

A Qualitative Review of Existing Employee Attrition Models

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Article Info
Volume 83
Page Number: 6581 - 6599
Publication Issue:
May - June 2020

Abstract:

Purpose: The purpose of this study is to study the existing employee attrition models and propose a conceptual model for dealing with employee attrition which closes the gaps identified in the existing models.

Design/Methodology: A rigorous review of research papers on attrition models ranging from 1958 till date has been carried out. Models studied are based on high number of citations, countries analyzed as well as contemporary models to provide comprehensive data. A data table has been created to analyze critical aspects of seminal attrition models and the theories they posit. After identifying the gaps that exist, the authors have proposed an employee attrition model which can be effective in closing the gaps that exist in the proposed models.

Findings: Existing models have examined factors of attrition to arrive at the attrition variables and its impact on intention to quit (ITQ) and many of them are aligned with existing studies in industrial psychology and social studies research. Only two studies have researched attrition behavior (Bartol 1983; Josefek and Kauffman 2003). Most studies have modelled one or a few variables. A few studies have identified a large number of variables (Cotton and Tuttle, 1986) (26 variables); (Joseph, Ng, 2007) (43 variables). Certain seminal attrition models seem to contradict each other's findings. A few models have attempted to analyze multiple models to synthesize a new theory (Bluedom, 1982). Based on the interaction with twenty six human resource managers across Information Technology, Manufacturing, Banking and Finance, Automotive, Retail, Consulting and Pharma companies the authors have hence proposed a conceptual model which introduces contemporary attrition factors such as supervisor behaviors, circumstances, impact of change of supervisor, job profile, new training, attachment with mentors, retention instruments and the role of social media, friends and family on the evaluation process. Another significant aspect is the retention counter offer made by an existing employer to retain a departing employee to control attrition.

Research Limitations: This study has extensively focused on literature review and analysis of attrition models to arrive at the findings. The authors have used a qualitative approach and hence quantitative techniques have not been used. More than hundred research papers have been reviewed in this study with a deep focus on seminal models, but they have not been segregated based on the industry type.

Practical Implications: This study offers some useful practical implications to industry in terms of determining the models that are most likely to accurately model the impact of Learning and Development on intention to quit of employees. This will help them retain more employees and thereby improve organizational performance.

Originality/Value: Most research papers analyze attrition factors but there are very few studies which analyze a large number of attrition models to arrive at a common understanding of the research problem and also to propose a conceptual model for controlling attrition.

Keywords: Attrition Models, Turnover, Learning and Development (L & D), Intention to Quit (ITQ), Attrition factors, Attrition.

Article History

Article Received: 19 November 2019
Revised: 27 January 2020
Accepted: 24 February 2020
Publication: 18 May 2020

I. INTRODUCTION

Human Resource development depends upon skills, experience and expertise which organizations all over the world lose when employees quit thereby lowering performance and results. Sustainable HRD practices drive talent retention strategies by modelling employee attrition (Xie, 2003). Employees are lost to attrition unless they believe that the work they do is important and meaningful (Smithers, L, 2003) and stay on. The words attrition and turnover are used analogously in this study as well as the research papers analyzed. (Rafa et al, 2018) posits that attrition or turnover can be of two types i.e. voluntary (resignation) and involuntary (termination) (Billingsley, 1993). The factors that impact both types of decisions are dramatically different. Attrition may be voluntary where an employee quits the job or it may be involuntary which is caused by the organization terminating the services of an employee. (Schneer, 1993) posits that the majority of attrition research focusses on voluntary attrition as does this study.

Sustainable HRD practices reduce attrition which is defined as the movement of people in the employment market, between organizations, occupations and jobs and is a very significant causes of lower productivity across the world. Employee attrition is caused by factors internal to an employee such as individual factors like self-efficacy or motivation or by factors external to an employee in the organization or the external environment such as organizational support or market opportunities. Literature also indicates that that there are specific attrition factors/variables such as training, tenure in a job, education and the match of skills to a job that influence the intention to quit (ITQ) (Street, H. 2010 ; Ju and Li, 2019). Yiu and Saner, 2014 have opined that the availability of L & D opportunities are a retention factor. Such and other attrition factors cause employees to leave the organization (Steele and Ovalle, 1984). When employees leave, their knowledge, skills, expertise and relationships are lost to the organization, sometimes irretrievably (Nappinnai & Premavathy, 2013). (Latha, 2013) posits that an employee leaving in the middle of a

specific project carries away all the learning and knowledge gathered so far and training is a crucial motivating factor for an employee. Such employee losses are called attrition or turnover and cause a significant damage to business performance. It is much more expensive to hire replacement employees and in many cases the replacements take a long time to absorb training and reach the performance levels of the employees who have left (Singh et al 2012). The role of sustainability in Human Resources Development is not yet fully understood by organizations. (Phillips & Edwards, 2008) have opined that L & D is one of the factors that lead to the increased ROI of talent. If employers focus on lowering attrition, then the business results can be dramatically better due to benefit of accumulated knowledge and skills. In fact, (Alao and Adeyemo, 2013) have opined that employee knowledge is the source of competitive advantage. Hence, modelling attrition helps organizations learn about what causes it and how to prevent it (Sheehan et al, 2014) The literature analyzed for this study have created models to study the impact of attrition factors on ITQ (Cohen et al, 2015). Some research papers have examined one or a few such factors or a group of such factors (Shuck et al, 2015, Rahman & Nas, 2013, Sok et al, 2018) whereas only two studies have analyzed the influence of a large number of factors/variables on ITQ (Cotton & Tuttle, 1986, Joseph, Ng et al, 2007) leading to comprehensive analysis. Additionally, only two papers have analyzed actual turnover behaviors as opposed to ITQ (Bartol 1983; Josefek and Kauffman 2003).

