Greater the Distributive Justice greater the Intrinsic Satisfaction.

H5b) Greater the Distributive Justice greater the Extrinsic Satisfaction.

Despite the sound theoretical grounding, very few studies have tested the linkage between Burnout and Justice (Brown & Benson, 2003). Most of the employees consider themselves as good performers and expect equitable and fair returns for the same. Lack of Distributive Justice may prohibit the fulfillment of this expectation, and the employee who believes in the inability of the system to reward him fairly may feel emotionally depleted. Repeated occurrence of such incidents resulting in emotional depletion will finally lead to Emotional Exhaustion. Hence,

H5c) Greater the Distributive Justice lower the Emotional Exhaustion

Organizational Politics refers to the set of behaviors designed to maximize the self-interest, either in short term or long term and has a dysfunctional connotation in this study. Work Environment with a dominant political atmosphere could result in development of negative attitude among employees such as diminished Job Satisfaction (Witt, Andrews & Kacmar, 2000), Organizational Commitment (Cropanzano, Howes, Grandey & Toth, 1997) and greater Turnover Intentions (Cropanzano et al., 1997). In this context individual's perception about the politics attains more significance rather than the objective reality that exists in an organization. While individual employees perceive themselves as a victim of Organizational Politics, they get dissatisfied with both the extrinsic and the intrinsic rewards allotted to them, and exhibit a drop in Organizational Commitment. Other set of employees, who consider politics as undesirable may choose to withdraw from the organization as a means to avoid political activities. Hence,

H6a) Greater the Perceived Organizational Politics lower the Intrinsic Satisfaction, Extrinsic Satisfaction and Organizational Commitment, and greater the Turnover Intentions.

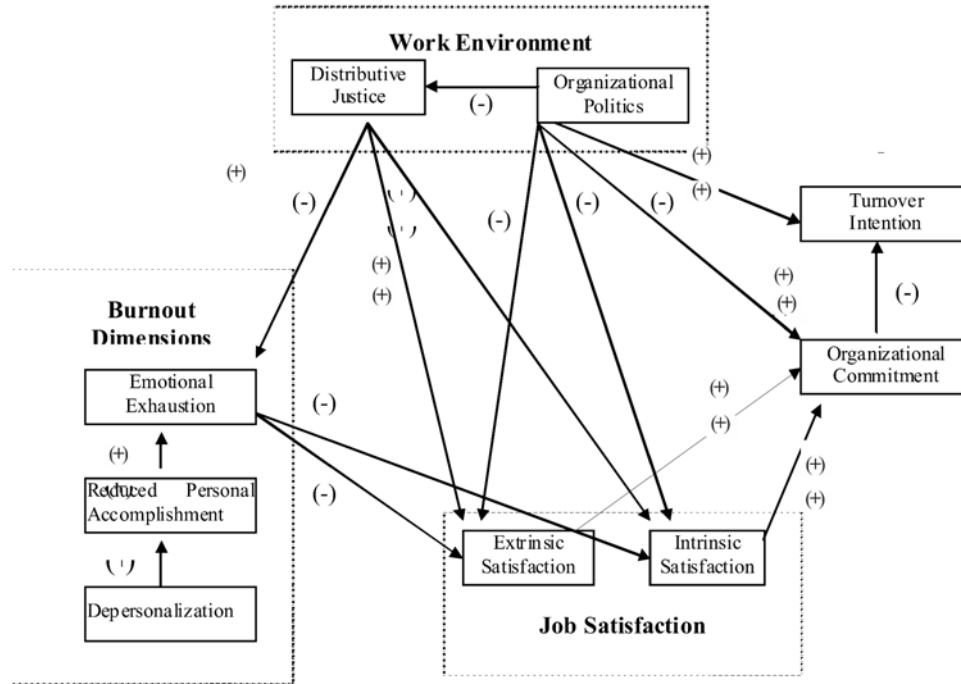
A Work Environment characterized by high-perceived Organizational Politics will not ensure fairness among every employee of the firm. Unfairness in distributing outcome can occur in two ways (Brown & Benson, 2003) in a politically dysfunctional Work Environment (a) al-

location of high rewards to favorites (b) setting up of unrealistic targets for the employees who are not considered as favorites of power centers. Hence,

H6b) Greater the Perceived Organizational Politics lower the Distributive Justice.

