

**STRATEGIC HR FACTORS INFLUENCING INNOVATIVE WORK  
BEHAVIOUR OF MANAGERS – A STUDY WITH SPECIAL  
REFERENCE TO THE SPICES EXPORTING COMPANIES IN  
KERALA, INDIA**

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*By*

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**Strategic HR Factors Influencing Innovative Work Behaviour of Managers –  
A Study with Special Reference to the Spices Exporting Companies in  
Kerala, India**

*Ph.D. Thesis under the Faculty of Social Sciences*

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## **Certificate**

Certified that this thesis titled “**Strategic HR Factors Influencing Innovative Work Behaviour of Managers – A Study with Special Reference to the Spices Exporting Companies in Kerala, India**” submitted to Cochin University of Science and Technology, Kochi, for the award of the Degree of Doctor of Philosophy under the Faculty of Social Sciences, is a record of bona fide research done by Mr. Lal V. Jose under my supervision and guidance in the School of Management Studies, Cochin University of Science and Technology, Kochi-22. This work did not form part of any dissertation submitted for the award of any Degree, Diploma, Associateship, Fellowship or other similar title or recognition from this or any other institution. Also, certified that this thesis was verified for plagiarism using the CUSAT facility and found satisfactory.

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## *Declaration*

I, Lal V. Jose, hereby declare that this thesis titled “**Strategic HR Factors Influencing Innovative Work Behaviour of Managers – A Study with Special Reference to the Spices Exporting Companies in Kerala, India**” submitted to Cochin University of Science and Technology, for award of Ph.D. Degree under the Faculty of Social Sciences, is the outcome of the original research work done by me under the supervision and guidance of Dr. D. Mavoothu, Associate Professor, School of Management Studies, Cochin University of Science and Technology. I also declare that this work did not form part of any dissertation submitted for the award of any Degree, Diploma, Associateship, Fellowship or other similar title or recognition from this or any other institution.

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**Lal V. Jose**

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## ||| List of Abbreviations |||

AARS	Adjusted Average R-Squared
achmot	Achievement Motive
AFVIF	Average Full Collinearity Variance Inflation Factor
AM	Achievement Motive
AMS-R	The Revised Achievement Motives Scale
APC	Average Path Coefficient
ARS	Average R-Squared
AVE	Average Variance Extracted
AVIF	Average Block Variance Inflation Factor
CA	Chartered Accountant
CFA	Confirmatory Factor Analysis
CNS	Central Nervous System
CSIR	Council of Scientific and Industrial Research
EI	Emotional Intelligence
EDI	Employee Driven Innovation
EPSS	Edward's Personal Preference Schedule
ES	Effect Size
FF	Fear of Failure
GoF	Goodness of Fit
HR	Human Resource
HRM	Human Resource Management
HS	Hope of Success
ICWA	Institute of Cost and Work Accountants of India
IOAM	Individual Oriented Achievement Motivation
IQ	Intelligence Quotient
iwb	Innovative Work Behaviour
IWB	Innovative Work Behaviour
JA	Job Autonomy
jobauto	Job Autonomy
KAI	Kirton Adaption-Innovation Inventory
LMX	Leader-Member Exchange

MAF	Motive to Avoid Failure
MMG-S	Multi-Motive Grid Short Version
Ms	Motive for Success
nAch	Need for Achievement
NAQ	Need Assessment Questionnaire
NISTADS	National Institute of Science, Technology and Development Studies
NPD	New Product Development
NSTMIS	National Science and Technology Management Information System
partlead	Participative Leadership
PG	Post-Graduate
PL	Participative Leadership
PLS	Partial Least Squares
PRF	Personality Research Form
PSE	Picture Story Exercise
PSI	Perceived Support for Innovation
R & D	Research and Development
SAN	Self-Attributed Need for Achievement
SD	Standard Deviation
SDT	Self-Determination Theory
SEM	Structural Equation Modeling
SOAM	Social Oriented Achievement Motivation
SPSS	Statistical Package for the Social Sciences
Std. Dev.	Standard Deviation
supinv	Perceived Support for Innovation
TA	Transactional Analysis
TAT	Thematic Apperception Test
TPP	Technological Product and Process (Innovation)
VIF	Variance Inflation Factor
WLS	Weight Loading Sign
WPI	Work Preference Inventory

.....✉.....



# Chapter **1**

## **INTRODUCTION**

*Contents*

- 1.1 Research Gap**
- 1.2 Statement of the Problem**
- 1.3 Conceptual Framework of the Study**
- 1.4 Relevance of the Study**
- 1.5 Potential Contributions of This Study**
- 1.6 Outline and Organization of the Thesis**

## Introduction

It is people who make innovations possible in organizations. Individual level factors such as abilities, motive dispositions, cognitions, and emotions interact with human resource factors in the organizational context to generate and nurture innovative work behaviour (IWB).

Sanchez and Levine (2008) argue that in order to achieve strategies, organizations need to translate their strategies into competencies which, in turn, must be transformed into observable work behaviour of employees through the process of job analysis or competency modeling. They also point out that in order to achieve strategies, organizations should align the work behaviour of employees at all levels of the organization with the strategies of the organization - be it a strategy aimed at innovation, or at reduction of costs.

Several organizations have adopted innovation as a central strategy. For instance, Wright (2008, p.3) enumerates the focus areas of IBM's business strategy: "1) innovation, 2) business value, 3) global integration, and 4) On-demand infrastructure". Many organizational researchers (Gibson & Gibbs, 2006; Lin & Liu, 2012) argue that innovation is a source of competitive advantage for organizations. Researchers (Mura, Lettieri, Spiller, & Radaelli, 2012) also point out that innovative work behaviour of individual employees is crucial for innovation because it is individual employees who generate and implement new ideas in organizations. Scott and Bruce (1994) argue that it is imperative to research individual innovative behavior because the turbulence in the environment in which organizations operate necessitates that every employee is innovative.

Extant research in the area of innovative work behaviour have identified several human resource factors which lead to innovative work behaviour of employees. Researchers have identified a number of variables at the job level,

leadership level, organizational level, and the individual level which predict innovative work behaviour. Several researchers have found that job autonomy (Anderson, De Dreu, & Nijstad, 2004; Gebert, Boerner, & Lanwehr, 2003), participative leadership (de Jong & den Hartog, 2003; Shalley & Gilson, 2004), and climate for innovation (Anderson & West, 1998; Yildiz & Ozcan, 2014), are important predictors of innovative work behaviour of employees. Researchers have also identified motivation as an important antecedent of innovative work behaviour and creativity. However, most research in this area have been focused on intrinsic motivation.

Achievement motive has been one of the most researched topics in psychology (Belanger, Lafreniere, Vallerand, & Kruglanski, 2012) with important implications for various settings such as education, work, and sports (Elliot & Church, 1997). The concept of achievement motive encompasses the following dimensions: affect, cognition, and behavior (Elliot, 1999). One of the important characteristics of people with high achievement motive is their tendency for moderate risk taking. Research have found that achievement motive leads to several favourable organizational outcomes.

However, very few researchers (except Larawan, 2011 who conducted a study on level of innovativeness and achievement motivation among college teachers) have examined whether achievement motive influences innovative work behavior. This study attempts to examine whether achievement motive of managers influences their tendency to involve in innovative work behaviour which necessarily entails risk taking and the possibility of failure.

Many empirical studies have revealed that the predictors of innovative work behaviour facilitate innovative work behaviour through the mediation

of motivation (Amabile, 1996) or constructs similar to motivation such as ‘energy’ (Atwater & Carmeli, 2009), ‘harmonious passion’ (Liu, Chen, & Yao, 2012), ‘flow experience’ (Schuler, Sheldon, & Frohlich, 2010), and ‘work engagement’ (Agarwal, Datta, Blake-Beard, & Bhargava, 2012). However, this researcher has not come across any study examining the mediating effect of achievement motive on the relationship between predictors of innovative work behaviour (such as job autonomy, participative leadership, and perceived support for innovation) and innovative work behaviour. This study attempts to examine whether the contextual predictors of innovative work behaviour such as job autonomy, participative leadership and perceived support for innovation lead to innovative work behaviour through achievement motive.

## 1.1 Research Gap

There is consensus among several researchers (Janssen & Van Yperen, 2004; Scott & Bruce, 1994) that innovative work behaviour (IWB) is characterized by the following dimensions: a) generation of creative and original ideas, b) championing of new ideas and c) implementation of new ideas.

Researchers (e.g. Amabile, 1996) have highlighted that abilities and expertise of employees do not guarantee innovative work behaviour. Employees have to be motivated to be innovative. Several researchers have emphasized the importance of motivating employees for innovation (Amabile, 1996; Van De Ven, 1986). There have been many approaches to examining work motivation in the context of innovation. For instance, Amabile (1996) focuses on the relationship between intrinsic motivation and innovation.

Achievement motive has been studied by researchers in various settings including education (O’Keefe, Ben-Eliyahu, & Linnenbrink-Garcia, 2013), work, (de Lange, Van Yperen, Van der Heijden, & Bal, 2010) and sports (Weigand & Burton, 2002). However, there has not been any study examining the relationship between Achievement Motive and innovative work behaviour of managers, to the best knowledge of this researcher. Janssen and Van Yperen, (2004) have examined how a related concept, achievement goal, is related to innovative work behaviour of employees. Eckardt and Schuler (as cited in Annen, Kamer, & Bellwald, n.d.) argue that after cognitive abilities, achievement motive is the factor which is most significant for a professional.

Situations which call for innovative work behaviour appear to be ‘competence-relevant’ achievement situations because employees have to generate new knowledge and convert them into new products and services (Mura et al., 2012) which are acceptable to consumers. Many researchers (Shalley & Gilson, 2004; Van de Ven, 1986) point out that innovative work behaviour involves risks, uncertainties, and the probability of failure. As a result, innovative work behaviour calls for risk taking behaviour on the part of employees. Hence, for generating and implementing innovative ideas, organizations need to motivate employees to take risks (Shalley & Gilson, 2004). Theories of achievement motive (e.g. Elliot, 1999) appear to have the potential to explain what motivates employees to approach innovative work behaviour, which invariably involves risk taking. At present it is not clear whether achievement motive and innovative work behaviour are related. This study attempts to bridge the gap in theory regarding the relationship between achievement motive and innovative work behaviour.

De Jong and Den Hartog (2008, p.22) highlight Mumford's (2003) argument that there should be further research on innovation in settings where daily work routine does not consist of innovation. De Jong and Den Hartog (2008) contend, in agreement with Mumford, that innovative performance of all individuals in organizations needs to be studied instead of focusing only on individuals who work in 'innovation-important' jobs (for instance, R & D organizations). In line with their suggestion, this study has been conducted among managers working in various functions (including R & D) in the selected organizations.

To the best knowledge of this researcher, there has not been any study in the Indian context, examining the relationships among the following variables which have been selected for this study: job autonomy, participative leadership, perceived support for innovation, achievement motive, and innovative work behaviour of managers.

## 1.2 Statement of the Problem

Innovation is one of the most important strategies which organizations use to achieve competitive excellence. There is consensus in literature that the process of innovation, i.e., generation and implementation of new ideas at the organizational level, and innovative work behavior of individual employees, invariably involve risks and the possibility of failures. A lot of new ideas that are proposed do not get implemented and several new ideas that are implemented, fail. Van de Ven (1986) highlights the reasons why in organizations people are reluctant to take risks and engage in innovative work behaviours. He argues that people are reluctant to risk their name and careers in decisions involving risk taking, mistakes, and failures. In order to generate innovations, organizations should motivate employees to take risks and to engage in innovative work behaviour (Shalley & Gilson, 2004). Organizations

need to design strategies to motivate employees to take risks and to involve themselves in innovative work behaviour.