Several different types of attrition models have been proposed (Shuck et al, 2015; Gandy et al, 2018; Lee & Mitchell, 1994) most of which are cross sectional studies. A study by Ghosh & Jacobson, 2016 posits that it is more useful to examine longitudinal data as it can depict the change in attitude of an employee over time. Another study (Lee and Mitchell, 1994) posits that most existing research fails to accurately describe or predict attrition. In fact, many seminal attrition models have differed in their conclusions about impacting factors.

II. Review of Literature

Definition of Attrition

Attrition has been defined by (Armstrong 2006) as the outflow of employees from an organization due to events like relocation, change of job, retirement, illness etc. (Mobley, 1982) defines it as an employee withdrawal process from the organization whilst (Hom and Griffeth, 1995) term it as an employee's severance from his/her state of employment.

Attrition and its relation with L & D

Business results in an organization are produced by employees who utilize their attributes, skills, training, expertise and experience to produce business outcomes and hence management of people is one of the most important tasks of management (McGregor, 1967). (Alao and Adeyemo, 2013) opine that employee knowledge is the source of competitive advantage. (Prusak & Davenport, 1998) have posit that L & D is critical for both organizational as well as employee effectiveness. (Ho et al, 2010) have posit that lack of appropriate Learning and Development opportunities is a specific factor that can 'pull' employees to leave their jobs. They specify study leave as one of the mitigating factors for such attrition. Employees leaving an organization carry away with them their entire knowledge resource set, especially if they leave in the middle of a project (Latha, 2013) thus depriving the organization of their contribution (Tracey & Hinkin, 2008); (O'Connell & Kung, 2007). L&D can be a significant motivator to prevent such attrition. (Raja and Kumar), 2015 opine that managers lack of training to treat their team members with more respect leads to increased attrition. (Kaur, 2014) has opined that diversity training is a useful tool to prevent attrition. (Bhatnagar, 2008) has posit that a pipeline of talent needs to be built, high potential employees need to be identified and leaders need to be groomed within a company rather than hired externally by executing multi-dimensional L & D interventions like technical training, short and long term managerial

development and Coaching/Mentoring at various job cycle stages to ensure robust business performance organically.

Attrition puts additional pressure on the organization for both recruitment and training (Anantharaja, 2009). Hence employee attrition creates a huge cost for the organization and higher the attrition rate, higher the cost (Dess & Shaw, 2001). Also, rarer the skillset of the employee, higher is the cost. Hence high attrition rates are associated with lower productivity of employees leading to lower performance (Hausknecht & Holwerda, 2013). The costs of attrition can be described as pre-departure costs, lost productivity during notice period before departure and for the new employee, recruitment, induction & training and lost productivity until he/she reaches breakeven, opportunity costs (Tracey & Hinkin, 2006) in addition to events such as missed or delayed deadlines (Singh et al, 2012) and intangible costs of aligning an employee with organization culture (Anantharaja, 2009). The cost of attrition is very high (Nappinnai & Premavathy, 2013) especially for organizations like IT/ITES which depend upon knowledge workers. Replacement employees usually cost more than the employees who have left (O'Connell & Kung, 2007).

Employee Attrition models

There have been many reviews of employee attrition over the years, some qualitative, others quantitative. These include (March and Simon, 1958; Porter and Steers, 1973; Price, 1977; Mobley, 1982) and many others. This study examines a number of seminal attrition models which have gathered more than 250 citations. (March and Simon, 1958) have proposed one of the earliest models of turnover, the Organization Equilibrium Model which argues that employees and the organization live in a state of equilibrium where the organization pays compensation in return for the employee's contribution to the organization. Attrition usually occurs when employees consider their contributions to be higher than the rewards they receive. This balance of contribution-reward is influenced by two

factors 1. Desire to move (which in turn is influenced by a sub-factor – job dissatisfaction) 2. Employability in the market. An imbalance caused by a change in the perceived compensation value leads to employee attrition. Yiu & Saner, 2014 have stated that one of the significant factors causing attrition are the lack of Learning & Development opportunities. The Met Expectations theory by (Porter and Steers, 1973) builds on the Organization Equilibrium model to posit that meeting of expectations has significant impact on attrition because there is usually a difference between what employee expectation vs actuals received by the employee. (Hackman and Oldham, 1976) have developed a model to test employee motivation through work design and job enrichment and posit that it impacts attrition. (Mobley, 1977) has proposed that job dissatisfaction leads a person to start looking for alternatives and if the cost of such a search is low and the evaluation of such alternatives is attractive then this leads a person to ITQ which may finally result in attrition. Mobley proposed numerous intermediate linkages between dissatisfaction and the steps leading to attrition (linkage model). Typically job dissatisfaction triggers a series of withdrawal cognitions leading to job search behaviors. Thus Mobley's model extends March and Simon's model. (Mobley, et al 1979) posit that that commitment, tenure, age, job content, satisfaction and intention to remain on the job are negatively & consistently related to turnover. Factors precluding a better understanding of turnover are a failure to consider available job alternatives, lack of clear conceptual models, insufficient multivariate research and few longitudinal studies. Similarly, (Martin, 1979) who has developed an integrated conceptual model has found that distributed justice, upward mobility, routinization, job satisfaction, communication, opportunity, as well as age, education, sex and occupation significantly impact attrition. (Mobley, 1982) has assessed the consequences of attrition and related processes e.g. the role of performance. Many authors have analyzed the seminal model proposed