All hypothesized relations with directions are given in Fig. 1

Fig. 1 Hypothesized Model & Variables Included in the Study



Methodology

The participants were software professionals working in a medium sized firm in Bangalore, India. In order to ensure the familiarity with organizational fairness and established practices we limited our sample to those employees who have a minimum experience of two years in the current firm. Through HR department of the organization, we contacted the employees and 100 of them volunteered to participate in the study and filled the questionnaire. The mean age was

29.8 years with a standard deviation of 4 within the range between 23 and 46 years. Eighty percent of the respondents were males representing the typical gender ratio existing in most of the IT firms. 63 percent of the participants were married while 30 percent of the entire sample has one or more kids. Average work experience of the participants was 6.7 years with a standard deviation of 3.8 years. To ensure the confidentiality, researcher visited the organization and collected the filled questionnaires directly from respondents.

Measures

To measure Burnout, twenty-two-item Maslach Burnout Inventory (Maslach & Jackson, 1981) was used generating separate scores for the three sub dimensions, viz., Emotional Exhaustion, Depersonalization and Reduced Personal Accomplishment. Emotional Exhaustion was measured with nine items ($\alpha = 0.82$) like 'I feel emotionally drained during my work'; Depersonalization measured with five items ($\alpha = 0.64$) like 'I feel I treat people in an impersonal manner'; and, Reduced Personal Accomplishment measured by eight reverse coded items ($\alpha = 0.75$) like item 'I have accomplished many worthwhile things in this job'.

Spector (1997) developed a 36 job item measure for Job Satisfaction with nine sub dimensions such as pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, co-workers, nature of work and communication. Two sub dimensions that failed to report acceptable reliability were removed from further analysis. Seven of the remaining sub dimensions were classified into Extrinsic and Intrinsic Satisfaction. Thus Extrinsic Satisfaction is measured by adding all items under the sub dimensions of Pay, Supervision, Fringe Benefits and Communication (except one item), while Intrinsic Satisfaction had Promotion, Contingent Reward and Nature of Work as sub dimensions. Reliability scores for both were 0.87 and 0.79 respectively.

Ferris & Kacmer's (1992) five-item measure for Organizational Politics was

used, with a scale reliability of 0.78. A sample item was 'There are cliques and in-groups which hinder effectiveness here'. Distributive Justice was measured by a six-item scale developed by Price & Muller (1986) with a scale reliability of $\alpha = 0.88$. Items reflect the way in which management considers the effort, results produced, roles and responsibilities in deciding rewards. Allen and Mayer (1990) devised a measure for Affective Commitment with six items. One sample item is 'this organization has a great deal of personal meaning to me'. This study reported a reliability of $\alpha = 0.73$, for this measure. A six point Likert scale was used to measure Burnout dimensions, Job Satisfaction measures, Organizational Politics, Distributive Justice and Affective Commitment.

Turnover Intention measured using a single reverse coded item reads as 'length of time you planned to stay in the company'. Options given were ranged from less than one year to more than five years as five possible answers. Other studies have either supported or used a similar kind of measure for similar constructs (Wanous, Reichers & Hudy, 1997).

Analysis

Path Analysis using Structural Equation Modeling (SEM) was employed to test the model presented in Fig. 1, since it provides a simultaneous test for various study hypotheses. Model parameters were estimated through the maximum likelihood method using LISREL 8.5. Several commonly

used fit indices were used to assess the overall model fit (Jöreskog & Sörbom, 1993): the Chi-square statistic; the Adjusted Goodness-of-Fit Index (AGFI); the Normed Fit Index (NFI), and the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). Insignificant Chi-square value is desirable for SEM, since it suggests sufficient closeness between the model developed from samples covariance matrix and the true population covariance matrix. Significance of the specific relationships was estimated by t-values.

Results

Descriptive statistics and correlations are presented in Table 1. Chronbach's a reliabilities are in parenthesis along the diagonal.