Stuart and Roth (2007, p.414) point out a contradiction inherent in theories of achievement motive: in McClelland's (1961) theory, higher levels of achievement motive are correlated to the tendency to take moderate risks or to avoid risks. Stuart and Roth (2007, p.414) argue that their own findings (Stuart and Roth, 2001) which revealed that "entrepreneurs have a high risk propensity than managers question this theoretical position". Stuart and Roth (2007) found that entrepreneurs had a propensity to take high risks rather than to take moderate risks or to avoid risks.

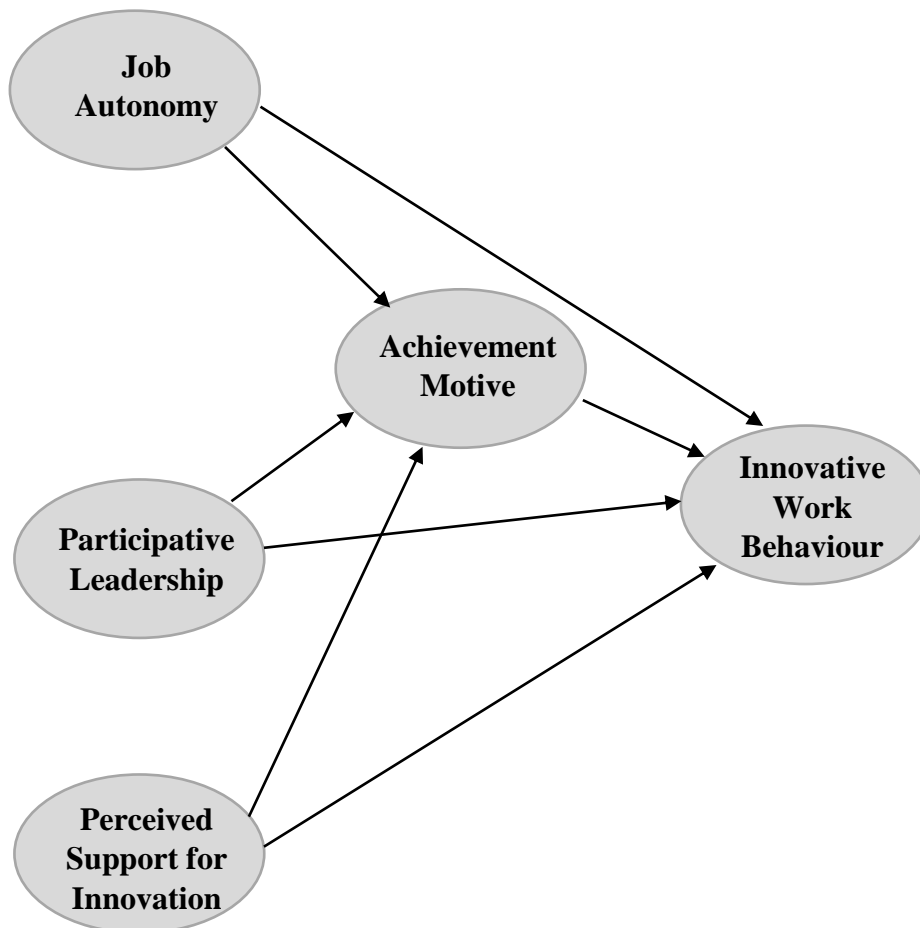
Classical achievement motive researchers (McClelland, Atkinson), who associated achievement motive with entrepreneurs and managers, have observed that achievement motive is characterized by moderate risk taking. Further, classical researchers have also associated high achievement motive with high innovativeness. Hence, it appears contradictory that persons with high achievement motive, who are moderate risk takers by definition, are prone to involve in innovative behaviours which are highly prone to risks and failures.

**Research Questions.** This study focuses on this apparent contradiction which Stuart and Roth (2007) have pointed out and attempts to answer the following questions: is there a significant relationship between achievement motive and innovative work behaviour? Do the contextual predictors of innovative work behaviour (job autonomy, participative leadership, and perceived support for innovation) influence innovative work behaviour in the Indian context? Do the contextual predictors influence innovative work behaviour through the mediation of achievement motive? Are demographic

variables like age, educational qualifications, and work experience significantly related to innovative work behaviour?

### 1.3 Conceptual Framework of the Study

Innovative work behaviour is the dependent variable of this study. The independent variables of this study are: job autonomy, participative leadership, and perceived support for innovation. Achievement motive has been conceptualized as a mediating variable in this study.



**Figure 1.1: The Conceptual Model of the Study**



## 1.4 Relevance of the Study

This section consists of a discussion of several important factors which make a study of innovative work behaviour relevant.

### 1.4.1 Changes in the Very Concept of ‘Job’

In the current economic scenario, characterized by significant changes in the way people work, it would be beneficial to examine whether the antecedents selected for the study lead to innovative work behavior. For instance, the phenomenon of ‘virtuality’ has caused fundamental changes in the way people work in organizations. Gibson and Gibbs (2006, p.455) delineate the following dimensions of virtuality: ‘geographic dispersion, electronic dependence, dynamic structural arrangements, and national diversity’. Citing Brown and Eisenhardt (1995), Gibson and Gibbs (2006, p.458) delineate the impact of virtuality on employees: there are frequent changes in the roles of employees and their relationships with other employees. Further, organizations enter into informal, short-term, unstructured relationships with other organizations through mechanisms such as outsourcing, and networking to optimize their operations with a view to maximize profits.

Oldham and Hackman (2010) highlight the fact that the very concept ‘job’ as well as the relationships among organizations, people, and their work have been undergoing phenomenal changes. Wrzesniewski and Dutton (2001, p.197) argue, in line with the finding of Bridges (1994), that now organizations tend to treat employees as ‘free agents’ who can proactively ‘craft’ their own work. Wrzesniewski and Dutton (2001, p.179) define job crafting as “the physical and cognitive changes individuals make in the task or relational boundaries of their work.” As suggested by researchers including Oldham and Hackman (2010), it is significant to examine the construct of innovative work behaviour in view of the changes that have been occurring in the way people work.

### 1.4.2 Why a Study of Innovative Work Behavior?

It is people who generate, champion and implement innovative ideas. Scott and Bruce (1994) draw attention to the importance of studying the motivators or enablers of innovation at the individual level, emphasizing that ideas form the foundation of innovations. Scott and Bruce (1994, p.580) stress the importance of individual innovation, drawing from the contention of Van de Ven (1986) who argues that it is individuals who “develop, carry, react to, and modify ideas.”

### 1.4.3 Why a Study of Managers?

This study is focused on the innovative work behaviour of individual managers. In organizational settings, managers are given the responsibility to implement organizational strategies aimed at innovations. Classical researchers of achievement motivation including McClelland have pointed out that managers, along with entrepreneurs, have high levels of achievement motive as well as innovativeness (Collins, Hanges, & Locke, 2004; Stuart & Roth, 2007). Thus it appears that managers are a natural choice for studying the influence of achievement motive on innovative work behaviour. Oldham and Hackman (2010) argue that the focus of job design has now changed from front-line workers to managers. They elucidate the reasons for this shift:

The increasing popularity of self-managing teams, re-engineering, and sundry other organizational innovations, coupled with the increased flexibility in work arrangements made possible by advances in information technology, has expanded considerably the scope, challenge, and autonomy of front-line work...The issues that will be addressed in the future...will focus less on rank-and-file work and more on that done by managers and professionals (p.9).

On account of the above important considerations, the focus of this study is on the innovative work behaviour of individual managers. As such, the unit of measurement of this study is the individual manager.

#### **1.4.4 Cultural Differences**

Cultural background of managers has a profound impact on the achievement motive as well as work behaviour of managers. While discussing national diversity in the context of ‘virtuality’, Gibson and Gibbs (2006, p.460) refer to the findings of Hofstede (1991), and Early and Mosakowski, (2000) and state that “nationality is a superordinate determinant of identity that is engrained from birth, and is more likely to be more salient than a particular organizational or functional culture”. Oldham and Hackman (2010, p.21) state that the three fundamental tenets of the job characteristics model (“experienced meaningfulness of work, experienced responsibility for work outcomes, and knowledge of the results of the work”) are significant to people from all countries and cultures. Oldham and Hackman (2010) also point out that certain characteristics of jobs (e.g. social aspects) may be more ‘salient’ to people from some cultures than from other cultures.

Schwartz and Sagiv (as cited in Nelson and Shavitt, 2002, p.442) define values as “...desirable goals, varying in importance, that serve as guiding principles in people’s lives”. Nelson and Shavitt (2002, p.440) point out that the value individuals attach to achievement varies according to culture: in individualistic cultures, individual achievement goals are considered important whereas in collectivist cultures, group norms and goals are given priority. Nelson and Shavitt (2002, p.440) state that for theorists of achievement motivation including McClelland (1961), “...collectivists are constrained in their motivation to achieve and that

achievement behaviour is individualistic, hailing from Western child-rearing practices". Nelson and Shavitt (2002) attribute differences in disposition to achievement and success among people from various countries to cultural differences such as individualism and collectivism. Against this background, it would be beneficial to study the predictors of innovative work behavior of individual managers in the Indian cultural context.

### **1.4.5 Why a Study in the Manufacturing Sector?**

There has been a felt deficit in innovations leading to technological ascendancy in the manufacturing sector in India (Bhattacharya, Bruce, & Mukherjee, 2014, p.24). At present, there is a renewed interest in innovations in the Indian manufacturing sector (Bhattacharya et al., 2014). This study examines the innovative work behaviour of managers working in the manufacturing units of spices exporting companies. At a time when India is focusing on innovation in the manufacturing sector, it is significant to identify the factors which predict innovative work behaviour of managers.

There have been several far reaching changes such as technological advancements, increased virtuality, quicker rates of obsolescence of products and services, increased need for innovation, and major changes in the way people work. These factors make significant a study on the innovative work behaviour of managers working in India.

## **1.5 Potential Contributions of this Study**

- 1) There has been a dearth of innovations in the Indian manufacturing sector. Work behaviour as well as achievement motive of people is determined by their national and cultural contexts (Gibson & Gibbs, 2006; Oldham & Hackman, 2010). It would be beneficial to

ascertain whether the selected factors (job autonomy, participative leadership, and perceived support for innovation) influence the innovative work behaviour of managers working in the Indian cultural context. If the selected variables are found to predict innovative work behaviour in the Indian context, organizations which have adopted innovation as a strategy, can leverage these factors with a view to bring about innovative work behaviour.

- 2) Several researchers including Van de Ven (1986) and Amabile (1985) emphasize the need for motivating employees for innovation. As the very survival, growth, and profitability of many organizations depend on innovation, it is beneficial to examine whether the achievement motive of managers and their innovative work behaviour are positively related. If they are related, organizations can stimulate the achievement motive of managers which, in turn, may lead to innovative work behaviour of managers.
- 3) Many practicing managers and organizational scientists have observed that it is not easy to motivate managers to take risks for initiating and implementing novel ideas. This study may reveal how managers' tendency to take risks is determined by their underlying motive disposition. If managers' innovative work behaviour is indeed correlated to their achievement motive, then organizations can identify the motive disposition of individual managers, assign them innovation related key result areas, formulate and implement specific strategies to encourage risk taking and create organizational systems and practices to insulate managers with high achievement motive from the potential adverse effects of risk taking and failures.

- 4) Predictors of innovative work behaviour at the organizational level may not have a uniform impact on managers' innovative work behaviour. A manager with high achievement motive may not respond to a contextual predictor, say, job autonomy, in the same manner as a manager with low achievement motive. Identifying the relationships among the contextual predictors, achievement motive, and innovative work behaviour of managers may enable organizations to align the work behaviour of all managers with the strategy of the organization.
- 5) Demographic variables such as age, education, and years of work experience may influence a manager's disposition to engage in innovative work behaviour. Ascertaining the influence of demographic variables on innovative work behaviour of managers in the Indian context may enable organizations to focus their HR policies and HR practices with a view to align the work behaviour of managers with the innovation strategies of the organizations.