by (Mobley, 1977) (3192 citations, Refer Table 1). They include (Hom and Griffeth, 1991, Coverdale and Terborg, 1980, Miller et al 1979) who posit that intention to quit exhibits a significant regression coefficient to predict turnover and is hence the best predictor of attrition. (Hom and Griffeth, 1991) state that withdrawal thoughts trigger an assessment of the utility of job search followed by an assessment of alternatives with retention happening if the new job alternative is found less useful. This study is a rare longitudinal analysis. In an extension to (Mobley, 1977), (Hom Griffeth and Sellaro, 1984) test the model further by proposing that employees who perceive the easy availability of multiple alternatives may leave their job without even searching for the next one. (Price, 1977) posit that variables that impact attrition are compensation levels, relationships with colleagues, communication of roles and policies and centralization of power. Power centralization is inversely correlated with attrition whilst all the other variables are positively correlated and lead to job satisfaction. Available job opportunities moderate the relationship of job satisfaction with attrition. (Whitmore, 1979) has developed an Inverse Gaussian model based on the Weiner process with drift to test employee job attachment which finds that attrition gets impacted by unemployment rates. (Price and Mueller, 1981) modified Price's original model to include work friendships, compensation fairness, learning opportunity and kinship responsibility. According to (Hom and Griffeth, 1995), these models are able to explain very little variance in attrition. (Lee and Mowday, 1987) tested (Steers and Mowday, 1981) model and have stated that matching of expectations, job values, job attitude and ITQ have an impact on attrition. Additionally, alternative jobs, information about roles and individual characteristics influence job expectations. (Sheridan and Abelson, 1983) developed the Cusp-Catastrophe model which argues that stayers have higher organizational commitment than people who plan to leave. (Smart, 1990) has proposed a causal model of faculty attrition to test the impact of job satisfaction, nature

of institution, work environment and individual characteristics to find that younger faculty irrespective of tenure status, who work at more autocratic institutes with lower levels of institutional and career satisfaction are more likely to attrite. (Meyer and Allen, 1991) in their seminal (12782 references) study have examined the impact of commitment to argue that three elements viz. affective, continuance and normative commitment prevent attrition in an organization. (Lee and Mitchell, 1994; Holtom and Inderrieden, 2006) have proposed an Unfolding Model of Turnover which incorporates multiple decision paths and processes over time. Hence, withdrawal behaviors are not uniform over time. They also posit that most existing research fails to describe let alone predict attrition. (Lee, Mitchell et al 2001) have advocated the Job Embeddedness model which details that higher the attachment an employee has to the organization lesser is the probability that is he will quit. Employees are embedded in an organization and cannot quit because they have strong links with people, activities, their jobs and communities and their perceived sacrifice will be greater if they quit. This approach is different from other models which assess ITQ as this model tests 'stickiness' of the employee. (Aquino et al, 1997) have integrated justice constructs to test a referent cognition model that posits that the variables of supervisor satisfaction and employee outcomes have a significant impact on attrition.

Contemporary Attrition Models

(Mano-Negrin, 2001) have posit an occupational preference model of turnover behavior to conclude that employment opportunities related to occupation, impact attrition. (Aryee et al, 2002) test a social exchange model of employee behavior and work attitude to show that variables like trust in supervisor, organizational justice and commitment, impact turnover negatively. (Jiang and Klein, 2002) use discrepancy theory to dissect the difference between employee expectations and their perception of the organization's success in satisfying them to

conclude that the perceived gap leads to attrition. (Peterson, 2004) posit the Organizational Model of Employee Persistence based on a longitudinal study to show that organizational factors are linked to variables that impact employee turnover including intention, goals, commitment and satisfaction. (Morell et al, 2004) study the impact of organizational change and the shock such a change can give an employee to present a model linking organizational change and turnover. (Fields et al, 2005) have modeled turnover as a decision to quit a job and move to a different job in the same firm or the same job in a different firm or a different job in a different firm. Hence, the variables that predict turnover may depend on the type of job change. (Mayfield and Mayfield, 2007) studied the influence of a creative working environment on ITQ using SEM and found that a creative environment negatively correlates with turnover intent. (Hong and Chao, 2007) applied the logit and probit models and concluded that these models display a high probability for predicting attrition successfully. (Luna-Arocas and Camps 2007) have examined high performance work practices and advocated a model of turnover intention where job satisfaction's impact on ITQ is mediated by employee commitment. (Zimmerman and Darnold, 2009) measured the correlation between job

performance (Allen and Griffeth, 1999; Jackofsky, 1984) and ITQ and tested a meta analytic model analyzing variables of job performance, job satisfaction, ITQ and actual turnover. (Vitaliano, 2010) quantifies the impact of CSR on ITQ to posit that firms with good CSR policies have a lower attrition rate which has a significant positive impact on business performance. (Weibo et al, 2010) propose an integrative model to examine various motive periods of an employee's tenure and find that there is a quit period caused by job dissatisfaction, a search period, job evaluation period followed by an attrition period. (Albrecht and Andreetta, 2011) examine the effect of leadership, empowerment and engagement on affective commitment and turnover intent using

confirmatory factor analysis and SEM to develop a structural model where employee engagement is found to mediate partially, the impact of empowerment on affective commitment which in turn affects ITQ. (Tuzun and Kalemci, 2012) examine the constructs of Perceived Organization Support (POS) and Perceived Supervisory Support (PSS) and hypothesize that supervisor related perceptions influence turnover intention. (Subramony and Holtom, 2012) examine a relationship based service business to develop an integrated model of turnover that links fiscal performance to employee turnover and service outcomes perceived by the customer. They conclude that turnover disrupts existing employee – customer relationships necessary for business and reduce the business success. (Messner, 2013) posits that employee commitment in an Indian IT context is impacted by organizational culture and also contributes to the cross cultural generalizability. (Abu Elanain, 2014) developed a Mediated Effects model to test the impact of Leader-Member exchange (LMX) on employee attrition and posit that LMX has an impact on turnover intent and gets partially mediated by role conflict, job satisfaction and organizational commitment. Using Dubin's theory building methodology, (Rana et al, 2014) proposed a theoretical model of employee engagement to posit that on-the-job performance, ITQ and organizational citizenship impacts employee engagement and hence attrition. (Verbos et al, 2014) examine attrition of women faculty in academia using the attraction selection-attrition framework and concludes that four classes of factors lead to higher female faculty attrition namely, an exclusionary attitude that marginalize ladies, lower gender equity in tenure and promotion, poor leadership and a lower critical mass. A model of female faculty retention is posit to combine Leadership, Gender Equity, Justice and Critical mass to create an inclusive climate and increased psychological safety. (Avanzi et al, 2014) presents a turnover model that combines social exchange and social identity theories to suggest that social