Initial analysis of the hypothesized model has produced fit indices below the acceptable levels. Hypothesized model indicated a significant ($p < 0.001$) Chi-square value of 51.72 with 21 degrees of freedom. Since all other fit indices (AGFI = 0.78, NFI = 0.74, CFI = 0.80) are below the suggested limit of 0.90, we examined the Modification Indices for theoretically feasible improvement. Two additional paths were added to the model in two steps based on suggested Modification Indices. We added a path from Depersonalization to Emotional Exhaustion (MI = 29.79) first and then another one from Reduced Personal Accomplishment to Affective Commitment. Final model indicated a non-significant ($p > 0.001$) Chi-square value of 11.92 with 18

Table 1 Means, Standard Deviations and Intercorrelations of Study Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8
Organizational politics	3.66	1.05	(0.78)							
Distributive Justice	3.62	1.22	-0.51**	(0.88)						
Emotional Exhaustion	2.31	0.76	0.16	-0.16	(0.82)					
Depersonalization	2.01	0.79	0.07	-0.09	0.57**	(0.64)				
Reduced Personal Accomplishment	2.72	0.87	-0.15	0.10	-0.18	-0.12	(0.75)			
Extrinsic Satisfaction	3.51	0.9	-0.62**	0.72**	-0.21*	-0.06	0.13	(0.87)		
Intrinsic Satisfaction	3.93	0.81	-0.57**	0.61**	-0.32**	-0.23*	0.07	0.75**	(0.79)	
Affective Commitment	4.42	0.99	-0.47**	0.43**	-0.18	-0.16	-0.17	0.45**	0.60**	(0.73)
Turnover Intention	2.13	1.06	0.14	-0.25*	0.09	-0.01	0.11	-0.22*	-0.27**	-0.38**

* Correlation is significant at the 0.05 level (2-tailed) ** Correlation is significant at the 0.01 level (2-tailed) Reliabilities (alpha) are on the diagonal

degrees of freedom with acceptable fit indices (AGFI = 0.93, NFI = 0.94, CFI = 1.00). Improvements in fit indices as a

result of incorporating paths based on two Modification Indices are presented in Table 2.

Table 2 Fit Indices for Various Nested Models

Nested Models	Chi square	Df	p value	RMSEA	AGFI	NFI	CFI	Largest MI
I	49.53	20	< 0.001	0.12	0.77	0.75	0.80	29.79
I A	20.19	19	>0.1	0.03	0.90	0.90	0.98	8.58
I B	11.92	18	>0.1	0.00	0.93	0.95	1.00	3.09

Among Burnout dimensions the path estimate from Depersonalization to Reduced Personal Accomplishment (t value = -1.15) and Reduced Personal Accomplishment to Emotional Exhaustion (t value = -1.26) turned out to be insignificant, while the path estimate from Depersonalization to Emotional Exhaustion, as suggested by Modification Index remained significant (Standardized path coefficient = 0.53, t value = 6.60). Thus results do not support Hypothesis 1 suggesting a process model on Burnout development.

Hypothesis 2 received partial support wherein the path coefficient from Emotional Exhaustion to Extrinsic Satisfaction has not got empirical support (t value = 0.80), while the path coefficient to Intrinsic Satisfaction got strong support (standardized path coefficient = -0.22, t value = -2.86). In a similar manner the path towards Organizational Commitment from Intrinsic Satisfaction (standardized path coefficient = 0.60, t value = 5.25) got empirical support, while the path from Extrinsic Satisfaction became insignificant (t value = 0.45). Thus results produce partial support for Hypothesis 4. Organizational Commitment ex-

hibited a very strong significant path (standardized path coefficient = -0.43, t value = -3.76) in expected direction supporting Hypothesis 5.

The two hypotheses dealing with the relationship between Work Environment factors and two forms of Job Satisfaction got partial support. The path from Distributive Justice to Intrinsic Satisfaction (standardized path coefficient = 0.27, t value = 4.94) got very strong empirical support while the path to Extrinsic Satisfaction became insignificant (t value = 0.32). There was a very strongly significant path from Organizational Politics to Intrinsic Satisfaction (standardized path coefficient = -0.26, t value = -4.05), and an insignificant path (t value = -1.18) between Organizational Politics and Extrinsic Satisfaction. Results also exhibited moderately strong path to Organizational Commitment (standardized path coefficient = -0.21, t value = -2.42), insignificant path to turnover (t value = -0.49) and finally very strong path to Distributive Justice (standardized path coefficient = -0.59, t value = -5.16) supporting hypothesis 6(b). Final model with significant path coefficients is given in Fig. 2.