## 1.6 Outline and Organization of the Thesis

This thesis is focused on the strategic Human Resource factors which influence innovative work behaviour of managers. The basic endeavor in this thesis is to examine whether the selected strategic HR factors - job autonomy, participative leadership, perceived support for innovation, and achievement motive - predict innovative work behaviour of managers in the Indian context. The following chapters of this thesis are organized as follows:

In Chapter two, a review of literature on innovation, innovative work behaviour, achievement motive, job autonomy, participative leadership, and perceived support for innovation is presented. Chapter two also presents the development of the hypotheses of this study.

Chapter three presents the research methodology of the study. Chapter three discusses the objectives, hypotheses, scope, research design, sample design, and data collection of the study. Reliability and validity of the scales as well as the details of the distribution of the data are discussed in chapter three.

In Chapter four, the demographic profile of the respondents is presented. In chapter four, the relationship between each demographic variable and innovative work behaviour, the dependent variable, is tested by ANOVA and the results are discussed. Chapter four also presents the descriptive statistics and the correlations among the variables of this study.

Chapter five begins an overview of Partial Least Squares (PLS) Structural Equation Modeling (SEM) which is used for hypotheses testing as well as for assessing the fit of the research model of this study. Then, the analysis of the measurement model of this study is presented, followed by an analysis of the research model of this study which includes the model fit indices.

Chapter six begins with a summary of the results of the tests of hypotheses. Then, the results of tests of hypotheses are presented one by one, followed by detailed discussions of the theoretical and managerial implications of the findings.

Chapter seven presents the summary and conclusion of the study and discusses the scope for future research.

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**REVIEW OF LITERATURE**

- 2.1 Innovation**
- 2.2 Innovative Work Behaviour**
- 2.3 Job Autonomy as a Predictor of Innovative Work Behaviour**
- 2.4 Participative Leadership as a Predictor of Innovative Work Behaviour**
- 2.5 Perceived Support for Innovation as a Predictor of Innovative Work Behaviour**
- 2.6 Motivation as a Predictor of Creativity and Innovative**
- 2.7 Achievement Motive as an Antecedent of Innovative Work Behaviour**
- 2.8 Development of Hypotheses**



## 2.1 Innovation

Organizations adopt different strategies such as cost reduction and innovation to survive, grow and to make profits. Many researchers point out that innovation is a key strategy for the success of organizations. Kuczarski (1996) argues that innovation is the single most important factor in the future growth of any business venture. Leafy and Charan (2008) state that innovation is key to short term as well as long term success of businesses.

### 2.1.1 Definitions of Innovation

Unsworth and Parker (2003, p.8) define innovation as the “process of engaging in behaviours designed to generate and implement new ideas, processes, products and services, regardless of the ultimate success of these new phenomena.” Van de Ven (1986, p.590) defines innovation as “the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order”. Kuczarski (1996) defines innovation as “a mindset, a pervasive attitude, or a way of thinking focused beyond the present into the future”. Katila and Chen (2008, p.594) conceptualize innovation as “... the problem-solving process in which organizations manipulate knowledge to create new products...” Leafy and Charan (2008, p.21) define innovation as “the conversion of a new idea into revenues and profits”.

According to Oslo Manual (OECD/Eurostat, 2005) “An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”.

The Australian Department of Innovation, Science and Tourism (cited in Carney & Ryan, 2010, p.5) defines firm level innovation as “the application

of ideas that are new to the firm, whether the new ideas are embodied in products, processes, services or in work organization, management or marketing systems”.

### **2.1.2 Creativity vs. Innovation**

Amabile, Barsade, Mueller, and Staw (2005, p.368) define creativity “...as the production of novel, useful ideas or problem solutions. It refers to both the process of idea generation or problem solving and the actual idea or solution”. Amabile (1998, p.18) has been of the view that “within every individual, creativity is a function of three components: expertise, creative-thinking, and motivation.” Amabile (1998, p.19) also delineated six practices whereby management can enhance creativity: “...challenge, freedom, resources, work-group features, supervisory encouragement, and organizational support”. In agreement with the position of researchers such as Kanter (1983), Mumford and Gustafson (1988) and Unsworth and Clegg (2001), Unsworth and Parker (2003, p.7) describe creativity as new idea generation as distinct from innovation which involves generation as well as implementation of new ideas. Researchers generally agree that creativity denotes generation of novel ideas whereas innovation comprises of both generation as well as implementation of novel ideas.

### **Creativity and Emotions**

Several researchers have identified that creativity and emotions (affect) are correlated. According to Amabile et al. (2005, p.367), creativity results from the interaction of cognitive processes and emotional experiences. Creativity which involves the generation of new ideas is not purely an intellectual activity. Cognition and emotions interact to create novel ideas.

### 2.1.3 The Process of Innovation

Tang (1998, p.299) discusses the various models which explain the process of innovation in organizations, including stage models which are divided into 'creative problem-solving' models and 'new-product development' models. Creative problem solving models envisage the innovation process as having the following stages, each of which splits into either 'divergent thinking phase' or 'convergent thinking phase': "fact finding, problem finding, idea finding, solution finding, and acceptance finding". For Tang (1998, p.299), the new product development model consists of the following processes each of which has distinct stages: "...the development funnel (Wheelwright and Clark, 1995), product innovation process (Crawford, 1994), stage-gate process (Cooper, 1993), and the invention-exploitation (Roberts, 1988)".

Drawing from Schroeder, Van de Ven, Scudder and Polley (1989), Scott and Bruce (1994, p.582) argue that "since innovation is actually characterized by discontinuous activities rather than discrete, sequential stages, ... individuals can be expected to be involved in any combinations of these behaviours at any one time."

Ahmed (1998, p.30) argues that there are three distinct but iterative phases in the process of innovation. These phases which could often occur concomitantly have been delineated as: a) idea generation stage, b) structured methodology stage which comprises of stage-gate arrangements where new ideas are tested for their practicality and fit with the strategies of the organization, and c) the commercialization stage.

In line with Rogers (1981), Van de Ven (1986, p.590) considers the concept of diffusion as a stage in the innovation process. Oslo Manual (OECD/Eurostat, 2005) defines diffusion as "the spread of innovations through market or non-market channels from first implementation anywhere

in the world to other countries and regions and to other markets and firms. The diffusion process often involves more than the mere adoption of knowledge and technology, as adopting enterprises learn from and build on the new knowledge and technology. Through the diffusion process, innovations may change and supply feedback to the original innovator”.

#### 2.1.4 Levels of Analysis of Innovation

Innovation can be studied at several levels: individual level, firm level, industry level, or national level. Schumpeter, has delineated innovation at the individual level, firm level, industry level, national level, and at the international level. Hagedoorn (1996, p.885) discusses Schumpeter’s (1934) theory of innovation and states that the fundamental tenets of Schumpeter’s concept of innovation are available in his economic principle of the ‘circular flow’. Schumpeter found that companies continuously adapted to minor changes in their external environment through routine activities. This results in ‘routine’ economic development of companies. Schumpeter contrasts this with ‘dynamic economic development’. In this context, Schumpeter introduced the concept of ‘new combinations’. Hagedoorn (1996) delineates the dimensions of new combinations which Schumpeter envisaged:

These new combinations refer to the introduction of a new product, or a new quality of a product, a new method of production, a new market, a new source of supply of raw materials, or half-manufactured goods and finally implementing the new organization of any industry (pp. 885-886).

For Schumpeter, innovations have the power to break the ‘general equilibrium’ (Hagedoorn, 1996, p.885) in an economy as well as to radically alter competition in domestic and international markets (p.892).

Siegel and Kaemmerer (1978, p.554) discuss innovation at the organization level and define an innovative organization as “...one that fosters the creative functioning of its members.” While discussing innovation at the organizational level, Tang (1998, p.302) endorses the contention by Prahalad and Hamel (1990) who argued that organizations need to identify and leverage their core competencies with a view to develop new products for customers and to develop new markets.

### 2.1.5 Types of Innovation

Rogers (1998, p.6-7) refers to the types of innovation which has been delineated by the OSLO manual: technological product innovation, technological process innovation, TPP innovation which includes both product and process innovations, and organizational innovation which has been defined as “...the introduction of new or improved organizational structures, management techniques or strategies” (Rogers, 1998, p.7).

IfM and IBM (cited in Wooder & Baker, 2012, p.) conceptualize a service innovation as “a combination of technology innovation, business model innovation, social-organizational innovation, and demand innovation, with the objective of improving existing services (incremental innovation), creating new value propositions (offerings) or creating new service systems (radical or transformational innovation)”.

Garcia and Calantone (2002) distinguish radical, incremental and really new innovations:

Radical innovations are innovations that cause marketing *and* technological discontinuities on *both* at macro *and* micro level. Incremental innovations occur only at micro level and cause either a marketing *or* technological discontinuity but *not* both. Really new innovations cover the combinations in between these two extremes (p.120).

### 2.1.6 Measurement of Innovation at the Firm Level

Innovation can be measured using several indicators. For instance, Rogers (1998) distinguishes the output measures of innovation from the input measures of innovation. For Rogers (1998), the output measures of innovation include ‘...profits, revenue growth, share performance, market capitalization, productivity’..., ‘...number of new or improved products introduced’(p.10) ... and ‘...intellectual property statistics such as patents, trademarks, and designs...’ (p.11). Rogers (1998, p.17) includes the following indicators in the category of input measures of innovation: ‘R & D’, ‘intellectual property statistics’, ‘acquisition of technology from others (e.g. patents, licenses)’, ‘expenditure on tooling-up, industrial engineering, and manufacturing start-up associated with new products/processes’, ‘intangible assets’, ‘marketing expenditure towards new product development’, ‘training expenditure relating new/changed products/ processes’, and ‘managerial and organizational change’. Rogers (1998, p.21) argues that although each of the separate measures of innovation has validity to some extent, none of them can be a complete measure of innovation independently. Rogers argues that combining various measures of innovation will give a better picture of innovation in an organization.

### 2.1.7 Risk, Failure, and Innovation

Dewett (2007, p.199) defines risk, in line with the conceptualization of Sitkin and Pablo, (1992), as “...the extent to which there is uncertainty about whether potentially significant and/or disappointing outcomes of decisions will be realized given creative efforts.” Several researchers consider risks and potential failure as indispensable elements of innovation. For instance, Van de Ven (1986, p.192) illustrate the concept of ‘mistakes’ by explaining that only some novel ideas gain acceptance for implementation within the firm, and that the ultimate success or failure of an innovative idea

can be ascertained only on completion of its implementation. However, researchers also point out that risk taking behaviour is a prerequisite for achieving creativity and innovation. In this context, Shalley and Gilson (2004, p.37) argue that in order to stimulate creativity among employees, managers must foster risk taking behaviour among the employees.

### 2.1.8 Management of Innovation

Some researchers (e.g. Van de Ven, 1986, p.596) are of the opinion that large organizations, with rigid structures and systems, which have been successful, have a tendency to stifle innovations. Researchers (e.g. Chakrabarti, 1974, p.58) also argue that big firms are risk averse and are focused on maintaining the status quo rather than encouraging innovation. Prahalad and Krishnan (2008) point out that social as well as technological legacies of an organization hinder innovation. Khandwalla (2006) argues that employees who are contended with the status quo tend to resist innovations due to the fear of being made redundant.

From this perspective, some researchers (Tang, 1998) doubt whether large bureaucratic organizations can ‘manage’ innovations, i.e. whether it is feasible to stimulate innovations by creating structures, policies, procedures, and practices because innovations, by definition, call for flexibility and divergence in thinking which strict structures and procedures may not permit. For instance, Tang (1998, p.299) states that “... the screen and algorithmic approach implicit in these product development models manifests the motive of organizations to make product development repeatable, predictable, and controllable.” Based on the findings of Galbraith (1982), Tang (1998, p.299) argues that “if taken to extreme, it is an antithesis of the innovation mindset.” Although creativity thinking and problem solving are skills that can be developed in people through training, there is no uniform method

which has universal application to various work settings (Brown, 1991, cited by Tang, 1998, p.298).