identification moderates the relationship between Perceived Organizational Support and turnover intent. A study from Chile (Valle et al, 2015) has proposed an attrition model based on the theory of met expectations and efficacy of the employees which posits that turnover is caused by the differences between expectations and experiences which do not meet expectations based on income level and job recognition. (Wong et al, 2015) have theorized an integrative model of turnover intention in Chinese JV companies to examine Perceived Organizational Support (POS) and affective commitment to show that affective commitment and POS partially mediate between an employee's trust in their higher ups and ITQ. (Wei, 2015) developed a multi-level model to test the effect of leading HR practices and employee-fit to the organization on ITQ. The person-organization fit negatively impacts turnover intention. (Kalali, 2015) has created a fuzzy inference model to predict attrition of employees in Iran by modelling attrition variables reaction to factors causing attrition. (Wang et al, 2015) have used case based reasoning to synthesize a model that organizes risk factors for employee attrition into multi-level hierarchical indices leading to an effective identification of risk factors. (Memon et al, 2016) examine the relationship between training satisfaction, employee engagement and an employee's ITQ to quit as well as the mediating role of engagement. They find that higher training satisfaction increases an employee's engagement and hence reduces ITQ. (Rahim and Cosby, 2016) tested a model of job burnout, workplace incivility, job performance, and turnover intentions and posit that employees facing higher workplace incivility undergo higher burnout and increased ITQ with falling levels of performance. (Dubey et al, 2016) have authored a study that analyzes data from humanitarian organizations to examine 26 variables from (Cotton and Tuttle, 1986) and posit that employment perception is the most significant factor impacting attrition. (Kim & Hyun, 2017) examine the relationship of personal resources and the mediating

effects of employee engagement of an employee with the intention to quit in the context of Korean companies. (Gupta et al 2017) have used SEM to posit that age, income, marital status all have significant impact on attrition in spite of the presence of moderating variables. (Ocen et al, 2017) analyze the role of training in building employee commitment and contribute to the development of organizations in the banking sector of Uganda. (Santhanam et al, 2017) describe the impact of psychological contract breach on ITQ and correction with HR practices. Given the double digit turnover rate in China and ITQ (Wong and Wong, 2017) examine the relationship between affective commitment, perceived organizational support and ITQ finding that that job security, distributive justice and trust in organization, have a negative impact on ITQ. Using SEM and regression analysis to analyze banking industry data in Taiwan (Lin and Liu, 2017), present a model to explain how CSR and ethical leadership affect turnover intent. Leadership and CSR, both impact employee engagement positively and burnout negatively. (Maurer & Lippstreu, 2008) have opined that Employer Support for Learning & Development is positively correlated with employee commitment. Similarly, (Peterson, 2004) has posit that learning can teach you how to do a job as well as how to adjust to the social and cultural context of the organization. (Lin et al, 2017) developed a conceptual model based on stress theory to explain cross cultural influence on ITQ across Taiwanese and Indonesian banks to find that the impact of performance anxiety and work pressure on turnover intent is moderated by cross cultural differences. (Nandialath et al, 2018) test the solidity of ITQ predictors based on the unfolding model of turnover proposed by (Harman et al, 2007) using Bayesian Model Averaging and conclude that only job satisfaction and Perceived Organizational Support are the two variables that can predict turnover in spite of model uncertainty. (Kalgın et al, 2018) have used Russian public sector data to develop a Conditional Process Model to test the impact of performance management on turnover

intention. The model forecasts job-goal alignment moderates the relationship between performance management and attrition and that PM has an indirect effect on ITQ. (Sahu et al, 2018) have posit that transformational leadership impacts turnover intent with the mediating variables of psychological attachment, employer branding and employee engagement by increasing the psychological attachment of employees to the firm. (Sok et al, 2018) examine the concept of work-life balance and how such a balance can help to reduce the employee's intention to quit and thus help to contribute to organization development. (Raman et al, 2019) developed a model of attrition of business school faculty using examination of the sentiments expressed inside emails to conclude that the inflexion point of ITQ is positively correlated with the downward swing of positive sentiment and an increase in external communication and decrease in internal communication. Hence email can be both an indicator as well as a predictor of attrition. (Skelton et al, 2019) use a global job embeddedness scale (Crossley et al., 2007) as an instrument to study manufacturing respondents in USA. The results show that committed and satisfied workers are less likely to attrite. (Ekmekcioglu and Aydogan, 2019) develop a moderated mediation model to examine the role of organizational justice on turnover intention to indicate that organizational justice indirectly impacts turnover intent and gets moderated by psychological commitment. (Ali and Mehreen, 2019) examines the impact of succession planning on turnover intentions. The proposed model finds that succession planning leads to increased job security which in turn reduces turnover.

Attrition models with maximum variables

It is interesting to note from (Joseph, Ng et al, 2007) that turnover behaviors have only been studied in two papers (Bartol 1983; Josefek and Kauffman 2003) while most other studies have only focused on turnover intentions. (Joseph, Ng et al, 2007) in their study offer 43 constructs to model turnover

intentions which can be mapped onto (March and Simon's, 1958) turnover framework. They posit that the constructs of alternative opportunities (reflecting ease of movement) and job satisfaction (reflecting lack of intent to quit) partially mediate the relationships between job-related and perceived organizational factors, individual attributes and turnover intent. They also posit that turnover intention is a stronger predictor of actual turnover than job dissatisfaction. They posit a contextual

model of turnover (see diagram below) that incorporates many of the previous models with groups at individual, firm & environment levels. It is interesting to note that at Environmental-Level, L&D is embedded within the changes happening in the IT Labor market as well as Technological Trends and is also embedded within IT HR Practices at Firm-Level. Additionally, at the Individual-Level, advancement is usually a function of upskilling via L & D (Hall & Mirvis, 1995) as well as performance..