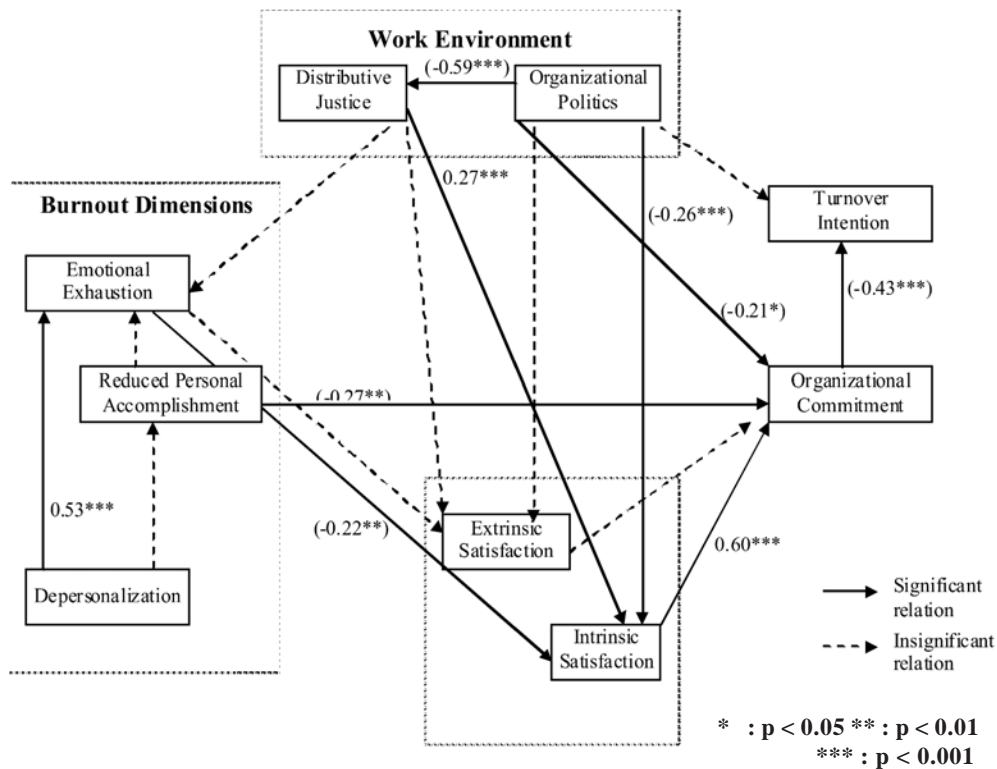
Discussion

The effects of Job Attitudes on turnover under various contexts have been well documented. But the combined effects of Work Environment and Burnout dimensions are yet to be explored. Examination of various facets of Job Satisfaction is useful, in understanding the reasons behind employee dissatisfaction and in subsequent preparation of an action plan for resolving the dissatisfaction (DeConinck et al., 2004). Categorization of satisfaction measures into Intrinsic and Extrinsic factors and identification of the

relative importance in a turnover model, serves as the initial attempt in this direction.

Any study on the combined effect on two distinctive sets of psychological constructs starts with identification of its connecting link. Our path analysis results clearly point to Intrinsic Satisfaction as the connecting link between work environment and Burnout dimensions in the development of various Job Attitudes. This constitutes the major theoretical contribution of this study and has great significance to practitioners.

Fig. 2 Final Model and Standardized Solution from Path Analysis



Most of the software jobs are highly demanding in terms of: (1) high workload requiring the employees to put in additional hours of extra work, (2) role ambiguity due to the inherent need to work in close relation with people outside their respective fields, (3) lack of sufficient and timely information and (4) nearly impossible deadlines.