Drucker points out the reasons why organizations must manage innovations: “Some innovations spring from a flash of genius, but most innovations result from a conscious, purposeful search for opportunities. Entrepreneurship should be based on purposeful innovation” (Drucker, 1985). Khandwalla (2006) argues that a mindset conducive to innovation must permeate the entire organization, irrespective of the levels or functions.

## 2.2 Innovative Work Behaviour

Several researchers have examined innovation at the individual level, i.e. the innovative behaviour of individual employees at work, within the context of organizations. Researchers have used several related constructs such as creativity, innovation, innovativeness, individual innovative behaviour, innovative job performance, and innovative work behaviour, often interchangeably, to denote innovative behaviour of individuals at work within organizations. Some of these constructs and the details of researchers who have examined these constructs are given below:

- 1) Creativity (Amabile et al., 2005; Atwater & Carmeli, 2009; Grant & Berry, 2011; Liu & Chen, 2012; Scott & Bruce, 1994; Shalley & Gilson, 2004).
- 2) Innovation (Gebert et al., 2003; Scott & Bruce, 1994; Unsworth & Parker, 2003).
- 3) Innovativeness (Amabile, 1985; Martin, Salanova and Peiro, 2007).
- 4) Individual innovative behaviour (Mura et al., 2012; Scott & Bruce, 1994; Shih & Susanto, 2011).



- 5) Innovative job performance (Janssen and Van Yperen, 2004).
- 6) Innovative work behaviour (Agarwal et al., 2012; De Jong & Den Hartog, 2008; De Spiegelaere, Van Gyes, Vandekerckhove, & Van Hootegem, 2012; Dincer, Gencer, Orhan and Sahinbas, 2011; Mura et al., 2012; Ojedokun, 2012; Ramamoorthy, Flood, Slattery and Sardesai, 2005; Sanders, Moorkamp, Torka, Groeneveld and Groeneveld, 2010); Shih & Susanto, 2011).

All these terms denote the generation, promotion, and implementation of new ideas by individual employees within organizational settings. Recent research in this area have increasingly been focused on the construct of innovative work behaviour (IWB). In this study, the focus is on innovative work behaviour (IWB).

### **2.2.1 Significance of Innovative Work Behaviour**

The premise that it is individuals who generate and implement innovative ideas in organizations forms the foundation of all studies on innovative work behaviour. Parzefall, Seeck and Leppanen (2008, p.179) argue, in line with the finding of Florida (2002) that the potential for creativity as well as innovativeness is inherent in every person. Shalley and Gilson (2004, p.33) argue, drawing from the findings of Amabile (1998), that creativity of individuals is the source from which creativity and innovation at organizational level originates. Mura et al. (2012, p.2) define innovation as "...the process of creating new knowledge and embedding it into products and practices". As knowledge always originates from individuals, Mura et al. (2012) consider it significant to study individual innovative behavior.

### 2.2.2 Definitions of Innovative Work Behaviour

Mura et al. (2012, p.2) define innovative work behavior as “individuals’ behavior aiming at introducing new and useful ideas, processes, and products in their work environment”. Carmeli, Meitar and Weisberg (2006) define innovative behavior as:

A multiple-stage process in which an individual recognizes a problem for which she or he generates new (novel or adopted) ideas and solutions, works to promote and build support for them, and produces an applicable prototype or model for the use and benefit of the organization or parts within it (p.78).

Farr and Ford (1990) define Innovative Work Behaviour as “...an individual’s behaviour that aims to achieve the initiation and intentional introduction (within a work role, group, or organization) of new and useful ideas, processes, products, or procedures” (cited in De Jong & Den Hartog, 2008, p.5).

### 2.2.3 Dimensions of Innovative Work Behaviour

Van der Vegt and Janssen (2003) propose that “individual innovative behavior in the workplace” (p.730) is composed of three separate behaviours: “idea generation, idea promotion, and idea realization” (p.731). Based on Kanter’s (1988) findings, Scott and Bruce (1994), delineate three dimensions of innovative work behavior: “idea generation, championing, and implementation of the innovation” (cited by De Spiegelaere et al., 2012, p.5). De Jong and Den Hartog (2008, p.6) describe how, drawing on Kanter (1988), Scott and Bruce (1994) delineated three phases of innovative work behavior: “...idea generation, coalition building, and implementation”.

## Idea Generation

Idea generation is the first phase of innovative work behaviour. Researchers (Mura et al., 2012; Van de Ven, 1986) generally agree that new ideas are generated by individuals. Researchers have generally considered idea generation as the first phase of innovative work behaviour and have associated idea generation with creativity. While explaining the componential model of creativity, Amabile (1985) points out that creativity-relevant skills is an essential component of creativity. Amabile et al. (2005) have found that generation of new ideas within an organization is not merely a cognitive process. Affect or emotions of individuals also play a key role in facilitating generation of new and useful ideas. Grant and Berry (2011) found that positive emotions, cognitive flexibility, risk taking, and persistence are correlated to creativity.

Drucker (1985) has delineated seven sources of ideas for innovative opportunities which organizations can leverage with a view to bring about innovations: the unexpected, the incongruity, innovation based on process need, changes in industry and market structure, changes in demographics, changes in perception, meaning and mood, and new knowledge.

Iwamura and Jog (1991) argue that management of idea generation process distinguish innovators from non-innovators. Innovators manage the idea generation process in the following manner: “they employ a variety of idea sources, both internal and external; they assign a specific person or group to be in charge of developing new ideas; they encourage employees at all levels to generate new ideas; they use a variety of innovative techniques to stimulate creativity; they reward their employees by non-monetary means; and they encourage group-level participation in evaluation decisions”.

## Championing

Championing is the second phase of innovative work behaviour. Chakrabarti (1974, p.58) argues that for acceptance and successful implementation, new ideas must be nurtured. A product champion gets the management of a firm to get interested in the innovative idea, accept it, and facilitate its implementation. Chakrabarti (1974) cites the definition of a product champion given in a study by the Materials Advisory Board as:

An individual who is intensely interested in and involved with the overall objectives and goals of the project and who plays a dominant role in many of the research-engineering interaction events through some of the stages, overcoming technical and organizational obstacles and pulling the effort through its final achievement by the sheer force of his will and energy (p.58).

Basing his argument of the finding of Donald Schon, Chakrabarti (1974, p.58) states that product champions are indispensable for innovation in big organizations because such corporates are averse to risks and are programmed to keep the status quo. Chakrabarti (1974, p.58-59) argues that “the champion goes beyond his formal organizational role, over the hierarchical chain, to where positive decision-making is possible.”

Chakrabarti (1974, p.59) cites the results of an empirical study involving 45 instances of development of new products where it was found that the product champion played a key role in the successful development of the new product. Based on case studies, Chakrabarti (1974) argues that the champion’s role is significant because it was found that the top management’s involvement has been correlated to the successful adoption of innovations by organizations and it has been the role of the champions to

obtain the support of the top management. Chakrabarti (1974, p.61) also enumerates the qualities of an effective product champion: technical competence, knowledge of the organization, knowledge about the market, drive, and political acumen.

### **Idea Implementation**

De Brentani and Reid (2012) point out that incremental innovations are managed by organizations (top down) while discontinuous innovations are dependent on the individuals operating at three strategic interfaces in the new product development process. De Brentani and Reid (2012, p.70) define the “time and activity prior to an organization’s first screen of a new product idea” as the ‘fuzzy front-end (FFF)’ of the new product development process (NPD). They argue that the fuzzy front-end determines the success of discontinuous innovations.

De Brentani and Reid (2012) describe three decision-making interfaces through which information flows: ‘boundary interface’, ‘gatekeeping interface’, and ‘project interface’. Boundary spanning individuals scout for new ideas in the environment, gatekeepers evaluate the utility of the new idea to the organization and individuals at the project interface (project brokers, i.e., senior managers) decide whether the new idea will bring any strategic benefit to the organization. Brentani and Reid (2012) argue that in the case of discontinuous innovations, involvement of the organization in the implementation of new ideas is dependent on the discretion of the individuals at the three interfaces.

The insights into the fuzzy front-end of new product development process elaborated by De Brentani and Reid (2012) indicates the crucial role innovative work behaviour of managers has in bringing about discontinuous innovations.

### 2.2.4 Measurement of Innovation at the Individual Level

Researchers have been using several measures for assessing creativity and innovation at the individual level. While discussing the evolution of the constructs of creativity and innovation, Tang (1998, p.298) explains how early research on creativity tried to identify the personality traits of creative people. Atwater and Carmeli (2009, p.265) discuss Amabile's (1992) contention that up to early 1980s, researchers were focused on the "...background, personality traits, and work style of creative people..." ignoring the contribution of the work environment to facilitate innovative or creative behavior of employees. Prominent among the early scales for measuring individual innovation are: the Innovativeness Scale developed by Hurt, Joseph and Cook; Kirton Adaption-Innovation Inventory; and Work Preference Inventory developed by Amabile (cited in Amabile, Hill, Hennessey, & Tighe, 1994).

#### 2.2.4.1 The Innovativeness Scale

The Innovativeness Scale introduced by Hurt, Joseph and Cook to measure individual innovativeness in terms of willingness to change, has been used by some researchers. Initially made for use in the area of communication, subsequently this scale has been used in fields such as education marketing and in the measurement of innovativeness in general. Hurt et al. place individuals into the following categories based on the level of their innovativeness: "innovators, early adopters, early majority, late majority, and laggards."

#### 2.2.4.2 Kirton Adaption-Innovation Inventory (KAI)

Tang (1998, p.298) discusses the work of Kirton (1989) and explains how Kirton Adaption-Innovation Inventory (KAI) facilitated self-assessment of one's preference for 'doing the same things better' vs. 'doing things

differently.’ Janssen, de Vries and Cozijnsen (1998, p.947) explain Kirton’s Adaption-Innovation theory (1976, 1980) which is based on the premise that there are variations between individuals in their cognitive functioning with reference to generation of creative ideas, finding solutions to problems, and making decisions. According to Kirton’s theory, cognitive styles of people can vary from adaption to innovation. Janssen et al. (1998, p.948) point out that Kirton’s Adaption-Innovation Inventory (1976) measures the following dimensions of personality: “originality, efficiency, and conformity”.

#### **2.2.4.3 Work Preference Inventory (WPI)**

The Work Preference Inventory (WPI), developed by Amabile (cited in Amabile et al., 1994) measures people’s intrinsic as well as extrinsic motivation aimed at solving problems and engaging in innovative activities.

#### **2.2.4.4 Recent Measures of Innovative Work Behaviour**

Measures of innovation which have been developed recently focus on innovative behaviour of individuals at the organizational level. Innovative Behaviour Scale developed by Janssen (2000, 2001) cited by Janssen and Van Yperen (2004), and the Innovative Work Behaviour Scale developed by de Jong and Den Hartog (2008) belong to this category.

#### **2.2.5 Research Findings on Innovative Work Behaviour**

Researchers have identified several factors that predict creative and innovative behaviour at the individual level. Chakrabarti (1974, p.62) suggests that organizations need to identify and train potential product champions who would make innovations possible. Amabile (1985, p.394) discusses the three components of the componential theory of creativity which she proposed in 1983: “domain-relevant skills, creativity-relevant skills, and task motivation”. While discussing Amabile’s (1983) Componential model of creativity, Tang (1998, p.298) endorses Amabile’s stance that in

order to enhance creativity, organizations must strive to enhance all three components of creativity.