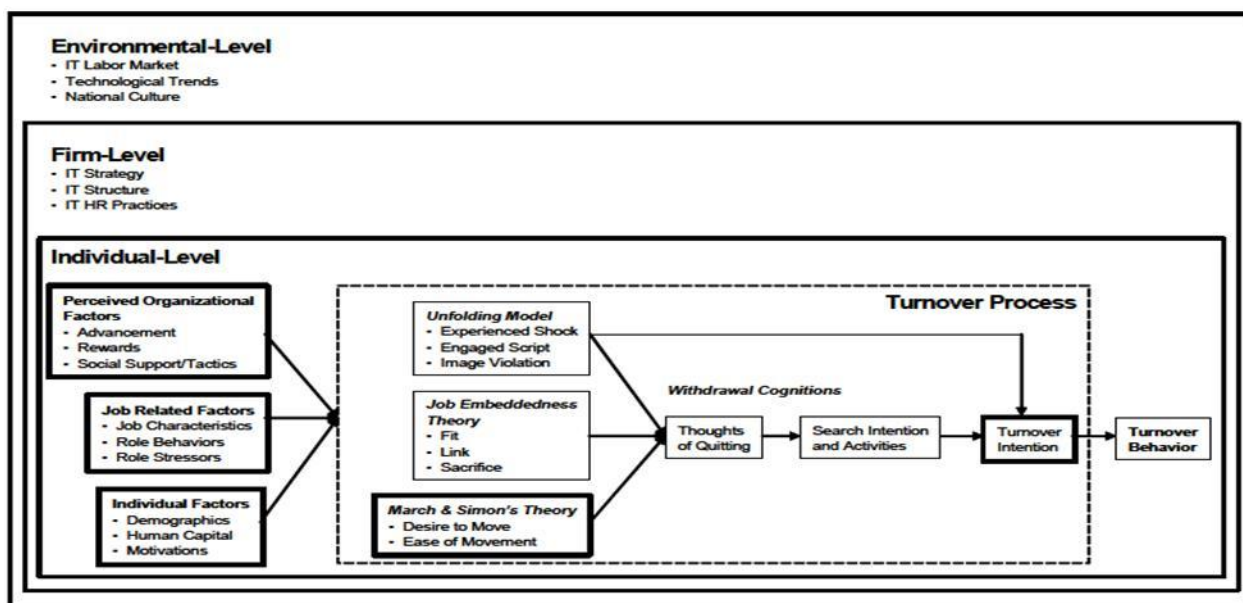


Fig 1 : Contextual Model of Turnover by Joseph,Ng et al, 2007

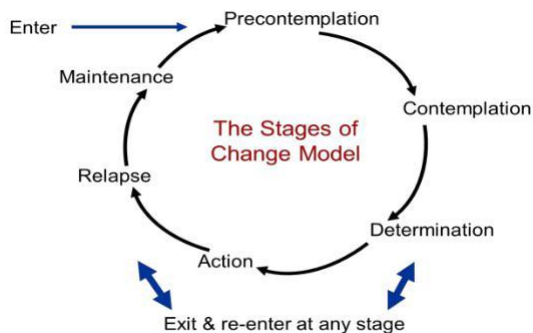
As part of a comprehensive analysis of attrition factors, (Holtom, Mitchell et al, 2008) have developed a model to identify 13 groups of factors that affect attrition. This includes organizational context, nature of job, traditional and newer attitudes, individual differences, withdrawal cognitions, alternatives, person-context interface, withdrawal behavior, individual performance, job search gateways leading to attrition that impacts the individual as well as companies.

Contradictions between models

Although many research models are unanimous in certain conclusions (e.g. the role of job satisfaction in causing attrition) it is very interesting to note that the conclusions in certain seminal research models contradict findings in other models. (Price,1977);

(Porter and Steers,1973) have found that compensation consistently and negatively impacts attrition but (Mobley et al,1979) posit that findings about compensation are not conclusive in nature. (Porter and Steers,1973) state that promotion has a significant impact on attrition whilst (Price,1977) and (Mobley et al,1979) do not agree. (Muchinsky and Tuttle,1979; Mobley, 1982) posit that personality profiling is not a good predictor of attrition with which (Porters and Steers, 1973) differ, suggesting that it is useful. (Muchinsky and Tuttle,1979; Muchinsky and Morrow,1980) posit a strong correlation of attrition with task repetitiveness whilst (Price,1977) posits a weak correlation.

Fig 2: Implications of the Stages of Change/ Trans-theoretical Model on attrition



The Stages of Change Model or Transtheoretical Model was pioneered by Prochaska and DiClemente during the 1970s to explain changes in human behavior. Every stage exemplified in the model can be applied to attrition and processes that lead to ITQ.

I. Methodology

A rigorous review of more than one hundred and thirty research papers on attrition models ranging from 1958 till date was taken up. Models have been identified based on seminal nature of the model, the number of citations as well as a comprehensive coverage of various industry sectors and countries. The analysis examines factors of attrition that influence Intention-to-Quit (ITQ).

A data table (Table 1) has been created to analyze critical aspects of seminal attrition models and the theories they posit. Seminal attrition models identified from the Literature Review have been analyzed. The models have been ranked in descending order of citations. A cut-off of a minimum 250 citations has been used to select and rank the models. The earliest seminal model identified is from 1958 and the most recent is from 2001. Each seminal model has analyzed a variety of attrition factors which are listed in Column 6 (Main variables/attrition factors). The attrition factors arising from each model to synthesize the proposed Conceptual Model have been synthesized and listed in Column 7 (Factors for Conceptual Model arising from the seminal models). Additionally, contemporary attrition factors have been identified from the literature review to reflect the changes in

the employee's personality, feelings and behaviors in the current times.