According to conservation of resource theory, Burnout occurs as a result of losing certain valuable resources required to meet demands. Lack of resource will lead to Burnout and result in certain behavioral and attitudinal outcomes like coping responses, Turnover Intentions, and attitudinal changes like erosion of Organizational Commitment, Job Involvement and Job Satisfaction. Since certain demands that could trigger strain in the form of Physical and Emotional Exhaustion are inherent and inseparable to this profession, one solution is to increase the availability of resources within the job context. Empirical findings of this study emphasize on the need to provide more Intrinsic Satisfaction in terms of higher autonomy, regular feedback about performance, and identifiable piece of work requiring variety of skills. These initiatives will keep their Intrinsic Satisfaction high and help them derive better satisfaction from their job. It will result in positive cascading effect on other related Job Attitudes like increased Organizational Commitment and lower Turnover Intentions.

Previous research has also failed to get empirical support for the link between Intrinsic Satisfaction and Emotional Ex-

haustion. Houkes et al., (2003) has longitudinally studied the relation among Intrinsic Motivation, Emotional Exhaustion and Turnover Intention in two samples consisting of bank employees and teachers. While proving empirical evidence for Intrinsic Motivation and Turnover Intention, they failed to establish a link between Intrinsic Motivators and Emotional Exhaustion.

Work Environment factors have a direct impact on Intrinsic Satisfaction while the same is lacking with Extrinsic Satisfaction.

Work Environment factors have a direct impact on Intrinsic Satisfaction while the same is lacking with Extrinsic Satisfaction. Huang & Van de (2003) in their study across 46 nations conclude that certain basic necessities are a must to ensure Intrinsic Satisfaction. In our study, similar results were not obtained due to two possible reasons. Software professionals are getting a relatively higher pay and better working conditions than their counterparts in other professions and hence Extrinsic Satisfaction in terms of pay cease to motivate them further. They have already shifted to next level of needs (Maslow, 1954) and the current needs are better represented by factors included in Intrinsic Satisfaction. Another possible reason can be explained in terms of the job market condition wherein software professionals are always in demand. Hence, those software professionals who are extrinsically dissatisfied with the organization start searching for alternative employment and move out of the organi-

zation within a short span of time. Organization may try to retain crucial employees by revising their extrinsic rewards to the possible extent. As a result, at any point of time, the number of extrinsically dissatisfied employees in an organization is negligible.

At any point of time, the number of extrinsically dissatisfied employees in an organization is negligible.

Our study has not found any support for the relation between Extrinsic and Intrinsic Satisfaction. Highest Modification Index between these two variables is 1.75, which is not significantly strong enough to add a path between them. This indicates partial support for two-factor theory (Herzberg, 1959). Further studies are required to confirm the same in the context of software professionals.

Organizational Politics (OP) seems to be the central variable in this model influencing Distributive Justice, Intrinsic Satisfaction, and Organizational Commitment. Consistent with existing literature, our study found an inverse relation between OP and Job Attitude. Given the fact that politics is inevitable in every organization, management should take proactive steps to minimize the selfish motive arising out of it, by increasing available supportive mechanisms within the organizational context.

Lack of a link between Work Environment factors and Burnout dimensions was a surprise finding, which requires

further exploration in future studies. In line with the relationship between Work Environment factors, Burnout dimensions exhibit a link with Intrinsic Satisfaction (but not Extrinsic Satisfaction) through Emotional Exhaustion.

Our path analysis results failed to support hypothesized process model of Burnout development. While Emotional Exhaustion remains as the core component of Burnout, Reduced Personal Accomplishment seems to develop independently with a negative impact on Organizational Commitment. This result is consistent with previous research (Lee & Ashforth, 1996), which describes differential impact of Burnout dimensions on Job Attitudes. While Emotional Exhaustion exhibited an indirect relationship with Organizational Commitment through Intrinsic Satisfaction, Reduced Personal Accomplishment has shown a direct relation. Realization of a parallel (or simultaneous?) development of these dimensions, will help the managers develop a range of concurrent preventive and supportive measures to tackle the development of Burnout.

While our analysis has revealed interesting findings, many of them are indicative due to some limitations associated with this work. The study was based on the perceptual data collected from a single organization. In such a scenario, actual turnover data would have helped in building a better model, rather than Turnover Intention. In a job market dominated scenario, many of the turnover incidents are guided by impulsive decisions rather than rational decisions. Finally,

cross sectional nature of this study, may result in inherent weaknesses associated with most of the contemporary research of this type.

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