Van de Ven (1986, p.591) whose team conducted the Minnesota Innovation Research program has delineated “four central problems in the management of innovation” in organizations. The first problem relates to the human limitation involving management of attention. The second problem pertains to the organizational process of obtaining acceptance for new ideas from the organization. The third problem relates to the structural issue of dealing with part-whole relationship. The fourth problem is strategic and is concerned with the leadership of the organization. Van de Ven (1986, p.596) highlights the significant role which leadership can play in the management of innovation in organizations by enabling and empowering members to focus on non-routine issues. Van de Ven (1986, p.596) also argues that enabling members to come into direct contact with ‘problem sources’ (e.g., ‘most demanding customers’) will help them to manage the attention of people and to motivate them to generate innovative solutions. Van de Ven (1986, p.597) also discusses the relative significance of “single loop” and “double loop” learning models for managing innovation.

Spector (1986) conducted a meta-analysis of 88 research studies (p.1007) on autonomy and participation at work. Spector (1986, p.1013) found that higher levels of autonomy and participation result in positive outcomes such as satisfaction, commitment, involvement, motivation as well as absence of undesirable outcomes such as stress, lack of goal clarity, conflict, and the intention to quit. Hofmann, Morgeson and Gerras (2003, p.171) state that subordinates who experience high-quality relationships with their leaders, voluntarily display extra-role behaviours and demonstrate citizenship behaviours, beyond their formal job descriptions. Hofmann et al. (2003, p.175) examined safety climate as an example and found that



“...organizational climate acted as a contextual moderator of the relationship between LMX and safety citizenship role definitions.”

Gebert et al. (2003, p.41) point out that there is a broad consensus in the literature that innovative organizations are characterized by decentralization which implies greater autonomy to employees, and participative leadership. Gebert et al. (2003) define ‘situation control’ as:

The degree of perceived susceptibility of a situation to change, i.e., the extent to which members of the organization believe they can contribute directly by their own action or indirectly by actualizing the resources of others to the innovative improvement of the situation (p.42).

Gebert et al. (2003, p.43) describe how perceived ‘situation control’ can enhance innovativeness: “if a situation is perceived as susceptible to change, there is greater tendency to perceive it as needing change.” However, Gebert et al. (2003, p.44-45) suggest that organizations must control the negative effects of giving increased ‘situation control’ to employees by the process of integration comprising of orientation (about the strategic direction of the firm), consensus, and trust. Gebert et al. (2003, p.47-48) argue that while giving increased ‘situation control’ which implies greater autonomy to employees to develop and innovative ideas, organizations should maintain an optimum balance between too little situation control, which causes innovative ideas to fizzle out, and too much situation control which have the potential to destabilize the organization.

Van der Vegt and Janssen (2003, p.745) found that non-routine jobs, flexibility, and group diversity characterized by “high perceived task and goal interdependence” fostered innovative work behaviour. Van der Vegt and Janssen (2003, p.746) argue that in heterogeneous groups with high

perceived goal interdependence and high task interdependence, there is a high potential for exchange of information and for the development of an environment which can stimulate learning. Van der Vegt and Janssen (2003, p.746) describe their finding as supportive of the “social psychological perspective of individual innovation”. Van der Vegt and Janssen (2003, p.747) also argue that demographic differences which result in heterogeneity in knowledge, skills as well as values have the potential to generate “individual innovative behavior in work teams”.

Janssen and Van Yperen (2004) studied the mediating role of leader-member exchange on the relationship between achievement goal orientations (only mastery approach and performance approach goal orientations, p.369) of employees and outcomes such as job satisfaction and job performance (in-role as well as innovative work performance). Janssen and Van Yperen (2004, p.372 and p.380) found that unlike performance oriented employees, mastery oriented employees received autonomy, support, and resources from superiors which enabled them to demonstrate innovative job performance.

Shalley and Gilson (2004, p.35) discuss the determinants of creativity at the individual level: “...personality factors, cognitive style and ability, relevant task domain expertise, motivation, and social and contextual influences”. Shalley and Gilson (2004, p.37) suggest that a manager desirous of enhancing the creativity of his/her employees, can do so by hiring employees who are creative, matching creative employees to jobs that require creativity, or by making organizational context conducive to creativity.

In a study conducted among 175 employees from six organizations in Israel (2 from the public sector and 4 from the for-profit sector), Carmeli et al. (2006, p.80-81) found a positive relationship between self-leadership

skills and innovative work behavior (p.85). Based on the work of Manz (1992), Carmeli et al. (2006, p.76) define self-leadership as “...an influence-related process through which individuals (and working groups) navigate, motivate, and lead themselves towards achieving desired behaviours and outcomes”.

Martin et al. (2007) made an exploratory study on the Job Demands Resources Model – a model used for research in the field of occupational stress – to ascertain whether this model can explain innovative work behavior as a strategy to actively cope with stress. Martin et al. (2007, p.625) found that job demands do not influence innovative behavior directly; however, “a positive relationship between job demands and individual innovation emerges in those situations characterized by high resources.” Martin et al. (2007, p.625) further argue that “...workers cope with external job demands through the introduction of new and improved ways of doing things, depending on the level of job resources that they possess.”

In agreement with the findings of Amabile et al. (1996), Parzefall et al. (2008, p.179) argue that a supportive work environment can foster innovativeness.

De Jong and den Hartog (2010, p.33) conceptualized innovative work behaviour “...as having four related dimensions, namely the exploration, generation, championing, and implementation of ideas”. However, de Jong and den Hartog’s (2010, p.33) study revealed that these four dimensions have weak distinctiveness which led them to conclude, in line with Janssen’s (2000) finding, that innovative work behaviour may be a one-dimensional construct, the dimensions of which add up to generate an overall score of innovative work behaviour.

Piccolo, Greenbaum, Den Hartog, and Folger (2010, p.271) found that by permitting employees to participate in decision making in the organization, by stimulating ethical behavior through rewards, and infusing moral values into routine business decisions and activities, ethical leaders can enhance autonomy and significance of jobs. Autonomy and significance of jobs, in turn, can lead to greater efforts, citizenship behaviours, and better performance.

Dincer et al. (2011) conducted a study among middle level managers working in the retail sector in Turkey and found positive correlation between Emotional Intelligence (EI) and Innovative Work Behavior of managers. Salovey and Mayer (1990), cited by Dincer et al. (2011, p.910), define emotional intelligence as "... the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions". Dincer et al. (2011, p.910) also describe the four components of emotional intelligence: "...self-awareness, self-regulation, motivation and empathy."

For Grant and Berry (2011, p.91), contact with others who are beneficiaries of an organization's products and services, and the resultant 'prosocial motivation', and 'perspective taking' will moderate the relationship between the intrinsic motivation and creativity of employees, leading to generation of products and services which are useful to customers.

In a research study conducted among 979 private sector managers working in the service sector, Agarwal et al. (2012, p.221) arrived at the following findings: a) work engagement of employees is influenced by the 'quality of exchanges' employees have with their immediate supervisor; b) there is a positive relationship between work engagement and innovative

work behavior; and c) "...work engagement mediates the relationship between LMX and innovative work behavior". In line with the findings of Schaufeli and Bakker (2004), Agarwal et al. (2012, p.209) define work engagement as "...cognitive-affective motivation at work, characterized by vigor, dedication, and absorption". Agarwal et al. (2012, p.211) state that Job resources can be located at various levels: at the task level (e.g. autonomy), at the work organization level (e.g. participation in making decisions), at the interpersonal as well as social relations level (e.g. support of supervisors; team climate), and at organizational level. Agarwal et al. (2012, p.211) argue that immediate superiors, being custodians of job resources, make employees' achievement of job demands feasible.

Sanders et al. (2010) conducted a study on the relationship between leader-member exchange and innovative behavior among 272 employees of four technical organizations (one Dutch and three German organizations) (p.61). For Sanders et al. (2010, p.60), leader-member exchange denotes high quality relationship between superiors and subordinates as opposed to formal relationships based on the written contract of employment. Sanders et al. (2010, p.60) delineate four HR practices: 'employee influence' which they defined as "...a process that allows employees to exercise influence over their work and the conditions under which they work", 'HR flow', 'rewards', and 'work systems'. Sanders et al. (2010, p.65) found positive correlations between leader-member exchange and Innovative Work Behaviour; there was positive correlation also between satisfaction with HR practices and Innovative Work Behavior. Sanders et al. (2010, p.65) also found that satisfaction with HR practices (specifically satisfaction with 'influence' and 'work content') mediates the relationship between leader-member exchange and innovative behavior.

Ojedokun (2012) conducted a study on innovative work behaviour among 185 bank employees working in Nigeria. The results indicated that there is a significant relationship between the extent of fairness that employees perceive from seniors and peers in their organization and the innovative work behaviour of employees. This study also revealed a significant relationship between organization-based self-esteem and innovative work behaviour of employees. (Ojedokun, 2012, p.133).

Mura et al. (2012) conducted a study on the relationship between intellectual capital and innovative work behavior among 135 employees working in three healthcare organizations located in Italy. Mura et al. (2012, p.2) defined intellectual capital as the "...sum of all knowledge that organizations utilize for competitive advantage". Intellectual capital has three dimensions which are related: 'human capital', 'organizational capital', and 'social capital'. Mura et al. (2012, p.8) found that intellectual capital and innovative work behavior are not directly related but knowledge sharing mediates their relationship. In the context of healthcare, Mura et al. (2012, p.3) define knowledge sharing as the "...deliberate action in which health practitioners diffuse relevant information to others across and outside the organization." Mura et al. (2012) highlight that there is 'asymmetry' in knowledge possessed by the managers and the practitioners in the healthcare settings (p.3) and that 'tacit knowledge' is more difficult to share than 'explicit knowledge'(p.4). Based on their findings, Mura et al. (2012, p.8) argue that knowledge management, specifically, knowledge sharing, can facilitate innovative work behavior in healthcare settings.

A study by De Spiegelaere et al. (2012, p.16) revealed that two variables associated with job control, namely, 'organizing tasks' as well as 'learning opportunities' had positive correlation with work engagement as well as with innovative work behavior. Further, they also found that job

demands variables such as ‘emotional pressure’ as well as ‘time pressure’ had a negative relationship with work engagement although these variables had a mixed relationship with innovative work behavior. De Spiegelaere et al. (2012, p.17) identified two types of triggers for innovative work behaviours: a) high job control and high motivation, and b) lack of job control along with high job demands. De Spiegelaere et al. (2012, p.17) argue that high job control and high motivation can trigger higher levels of innovative work behavior.

### **2.2.6 Individual Level vs. Contextual Predictors of Innovative Work Behaviour**

Some researchers have classified various predictors of IWB, which have emerged from research, into certain categories. Scott and Bruce (1994, p.582) classify the various predictors of innovative work behaviour and related constructs into four systems, namely “...individual, leader, work group, and climate for innovation” and argue that these systems interact to generate individual innovative behavior.

Dewett (2007, p.198) distinguishes between two types of the antecedents of creativity: “contextual and individual difference variables”. Unsworth and Parker (2003, p.23) identify the contextual variables that can stimulate innovation: a) “Task and work design” which includes autonomy, b) ‘social characteristics’ which include leadership, and c) ‘organizational characteristics’ which include climate as well as culture.

The review of literature indicates that of all the contextual predictors of Innovative Work Behaviour, job autonomy, leadership, and perceived support for innovation have been considered among the most important predictors by several researchers (Amabile, 1998; Scott & Bruce, 1994; Unsworth & Parker, 2003).

Accordingly, three contextual variables, namely job autonomy, participative leadership, and perceived support for innovation have been chosen as the independent variables for the purposes of this study, to ascertain whether these variables predict Innovative Work Behaviour in the Indian context. The following three sections (2.3 job autonomy, 2.4 participative leadership, and 2.5 perceived support for innovation) deal with these contextual variables which form the independent variables of this study.

The review of literature also indicates that among all the individual difference variables, motivation has been considered among the most significant predictor of creativity, innovation, and Innovative Work Behaviour. Further, several studies have considered motivation as the intervening variable between the predictor variables and creativity, innovation, and Innovative Work Behaviour. Section 2.6 presents an overview of the literature on motivation in general, and intrinsic motivation specifically, as a predictor of creativity and IWB. Section 2.7 deals with the construct of achievement motive. Section 2.8 presents the development of the hypotheses of this study.