A second data table (Table 2) has been created to analyze seminal research papers that have analyzed attrition in the context of L&D. The papers have been ranked in descending order of citations with the cut off being 175. The earliest publication is from 1990 and the latest is from 2014. The major findings of each paper have been summarized in Column 6. The factors for the proposed Conceptual Model have been synthesized and listed in Column 7.

The objective is to create a fresh conceptual model (see Fig 3) so as to arrive at a contemporary depiction of an employee's ITQ.

Findings and Discussion: Table 1 presents the detailed findings of the study to summarize seminal attrition models and the attrition factors they have researched.

Table 1: Seminal Attrition Models

S.No	Year	Seminal Models & their Authors	Title of Paper/Book	# Citations	Main Variables/Attrition Factors	Factors for Conceptual Model arising from the seminal models
1	1991	Meyer and Allen	A three-component conceptualization of organizational commitment	12782	Affective, Continuance and Normative Commitment	Motivation and Engagement
2	1977	Mobley	Intermediate linkages in the relationship between job satisfaction and employee turnover.	3192	Job satisfaction, evaluation of internal & external alternatives	Job Satisfaction, Evaluation of Job Market Alternatives, Circumstances
3	1973	Porter and Steers	Organizational, work, and personal factors in employee turnover and absenteeism.	3114	Job satisfaction	Job Satisfaction, Organization behaviors, Work Environment, Individual Internal factors
4	1979	Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M	Review and conceptual analysis of the employee turnover process.	2954	age, tenure, overall satisfaction, job content, intentions to remain on the job, and commitment	Job Profile, Commitment, Evaluation of Alternatives
5	2001	Mitchell, Holtom and Lee	Why people stay: Using job embeddedness to predict voluntary turnover	2652	Attachment to job and colleagues	Job Embeddedness, Attachment to Colleagues and supervisors, Retention Instruments
6	1977	Price	The Study of Turnover	2263	Compensation level, work relationships, communication	Engagement, Attachment with colleagues, customers
7	1994	Lee & Mitchell	An alternative approach: The unfolding model of voluntary employee turnover	1642	Attachment to job and colleagues	Engagement, Attachment with colleagues, customers, Organization change such as M & A
8	1981	Price and Mueller	A causal model of turnover for nurses	1616	work friendships, compensation fairness, learning opportunity and kinship responsibility	Engagement, Learning and Development
9	1987	Lee and Mowday	Voluntarily leaving an organization: An empirical investigation of Steers and Mowday's model of turnover	894	Meeting expectations, job values, job attitude	Supervisor Behaviors, Job satisfaction, Employee Feelings and Behaviors
10	1958	March and Simon	Organizations.	548	Job relationship, job satisfaction, organisation size	Job Satisfaction, Organization behaviors, Work Environment
11	1984	Hom, Griffeth and Sellaro	The validity of Mobley's (1977) model of employee turnover	536	Perceived utility of alternatives	Evaluation of alternatives
12	1982	Mobley	Some unanswered questions in turnover and withdrawal research	531	Consequences of attrition and related processes, role of performance	Organization behavior, Higher Training Costs, Employer Counter Offer, Profile Change, Promotion
13	1979	Muchinsky and Tuttle	Employee turnover: An empirical and methodological assessment	427	Job satisfaction, Bio data, work profile	Job Satisfaction, Job Profile
14	1983	Sheridan and Abelson	Cusp catastrophe model of employee turnover	265	Organizational commitment, job tension, Internal transfer possibility, external market opportunities of role & policy, power centralization	Commitment, Profile Change, Job Market Alternatives

It is found that 13 out of the 14 attrition models fitting the cut off criteria are in the period 1958-2000 with only one model (March and Simon, 1958) in the very early part of the period followed by the vast majority of models (12 out of 14) in the period 1970 – 2000. The large number of attrition models in this period, 1970-2000 reflects the increased efforts of industry to measure attrition because of increasing wage rates especially in the developed countries and the higher cost of replacement (Tziner and Birati, 1996) necessitated in large part by the significant replacement cost of knowledge and skills (Michele et al, 2006) and the increased cost of L & D (O'Connell and Kung, 2007) required to replace the knowledge so as to ensure that there is no productivity loss. Only one model (Mitchell, Holtom & Lee, 2001) which posit the Job Embeddedness Theory, was published in 2001, early

in the 21st century. Hence there are no new seminal theories proposed in the 21st century after 2001. This is a potential research gap that needs to be addressed because the needs and the wants of employees have dramatically changed with the advancing generations especially with millennials (born between 1980 to 1992) forming a significant percentage of modern work forces (Bannon et al, 2011).

Learning and Development is one of the critical attrition factors listed in the group under Impact of Change as it leads to increased ROI (Phillips & Edwards, 2008) of talent and through increased knowledge leads to sustainable competitive advantage (Alao & Adeyemo, 2013). (Ho et al, 2010) have posit that the presence or absence of Learning and Development opportunities in an organization can significantly moderate attrition with study leave as one of the mitigating factors for such

attrition. The availability of appropriate learning lower turnover intention. Interestingly, the source of opportunities is negatively correlated with attrition funding of the L&D is a variable that moderates as it gives an opportunity to the employee to grow in attrition as such learning or certification funded by his/her job role. (Memon et al 2016) have stated that the employee is positively correlated with attrition training satisfaction produces a positive attitudinal (Shah and Burke, 2004) and L & D opportunities shift towards work engagement which in turn has a funded by the organization are negatively correlated moderating effect on an employee's ITQ. (Shuck et with attrition. al, 2014) have posit that learning practices lead to