### **2.3 Job Autonomy as a Predictor of Innovative Work Behaviour**

Many researchers have pointed out that several positive organizational outcomes result from giving job autonomy to employees strategically. For instance, a study conducted by Langfred and Moye (2004, p.939-940) revealed that it is desirable to give task autonomy to employees engaged in jobs that are low in interdependence and high in task variability. However, it is not desirable to give autonomy to employees engaged in jobs that are high in interdependence and are low in task variability.



### 2.3.1 Definitions of Job Autonomy

Oldham and Hackman (2010, p.4) define autonomy as "...the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedure to be used in carrying it out..." Deci and Vansteenkiste (cited in Schuler, Sheldon and Frohlich, 2010, p.10) describe autonomy as "...the individual's need to experience self-determination and self-governance rather than feeling governed by others".

Karasek (cited in Martin et al., 2007, p.622) defines job decision latitude as "...the extent to which employees have the potential to control their tasks and conduct throughout the working day." According to Karasek's model, decision latitude neutralizes the negative effect which job demands have on the employees.

### 2.3.2 Types of Autonomy

Ahmed (1998, p.41) distinguishes between two types of autonomy: a) 'strategic autonomy' whereby an employee has the flexibility to decide his agenda, and b) 'operational autonomy' which implies that an individual is free to select the course of action for resolving a problem which has been identified and defined by the organization.

### 2.3.3 Difference between Autonomy and Participation

Langfred and Moye (2004, p.934) describe task autonomy as "...giving the individual who performs a task considerable discretion and control in deciding how to carry it out..." Langfred and Moye (2004, p.935) makes a distinction between a job and a task, arguing that a job can include many tasks and each task can be characterized by varying levels of autonomy.

Langfred and Moye (2004, p.935) distinguish task autonomy from participation, and define participation, based on the findings of Evans and Fischer (1992) and Wagner and Gooding (1987), as “...joint decision making among more than one person (usually a job incumbent and a supervisor)”.

### 2.3.4 Autonomy and Motivation

Fukuda, Sakata, & Takeuchi, (2011), who conducted a study among foreign language students in Japan, found that autonomy and relatedness enhanced the intrinsic motivation of foreign language students; specifically, “motivation increases as more learner autonomy skills are achieved through stronger student-teacher communication.”

### 2.3.5 Autonomy in Self-Determination Theory (SDT)

Gagne and Deci (2005, p.331) discuss how Porter and Lowler (1968) propounded the intrinsic as well as extrinsic work motivation theory, based on the Expectancy theory of Victor Vroom (1964). Gagne and Deci (2005, p.331) state that according to Porter and Lowler (1968), work environment should be modified to elicit effective work performance, leading to intrinsic as well as extrinsic motivation, and ultimately to job satisfaction. Gagne and Deci (2005, p.333) explain that the difference between motivation which is ‘autonomous’ vs. ‘controlled’ is most crucial for the Self-Determination Theory. Gagne and Deci (2005, p.334) argue that when people are controlled by extrinsic factors, they act with a view to get a desired result or to avoid an undesirable outcome. According to Gagne and Deci (2005, p.334), “...SDT (*Self-Determination Theory*) posits a controlled-to-autonomous continuum to describe the extent to which an external regulation has been internalized”. Gagne and Deci (2005) further argue that various stages of the continuum from intrinsic motivation to

amotivation are “state-like motivational concepts” which are predicted by:

- 1) Aspects of social environment including both aspects of the job and work climate that can be characterized as autonomy supportive, controlling, or amotivating; and, 2) individual differences in causality orientations, namely autonomous orientation, controlled orientation, and the impersonal orientation, which are more trait-like concepts (p.340).

### **2.3.6 Autonomy in Cognitive Evaluation Theory**

Gagne and Deci (2005, p.332) illustrate the perspective of the Cognitive Evaluation Theory on intrinsic motivation: External aspects including physical rewards, targets, performance monitoring and appraisal, decrease the perceived autonomy (due to extrinsic locus of causality) of employees and diminish their intrinsic motivation. Gagne and Deci (2005) point out that according to the Cognitive Evaluation theory; employees’ perceptions of competence and autonomy are very significant for their intrinsic motivation. Gagne and Deci (2005, p.333) further point out that external factors such as competition, appraisals, and tangible rewards can undermine intrinsic motivation and thereby inhibit “...outcomes such as creativity, cognitive flexibility, and problem solving which have been found to be associated with intrinsic motivation.”

### **2.3.7 Job Autonomy and Innovative Work Behaviour**

Citing Ford and Kleiner (1987), Shalley and Gilson (2004, p.37-38) point out that job autonomy has attracted most attention as a research topic among the five job characteristics, and argue that employees need autonomy with regard to allocation of time or the manner of performance of their work, to explore new ideas and involve in creativity. Drawing from the findings of Deci and Ryan (1987), Langfred and Moye (2004, p.936)

include "... interest, creativity, cognitive flexibility, better learning..." among the positive outcomes of granting autonomy to employees. Parzefall et al. (2008, p.170) discuss the research studies done by Shalley, Gilson, and Blum (2000) and Shalley and Gilson (2004) and argue that among various characteristics of jobs, autonomy has been conferred the highest importance in the domain of innovation research. Gebert et al. (2003, p.42) argue that whenever an employee confronts a situation which calls for initiation of innovative ideas, he/she will perform an evaluation of the situation to ascertain the extent of her "situation control" before deciding on the feasibility of implementing the new idea.

## **2.4 Participative Leadership as a Predictor of Innovative Work Behaviour**

There have been several conceptualizations of leadership including the trait approach, style approach, and contingency approach. Recently, conceptualizations of leadership such as shared leadership (Ulhoi & Muller, 2014) and distributed leadership (Harris & Spillane, 2008) have been capturing the attention of researchers. The construct of participative leadership belongs to the style approach. Participative leadership is a style which leaders adopt and relates to what leaders do, i.e., their behavior (de Jong & den Hartog, 2003, p.31-32).

### **2.4.1 Definition of Participative Leadership**

House (1996, p.327) defines participative leader behavior as "...behavior directed towards encouragement of subordinate influence on decision-making and work unit operations: consulting with subordinates and taking their opinions and suggestions into account when making decisions." Somech (2005, p.778) cites the definition of participative leadership proposed by Koopman and Wierdsma (1998): participative leadership is the "...joint decision making or at least shared influence in decision making

by a superior and his or her employees...” De Jong and Den Hartog (2008, p.10) contend that participative leadership “...involves use of decision-making procedures that allow subordinates influence in important decisions and autonomy to design and guide their own tasks.’ De Jong and Den Hartog (2008, p.10) mention the different types of participative leadership described by Yukl (2002), namely, “...consultation, joint decision-making, and delegation”.

### **2.4.2 Participative Leadership Vs. Other Styles of Leadership**

Participative leadership style has been contrasted with other types of leadership. Based on the work of Fiedler (1989), Sagie (1997), and Stogdill (1974), Somech (2005, p.778) defines directive leadership as “providing the members with a framework for decision making and action in alignment with the leader’s vision”. Bass (1999) distinguishes between transactional leadership which has been described as “...the exchange relationship between leader and follower to meet their own self-interests” (p.10) and transformational leadership described as “...the leader moving the follower beyond immediate self-interest through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration” (p.11).

### **2.4.3 Advantages of Participative Leadership**

Somech (2005, p.778) highlights the advantages of participative leadership: facilitating better decisions, enhancing quality of work life, and augmenting motivation as well as satisfaction of employees. Bell and Mjoli (2014) includes quality of decisions and quality of work life among the advantages of participative leadership.

### **2.4.4 Leadership Styles and Innovative Work Behaviour**

Citing studies by Kanter (1983), Pelz and Andrews (1966), Scott and Bruce (1994, p.584) state that several research studies have been conducted

on the relationship between participative or collaborative leadership and innovation. Several researchers have found a significant relationship between leadership styles of managers and innovative behavior of their subordinates. Shalley and Gilson (2004, p.34) argue that leaders can utilize HR practices to create an organizational context which is conducive to creativity. Drawing from the findings of Kolb (1992), Shalley and Gilson (2004, p.40) argue that leaders can obtain adequate support as well as resources for creativity through ‘public relations and ‘boundary management’ activities. Scott and Bruce (1994, p.584) found that leadership is a crucial dimension of the innovation process. Scott and Bruce (1994) found that Leader-Member Exchange wields influence on innovative behavior through the perceptions the employees have of their organizational climate. Scott and Bruce (1994, p.585) substantiate this influence relying on the findings of Kozlowski and Doherty (1989) who found that for employees, supervisors represent the management; “subordinates tend to generalize their perceptions of supervisors to their organization at large.”

#### **2.4.5 Findings of Research Studies on Participative Leadership**

Wehrich (1979) argued that leaders can use Transactional Analysis (TA) in order to understand as well as to change one’s own behaviour and the behaviour of subordinates. Wehrich (1979, p.3) stated that a participative leader uses the Adult ego state to effectively lead the subordinates.

Yukl (1999, p.35) argues that for participative leadership to be effective, subordinates must be capable, motivated, and ready to participate. Yukl (1999, p.35) enumerates the conditions which leaders can create with a view to make participation successful: “subordinate clarity and agreement about objectives, skills in problem-solving, individual and collective self-efficacy, access to essential information, and cohesiveness and trust among group members”.

Zaccaro, Rittman, & Marks (2001, p.464) point out that participative leadership facilitates combined information processing and helps in generation of more solutions to problems.

Somech (2006) conducted a study among 140 primary health care teams and found that in teams with a high extent of functional heterogeneity, participative leadership enhanced team reflection, which facilitated team innovation. However, it was found that participative leadership did not mediate team heterogeneity and in-role performance (performance of routine tasks). It was found that when team heterogeneity was high, participative leadership lowered in-role performance (Somech, 2006).

Vroom and Jago (2007, p.21) argue that variability in the results of studies which examined the effectiveness of participative leadership “suggests a contingency theory in which the effectiveness of participation is dependent on specific situational variables”. Vroom and Jago (2007, p.21) also point out certain decision rules which managers generally use to respond to situations: “becoming more participative when subordinates possess knowledge or expertise in the domain of the problem or decision than in situations where they do not”.

A study by Sarin and O’Connor (2009) among cross-functional product development teams revealed that:

Participation and goal structuring exert the most significant and ubiquitous influence on the internal dynamics of cross-functional NPD teams...Team leaders need to motivate the members by providing super-ordinate goals and helping set high expectations. But then the team leaders need to trust the team member to perform their job, and leave them alone to figure out the best way to achieve these overarching goals (p.10).

Sarin and O'Connor (2009, p.10-11) also found that participative leadership style facilitates functional conflict resolution, and enhances collaboration, communication, trust, ownership and responsibility among the NPD team members.

Hertzberg and Moen (2010, p.3) define Employee Driven Innovation (EDI) as “the generation and implementation of novel ideas, products and processes, originated by individuals or groups of employees, and that these processes are not solely connected to R&D departments or employees occupied with such tasks”. Based on earlier research findings, Hertzberg and Moen (2010) argue that participative leadership is more conducive to innovation as it enhances ownership of employees for the decisions made and leads to enhanced efforts to identify novel and better ways of achieving these outcomes. Research conducted among five Norwegian manufacturing firms by Hertzberg and Moen (2010) revealed that there was a significant correlation between employees’ participation in innovation and acceptance of their new ideas for implementation. The organization’s encouragement of innovation and the extent of new ideas taken for implementation were also significantly correlated.

Lewin, Lippitt and White (cited in Chou, 2012) found that leadership styles can be classified into three categories based on the manner decision making is distributed between the leader and the follower: autocratic, participative, and laissez-faire. Chou (2012) points out that a participative leader involves members in decision-making, thereby enhancing the motivation, commitment, as well as satisfaction of subordinates. Based on empirical studies, Chou (2012, p.75) suggests that millennials (those born between 1979 and 1994) will show high levels of participative leadership style in the workplace. Chou also suggests that millennials have high need for achievement.



A study conducted among bank clerks by Bell and Mjoli (2014) showed that participative leadership style enhances the commitment of subordinates to decisions and augmented the willingness of subordinates to carry out decisions.

A study conducted by Bell, Chan, and Nel (2014) among administrative employees at a university setting found that participative leadership style had positive and significant impact on dimensions of organizational culture such as involvement, consistency, adaptability, and mission. Bell et al. (2014) suggest that participative leadership enhances adaptability while directive leadership increases control of outcomes. They found that participative leadership style is conducive for implementing organizational development strategies.

## **2.5 Perceived Support for Innovation as a Predictor of Innovative Work Behaviour**

McLean (2005, p.230) points out that considering the importance of innovation and creativity for organizations, the empirical research on the relationship between organizational culture and climate and innovation has been very inadequate. McLean (2005) states that notable exceptions to this trend have been the works by Amabile, Kanter, and Van de Ven, Angle, and Poole.

Scott and Bruce (1994) consider perceived support for innovation as a dimension of an organization's climate for innovation. Hence a discussion of organizational climate helps to place perceived support for innovation within an organization in the right perspective.

### **2.5.1 Organizational Climate**

Campbell et al. (as cited in Siegel and Kaemmerer, 1978, p.553), define organizational climate as "...a set of characteristics specific to an organization that can be ascertained from the way in which the organization

relates to its members and to its environment.” Siegel and Kaemmerer (1978, p.553) argue that “for the members of the organization, climate is reflected in the attitudes and expectancies held toward the organization.” Ahmed (1998, p.31) traces the origin of the concept of organizational climate to Kurt Lewin who found that leadership styles can generate social climate, and McGregor who used terms such as “...social climate and organizational climate”.

Patterson et al. (as cited Lin and Liu, 2012, p.56) define climate as “...a set of shared views regarding individual’s perceptions of organization’s policies, practices, and procedures”. Ekvall (as cited in Lin and Liu, 2012, p.57) define climate as “...the observed and recurring patterns of behavior, attitudes, and feelings that characterize life in an organization.”

Hofmann et al. (2003) describe organizational climate as the “...type of behavior valued in the work environment...” Schneider (as cited in Hofmann et al., 2003) defines climate as:

The perceptions of the events, practices, and procedures, as well as the kind of behaviors that get rewarded, supported, and expected in a particular organizational setting. This includes the behavioral routines (i.e., practices and procedures) as well as the rewards of the setting (p.171).

### **2.5.2 Cognitive Schema Approach vs. Shared Perceptions Approach**

Anderson and West (1998, p.236) distinguish between two approaches to studying climate in an organizational setting: ‘cognitive schema’, and ‘shared perceptions’ approaches.

The former approach studies climate at the individual level as the mental image individuals construct about their immediate work environments.

Scott and Bruce (1994, p.581) adopt the cognitive schema approach and in agreement with the findings of James, Hater, Gent and Bruni, (1978), they define climate as "...individual, cognitive representations of the organizational setting 'expressed in terms that reflect psychologically meaningful interpretations of the situation'." Scott and Bruce (1994, p.582) also agree with James and Sells (1981) who argued that "...individuals respond primarily to cognitive representations of environments rather than to the environment per se". Scott and Bruce (1994) argue that climate denotes the signals people receive regarding organizational expectations of behavior and the possible outcomes their behavior can lead to. People align their behavior to their own perceptions of the climate of their organization. Anderson and West (1998, p.236) point out that the shared perceptions approach studies climate from the perceptions which employees share about their work environments. Reichers and Schneider (as cited in Anderson & West, p.236) define organizational climate as "...the shared perception of the way things are around here. More precisely, climate is shared perceptions of organizational policies, practices, and procedures."

### 2.5.3 Climate for Innovation

Nybakk, Crespell, & Hansen (2011, p.417) describe climate for innovation as "...the organizational climate that fosters innovation." Anderson and West (1998, p.238) accept the position of Schneider and Reichers (1983) who argue that the concept of climate can be studied only with a specific referent (climate for change, for quality, for innovation etc.). Anderson and West (1998) point out that Rousseau (1988) emphasized the need to study "facet-specific climate". Siegel and Kaemmerer (1978, p.553) also agree with the contention of Schneider (1975) relating to the differentiation of climate, i.e., there are many climates within an organization. When someone is studying organizational climate, she should specify which

specific climate she is referring to. Siegel and Kaemmerer (1978, p.553) emphasize that "...this is of particular importance in research as it determines the units of analysis one uses and the conceptualization of the role climate plays in research." Nybakk et al. (2011) point out that climate is relatively less stable when compared to culture and that organizational climate is an expression of the organizational culture at a specific time.

#### **2.5.4 Psychologically Safe Climate**

While discussing the construct of virtuality, Gibson and Gibbs (2006, p.455) define a psychologically safe communication climate as "an atmosphere within a team characterized by open, supportive communication, speaking up, and risk taking". Gibbson and Gibbs (2006, p.463) argue, based on research by Edmondson (1999), that a psychologically safe communication climate facilitates learning by members of virtual groups by enabling members to admit mistakes, critique the extant practices, seek help from others, and get feedback from other members.

#### **2.5.5 Perceived Support for Innovation and IWB.**

Scott and Bruce (1994) observed that climate for innovation has two dimensions: support for innovation and resources for innovation. They found that perceived support for innovation is a crucial antecedent of Innovative Work Behaviour.

### **2.6 Motivation as a Predictor of Creativity and Innovation**

Motivation, specifically intrinsic motivation, has been considered as an important predictor of creativity and innovation by several researchers. Relying on the findings of Scott and Bruce (1994), Carmeli et al. (2006, p.76) contend that it is crucial to study what motivates individual innovative behavior because individual innovative behavior is the key to any organization characterized by superior performance.

### 2.6.1 Meaning of Intrinsic Motivation

O'Connor and Vallerand (1994, p.529) state that “intrinsically motivated behaviours are engaged in for the pleasure and satisfaction derived from their performance. They are voluntarily performed in the absence of material rewards or constraints...” O'Connor and Vallerand (1994, p.529) describe extrinsically motivated behavior as behavior “...not performed for their inherent experiential aspects but to receive or avoid something once the activity is terminated.” Drawing from Deci (1975), Dewett (2007, p.197) describes ‘intrinsically motivated behaviour’ as behavior “...for which there is no apparent reward except the activity itself.” Basing themselves on the findings of Amabile (1996) and Ryan and Deci (2000), Grant and Berry (2011, p.74) describe intrinsic motivation as “...the desire to expend effort based on interest in and enjoyment of the work that is being performed”.

### 2.6.2 Positive Outcomes of Intrinsic Motivation

In a study conducted in the sports setting, Charbonneau, Barling and Kelloway (2001, p.1529) found that “...intrinsic motivation mediates the relationship between transformational leadership and athletic performance”. Schuler et al. (2010, p.1) consider “...intrinsic motivation, flow, and a commitment to one’s personal goals” as “...positive forms of motivation” which lead to positive results.

### 2.6.3 Intrinsic Motivation and Creativity

Amabile et al. (2005, p.375) point out that a significant amount of research has identified the close association of intrinsic motivation and creativity. Amabile (1985, p.393) states that intrinsic motivation stimulates creativity whereas extrinsic motivation (rewards or external evaluation) inhibits creativity. Dewett (2007, p.197) corroborates the findings of

Amabile (1983, 1996) and argues that intrinsic motivation is a key antecedent of creativity. Agreeing with the findings of Amabile and Gyskiewicz (1987), Shalley and Gilson (2004, p.36) also argue that intrinsic motivation is indispensable for creativity. Dewitt (2007, p.199) cites Amabile's 'intrinsic motivation principle of creativity': "intrinsic motivation is conducive to creativity; controlling intrinsic motivation is detrimental to creativity, but informational or enabling extrinsic motivation can be conducive, particularly if initial levels of intrinsic motivation are high."

Grant and Berry (2011, p.76-77) present a summary of researches which have examined the relationship between intrinsic motivation and creativity and point out that for decades organizational researchers have subscribed to the view that intrinsic motivation is a crucial predictor of creativity. Grant and Berry (2011, p.73) cite the findings of Shalley, Zhou and Oldham (2004) and argue that intrinsic motivation augments creativity "...by increasing positive affect, cognitive flexibility, risk taking, and persistence."

#### **2.6.4 Motivated Information Processing Theory**

Grant and Berry (2011) refer to Kunda (1990) and Nickerson (1998) and discuss the link between intrinsic motivation and creativity, using the "motivated information processing theory" from social psychology which suggests:

Motivations shape cognitive processing: employees creatively notice, encode, and retain information that is consistent with their desires. Thus when employees are intrinsically motivated, their desire to learn, explore their interests, and engage their curiosity will lead them to focus on novel ideas (p.73).

### **2.6.5 Prosocial Motivation, Intrinsic Motivation, and Creativity**

Grant and Berry (2011, p.91) found that ‘perspective taking’ which originates from ‘prosocial motivation’, enhances the relationship between intrinsic motivation and creativity. Grant and Berry (2011, p.79) argue that “focusing attention on the perspective of others will provide employees with a standard for determining which ideas should be selected as useful vs. discarded as useless.” Based on the work of Batson (1998), De Dreu (2006) and Grant (2007); Grant and Berry (2011, p.78) describe ‘prosocial motivation’ as “a psychological state in which employees are focused on the goal of benefitting other people”. Grant and Berry (2011, p.79) describe ‘perspective taking’, based on the findings of Parker and Axtel (2001), as “a cognitive process in which individuals adopt others’ viewpoints in an attempt to understand their preferences, values, and needs”.

### **2.6.6 Flow Experience**

Csikszentmihalyi and Rathunde (as cited in Schuler et al., 2010, p.3) define ‘flow experience’ as “a state that people report when they are completely involved in something to the point of forgetting time, fatigue, and everything else except the activity itself”. Pointing out that flow experience results from a perfect balance between a person’s skills and difficulty of the task, Schuler et al. (2010, p.3) argue that flow experience is an exemplar of intrinsic motivation. The perfect balance between an individual’s skill and the difficulty of the task to be performed enhances his sense of control and competence and leads to flow experience. Lower levels of skill results in anxiety, whereas higher levels of skill generate boredom.

### 2.6.7 Fostering Intrinsic Motivation

Amabile (1985) highlights the implications of her findings on creativity:

Practical implication for socialization, educational techniques, and working environments: to the extent that parents, teachers, and work supervisors model and express approval of intrinsic motivational statements about work, intrinsic orientations and creativity should be fostered. By contrast, to the extent that extrinsic statements are modeled and extrinsic constraints on work are made salient, extrinsic orientations should be fostered and creativity should be undermined. Besides the modeling and direct induction of motivational orientations, self-instruction may also be effective in influencing motivational state (Mahoney & Thoreson, 1974). This latter possibility could be useful in programs designed to directly enhance creativity (p.399).

Several researchers including Amabile have found that intrinsic motivation is an important antecedent of creativity and innovation. However, Amabile (1985, p.397) points out that while intrinsic motivation is crucial to creativity, it is difficult to increase intrinsic motivation. Taking a cue from Amabile's contention, we examine whether achievement motive - another motivational mechanism - can be leveraged by organizations to enhance the innovative work behaviour of managers.

### 2.7 Achievement Motive as an Antecedent of Innovative Work Behaviour

Achievement motive is a construct which has received considerable attention from researchers in various fields including education, sports, work, video gaming, and software development for artificial agents. For instance, Merrick (2011, p.1) proposes a "computational model of



achievement motivation” based on ‘approach of success’ and ‘avoidance of failure’ for artificial agents.