Table 2: Attrition in the context of L & D

S.No	Year Published	Authors	Research Paper Title	# Citations	Major Findings	Factors for Conceptual Model arising from these Research papers
1	1990	Argote & Epple	Learning curves in manufacturing	1559	Productivity Increase is based on a Learning Curve	Learning Curve
2	2004	Egan et al	The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover	1198	Reduction in attrition reduces retraining costs	Retraining
3	2008	Holtom, Mitchell et al	Turnover and retention research: a glance at the past, a closer review of the present, and a venture into the future.	1025	Learning processes provide better market understanding and employees closer to a quit decision have more information	Evaluation of Job Alternatives
4	2000	Hinkin & Tracy	The cost of turnover: Putting a price on the learning curve	781	Lost Productivity due to lack of knowledge is the highest cost element.L & D is critical to reduce the learning curve	L & D Cost
5	2004	Maertz & Griffeth	Eight motivational forces and voluntary turnover: A theoretical synthesis with implications for research	658	Attrition leads to the loss of company specific training and increases cost	Company specific training
6	2009	Cho, Johanson, Guchait	Employees intent to leave: A comparison of determinants of intent to leave versus intent to stay	422	Perceived Organizational Support including training opportunities decrease ITQ	Organisation Behaviors
7	2010	Joo & Park	Career satisfaction, organizational commitment, and turnover intention	351	Relevant training programs lead to organizational development	Employee Engagement
8	2010	BK Joo	Organizational commitment for knowledge workers: The roles of perceived organizational learning culture,	331	Organizational Learning Culture influences commitment which in turn reduces attrition	Learning Culture
9	2004	Morell et al	Organisational change and employee turnover	272	Employee turnover results in significant learning and retraining costs	Impact of Change, L & D Cost
10	2003	Carbery et al	Predicting hotel managers' turnover cognitions	257	Higher educated employees display more job search behaviors	Employee Behavior
11	2008	DG Allen	Retaining talent: A guide to analyzing and managing employee turnover	227	Proving training can be a retention tool, Training costs increase due to attrition	Training as a retention tool
12	2001	Simons & Hinkin	The effect of employee turnover on hotel profits: A test across multiple hotels	188	As jobs become more complex the cost of employee turnover increases significantly	Circumstances, Environment, L & D Cost
13	2014	Shuck et al	Human resource development practices and employee engagement: Examining the connection with employee turnover intention	182	Employee participation in L & D and other HRD practices increases engagement which reduces ITQ	Employee Engagement
14	1999	Deery & Shaw	An investigation of the relationship between employee turnover and organizational culture	175	Lack of training is one of the factors leading to attrition and appropriate training develops a positive culture	Learning Culture, Environment

The analysis from Table 2 illustrates that L & D is a significant factor that can moderate attrition when provided in a timely manner. The cost of training of new recruits, post attrition is a significant cause of lost productivity and the high cost of employee turnover. The time period of the published papers (1990-2014) reflects the increasing emphasis on measuring and lowering attrition in industry. It is interesting to note that the proposed Conceptual Model factors of Retraining, Evaluation of Job Alternatives, Higher L & D Cost, Organization Behaviors, Employee Engagement, Impact of Change, Circumstances and Environment that have

been synthesized in Table 2 have also been synthesized in Table 1 from a very different set of Research papers. Additionally, factors like Learning Curve and Learning Culture have arisen from these works.

II. Proposed Conceptual Model

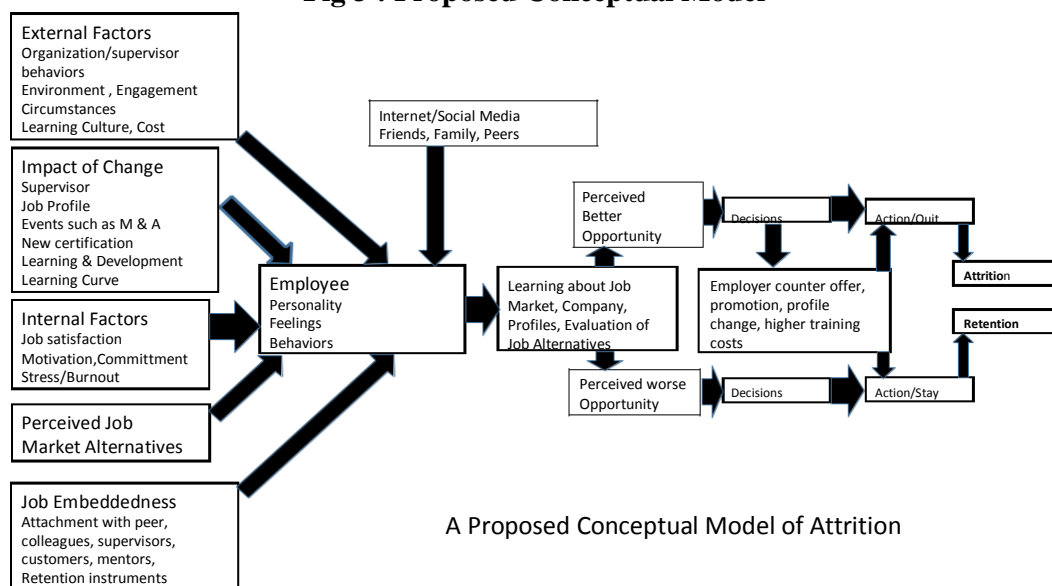
A proposed conceptual model is given in figure 3. The model has summarized the various impacts of attrition factors on an employee into five groups namely External and Internal Factors, Impact of

Change, Job Market Alternatives and Job Embeddedness. The Conceptual model has been created based on an extensive literature review as well as an informal interview with twenty-six human resource managers across Information Technology, Manufacturing, Banking and Finance, Automotive, Retail, Consulting and Pharma companies. This method has attempted to create a synthesis between the seminal learnings from existing literature along with a perspective on contemporary behaviors and attrition factors in industry. The External factors group includes Learning Culture which is a valid construct in predicting the variables of job satisfaction as well as employee attrition (Egan et al, 2004). The Impact of Change group includes New Certification and Learning and Development as these investments in organization specific employees and relevant skillsets creates sustainable competitive advantage (Hatch & Dyer, 2004) Over and beyond the traditionally researched factors of attrition, the model introduces contemporary attrition factors such as Supervisor behaviors, Circumstances, Impact of Change of Supervisor, Job Profile, New training, Attachment with mentors, Retention instruments. In addition to these groups of factors, Social Media and Peer pressure from friends and family can influence the employee who may get into comparisons with

colleagues/friends of how similar roles are compensated. Availability of a huge amount of information via the Internet and the proliferation of smart phone devices means that the employee has access to very large datasets. This factor is completely absent in all the seminal models in the last century as the prevalence or availability of the internet was largely absent.

Hence, this conceptual model postulates that all of these factors have an impact on the personality, feelings and behaviors of the employee leading to an employee learning about the job market and thence an evaluation of job alternatives and a comparison with the existing job which then leads an employee to perceive a job opportunity to be better or worse. A better job opportunity leads to an Intention to quit (ITQ). At this stage the employee may resign or communicate his ITQ to his superiors. This can trigger an action by the employer of a counter offer or a profile change which is usually accompanied by new L&D to upskill for a higher role, which are all efforts to retain a departing employee. Thus Learning and Development will moderate attrition even at this late stage. If, even after such retention efforts the employee decides to quit then that leads to attrition.

Fig 3 : Proposed Conceptual Model



A Proposed Conceptual Model of Attrition

Conclusion

Employee attrition is an extremely dynamic, complex and unstructured process where researchers are still attempting to reach a better understanding of why it actually happens. Companies go to great lengths to retain talent as employee knowledge is the source of competitive advantage (Alao and Adeyemo, 2013). Continuous learning provides employee development across the entire career creating competitive advantage (Hall & Mirvis, 1995). Although much has been written and researched, there still remain significant gaps in the understanding of attrition. Almost all available research are cross sectional studies and have focused on a few variables only (insufficient multivariate research); certain seminal models seem to offer contradicting conclusions thereby leaving gaps in a comprehensive understanding of the actual phenomenon. Most of the attrition models have attempted to focus on ITQ as the main predictor of attrition. Almost all the seminal models studied (Ref Table 1), date back several decades. Whilst there are no doubts about their theoretical importance, it is important to note that the very nature of work as well as the structure of the workforce has changed dramatically over the years. The advent of internet and social media in the 21st century has made matters even more complicated with the widespread and immediate proliferation of information. Given the increase of the millennial generation in the workforce and their want of instant gratification, the need to map the relevance of seminal attrition models in the current times to either extend them or evolve fresh models for the modern era becomes a moot point.

As depicted by our Conceptual Model, contemporary attrition models need to account for modern day attrition factors as well as the surfeit of information available through social media and the internet as this tends to significantly expand the employee's learning about the number of potential job alternatives available. Empirical evidence will be required to validate the proposed model. It is interesting to note that Learning and Development

impacts attrition at various stages of the employee corporate life cycle during the employee's tenure in the organization.

During an employee's steady-state in the company, Learning and Development is required for upskilling and growth to achieve greater effectiveness and efficiency at work to moderate attrition. Employer funded Learning is inversely correlated with attrition and conversely, employee funded L & D is an early indicator of ITQ. Knowledge driven industries like IT/ITES are particularly influenced by L & D opportunities given to employees due the rapid cycle of technology change. Even after an employee has resigned, the stage of knowledge-transfer during notice period to the new recruit, if carried out in a structured way, can moderate the impact of attrition on the company's business. The loss of productivity caused due to the relatively low experience of new employees is the most significant cost impact during employee attrition (Tracey & Hinkin, 2006). Hence the training provided to the new recruits replacing departed employees can further mitigate the impact of attrition. Thus it clear that L&D reduces attrition as opined by (Curry, et al 2005). Which attrition factors will impact whom, may not be generalized but rather can be posit to be a complex phenomenon based on environment, circumstances, influences, alternatives, personalities and events including L & D interventions. A deeper understanding of attrition and the impact of L&D on it would help to tackle the causal factors thereby improving retention and productivity to create higher ROI of human capital, ultimately leading to more sustainable HRD practices and hence more competitive and better performing organizations.

III. Practice Implications for L & D

L & D interventions are intended to improve the Skills, Knowledge and Behavior of the workforce which is the productivity engine of any organization. Continuous learning is the method adopted by the leading organizations in industry. It is clear that employee attrition negatively impacts productivity. Hence L & D can be used both as a retention tool when implemented timely as well as to create

sustainable competitive advantage. Coaching/ Mentoring can be another useful L & D tool executed by experienced employees to guide junior employees in their career development thus displaying increased organization commitment to increase their job embeddedness and further reduce/mitigate attrition.

IV. Limitations and Future Research

The extant research has tried to draw conclusions from specific data sets and narrower the data set, stronger seems to be the correlation. It may be useful to examine the role of personality and its impact on attrition and such studies could have an impact on talent acquisition modification as a means of lowering attrition.

There is also an interplay between factors which needs to be assessed. e.g. The external factors of supervisor behaviors and job profile will have an impact and interplay with the internal factor of job satisfaction. All the factor groups in the proposed model have an impact on the employee's personality, feelings and behaviors.

It may also be useful to identify the most impactful causal attrition factors. Future research can be based on studying actual attrition behaviors rather than just intention to quit (ITQ) preferably via longitudinal studies. Also, diversity and inclusion based data needs greater focus and it may be useful to develop modern attrition models with such contemporary data.

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