Researchers have developed different conceptualizations of achievement motive which include the following: Need for achievement (nAch), achievement orientation, and achievement motivation. Elliot (1999, p.169) includes achievement motive approach of Atkinson (1957) and McClelland, Atkinson, Clark and Lowel (1953) and the achievement goals approach of Dweck (1986) and Nicholls (1984) among the five most important conceptualizations of achievement motivation. In this study, the focus is on the construct ‘achievement motive’ as evolved in the achievement motive research tradition of McClelland and Atkinson.

### **2.7.1 Definition of Achievement Motive and Related Concepts**

McClelland (cited in Young, 1957, p.1) defines motive as “a strong affective association, characterized by an anticipatory goal reaction and based on the past association of certain cues with pleasure or pain”. Drawing from Atkinson and associates (1966); Rozhkova (2011, p.17) distinguishes between motivation and motive: “...motivation refers to the arousal of a tendency to act to produce one or more effects”. Motive is considered as a disposition and motivation is the aroused state. Based on Weiner’s (1975) conceptualization, Rozhkova (2011, p.17) describes motive as “...a person’s relatively stable disposition” and motivation as “...an instantaneous, more or less short-term behavioral tendency, which can quickly change, depending on the situational factors”. Based on Heckhausen (1967), Rozhkova (2011, p.17) describes motivation as actual and motive as potential motivation and cites Heckhausen’s (1991) definition of motivation as representing “...an orientation towards a particular goal, at a particular time, by a particular individual, and implies the product of person-situation interaction”.

Schwartz (1992) (as cited in Nelson and Shavitt, 2002, p.439) defines achievement as “personal success through demonstrating competence according to social standards”. Schuler et al. (2010, p.2) state that for McClelland, achievement motive is the “...recurrent concern with surpassing standards of excellence”.

Elliot (1999, p.169) defined achievement motivation as “...the energization and direction of competence-based affect, cognition, and behavior”. McClelland (as cited in Kolodziej, 2010, p.43) defined achievement motivation as: “...a constant drive to improve one’s level of performance, to accomplish success in contention”.

Crandall, Kratkovsky, and Preston (1960) (as cited in Parsons, 1981, p1) defined achievement behaviour as “...behaviour directed toward the attainment of approval or the avoidance of disapproval for competence of performance in situations to which standards of excellence are relevant”. Elliot (1999) delineated the different conceptualizations of competence:

Competence may be defined differently as a function of the type of standard or referent that is used in evaluation, and there are three standards or referents that are used: the requirement of the task itself (task as referent), one’s own performance history (past as referent), or the performance of others (others as referent)” (p.183).

Bandura (1977) (as cited in Anshel, 2007, p.10) defines self-efficacy as “a set of beliefs and expectations about how capable a person feels in performing the necessary behaviours to achieve a desirable outcome”.

### **2.7.2 Characteristics of Persons with High Need for Achievement**

Pointing out that the term nAch was coined by Murray (1938), Cassidy (2000, p.400) states that owing to the influence of the cognitive approach,

nAch is now considered as "...a more flexible cognitive style which mediates between the environment and behaviour..." Schuler et al. (2010, p.1) state that according to the 'motive dispositions approach' represented by McClelland, Atkinson, Clark and Lowell (1953), the need for achievement denotes "the recurrent desire to become better and to improve one's skills while successfully interacting with the environment".

Based on McClelland (1961), Okhomina (2010, p.3) defines need for achievement as "...a tendency to choose and persist at activities that hold a moderate chance of success or a maximum opportunity of personal achievement without the undue risk of failure".

Kolodziej (2010, p.42) points out that Murray coined the term 'need for achievement' and defined it as "...an intense, prolonged and repeated effort to accomplish something difficult; to work with singleness of purpose towards a high and distant goal; to have the determination to win". Citing Steinmayr and Spinath (2009), Kolodziej (2010, p.43) states that for McClelland "...need for achievement is the result of emotional conflict between the hope to achieve success and the desire to avoid failure".

Collins et al. (2004, p.96) describe the characteristics of persons with nAch: preference for jobs that require skill as well as effort and which facilitate immediate feedback on performance, and are characterized by moderate risks. Collins et al. (2004) point out that for McClelland (1961), persons with high nAch tend to take up entrepreneurship and to do well as entrepreneurs.

Schuler et al. (2010, p.2) delineate the characteristics of people with high need for achievement: they strive to work better as well as faster than others, to enhance their skills (Brunstein, Heckhausen, 2008; McClelland, 1985), have preference for moderately difficult goals which facilitate

realistic feedback on their ability and performance (Atkinson, 1957) and experience positive emotions when tasks are successfully accomplished.

Hustinx, Kuyper, Van der Werf, & Dijkstra (2009, p.561) point out that achievement motivation, which is called by different terms by various researchers, e.g., Ms (motive to achieve success) which has been conceptualized by Atkinson (1957) and Heckhausen (1963), and nAch (need for achievement), which has been conceptualized by McClelland, Clark, Roby and Atkinson (1949), denote the same measurable personality characteristic.

### 2.7.3 Evolution of the Concept of Achievement Motive

Belanger et al. (2012, p.2) state that “achievement motivation is one of the most discussed topics in psychology, starting with William James in late 19<sup>th</sup> century”. While conducting a review of the measures of achievement motivation from 1930 to 2005, Mayer, Faber and Xu (2007, p.2) trace the evolution of the concept of motivation from its inception in the beginning of the 20<sup>th</sup> century when Psychodynamic theory and behaviorism explained human needs in the light of physiological urges. Subsequently, research on internal locus of control gave rise to the concept of intrinsic motivation while research on operant learning and external rewards resulted in theories of extrinsic motivation. Mayer et al. (2007, p.3) point out that later, Murray et al. (1934) came out with the list of more than 20 needs and motives along with one of the very first measures of human motivation which included Thematic Apperception Test (TAT). Mayer et al. (2007, p.3) point out that for Murray, human needs were “psychologically acquired rather than physiologically innate”. Subsequently, it was McClelland who condensed Murray’s list of needs into three categories – need for achievement, power, and affiliation.

Revelle and Michaels (1976, p.394) point out that the classic achievement motivation theory is a constituent of a broader theory which explains the relationship between task difficulty and the number of attempts to perform along with the impact of success as well as failure on task performance. Based on theories of 'reactance' and 'learned helplessness', in line with Wortman and Brehm (1975), Revelle and Michaels (1976, p.402) explain the motivational mechanisms of people: a minor decrease in control leads to increase in 'task specific motivation' of people ('reactance') while substantial decrease in control lead people to give up making attempts which results in decreased motivation ('learned helplessness'). Task engagement is closely linked to the perceived probability people have regarding the attainment of success – problems as well as situations where people perceive moderate possibility of success will motivate them unlike very difficult tasks which result in very low motivation. Revelle and Michaels (1976, p.402) argue that “subjective probability of success determines motivation” and that “effort affects the true probability of success”.

Kolodziej (2010, p.43) discusses Atkinson's 'risk preference' model: unlike failure-oriented people, individuals high in the need for achievement opt for moderate risks when they encounter “...achievement-oriented situations with uncertainty, e.g., when the outcome depends on one's activity but is uncertain”.

Elliot and Harackiewicz (1996, p.461) point out that Carol Dweck and John Nicholls introduced the concept of achievement goals into the theory of achievement motivation in the “late 1970s and the early 1980s”, and defined achievement goal, in line with Maehr (1980), as “the reason for or purpose of competence relevant activity”.

#### 2.7.4 Development of Achievement Motive in Individuals

Hansemark (2000, p.645) states that for McClelland, need for achievement is a learned motive. Parsons (1981, p.5) points out that for McClelland, achievement motive is not instinctual but learned as they are "...acquired by association with primary biological pleasures and pain". Further, citing Winterbottom (1958), Parsons (1981, p.5) argues that for McClelland, three factors enable achievement motivation to develop in people: "the number of expressions in independent mastery, the age at which training is given, and the emotional accompaniments of the training". Parsons (1981, p.6) also delineate the type of maternal behaviour which classical theorists found to enhance achievement motivation: "1) early independence and achievement training, 2) high estimation of the child's abilities, and 3) reward (especially physical displays of approval) for behaviours that correspond to parental expectations". Parsons (1981, p.46) state that "Individual differences in achievement motivation are probably the result of an interaction between the cognitive processes of the child and the experiences he encounters during socialization".

Schuler et al. (2010, p.1) state that for McClelland (1985), needs, including the need for achievement, "...are early acquired and relatively stable motive dispositions that vary from person to person". Achievement motive is considered a somewhat stable dimension of everyone's personality. Parsons (1981, p.1) also considers achievement orientation "...a relatively stable personality trait".

Loon and Casimir (2008, p.92) cite from research the factors that contribute to the development of need for achievement in people: birth order, stability of home, parents' educational accomplishment, and "the early experience of success at tasks". Diseth and Martinsen (2009, p.7-8) argue that

“while the achievement motives are considered to be stable, they are shaped by individual differences in experience with success and failure in achievement situations (Christophersen and Rand, 1982)”. Citing Hermans (1979), Hustinx et al. (2009, p.563) argue that culture has impact on achievement motivation scores. McClelland found that motives are acquired through training and suggested that motives “...vary in strength among individuals as a function of their socialization and as being rooted in a specific culture” (cited by Van Emmerik, Gardner, Wendt, & Fischer, 2010, p.333). In a study conducted among a sample of 17,538 managers from 24 countries, Van Emmerik et al. (2010, p.346) arrived at the country-wise mean scores of managers on the three motives – achievement, power, and affiliation.

### **2.7.5 Interaction of Dispositional and Situational Factors**

Many researchers have highlighted the significance of the interaction between dispositional and situational factors in activating achievement motive. Hustinx et al. (2009, p.576) argue that although achievement motivation is a stable trait, situational factors have the potential to stimulate achievement motivation. Spangler (1992, p.141) argues that “...motives predict behavior only in the presence of appropriate incentives” and that “...achievement behavior is an interactive effect of implicit and self-attributed motives for achievement and environmental achievement incentives.”

### **2.7.6 Achievement Motive of Entrepreneurs and Managers**

Pointing out that according to McClelland (1961), high achievement motive leads people to entrepreneurial careers, Stuart and Roth (2007, p.403) argue that studies aimed at examining whether entrepreneurs have more achievement motivation than managers have produced mixed results.

However, Stuart and Roth (2007, p.411) state that overall entrepreneurs have a moderately higher level of achievement motivation when compared with managers. Stuart and Roth (2007) argue:

Individualistic cultural orientation emphasizes independent initiative and action and occupational mobility whereas collectivist cultural values emphasize group membership (Hofstede, 1980), suggesting potential cultural differences in achievement motivation. Currently, it is unclear how culture influences motivation and entrepreneurial activity (Ambrose and Kulik, 1999; Triandis, 1997) and a link between achievement motivation and entrepreneurial status cannot be assumed to be universal (Hayton, George and Zahra, 2002) (p.404).

Schumpeter (cited in Hagedoorn, 1996, p.891) found that entrepreneurial responsibility in companies is vested in the executive management owing to the increasing separation of ownership from the management of companies. Hagedoorn (1996, p.892) argues that as a corollary of this contention of Schumpeter, there is a need for 'organization-wide creativity and entrepreneurship'. Collins et al. (2004, p.99) point out that McClelland suggested that the term entrepreneurs must include owners of small enterprises as well as managers who have the power to make business decisions.

### **2.7.7 Explicit Motives and Implicit Motives**

Spangler (1992) discusses McClelland's bifurcation of motives into implicit (non-conscious) and self-attributed (conscious) types. Spangler (1992) explains that 'social incentives' such as a positive feedback from one's boss is significant only for self-attributed motives and not for implicit motives because implicit motives are shaped by experiences and incentives received in early life. Spangler (1992, p.141) points out that implicit motives are connected to physiological processes, unlike self-attributed motives.



Drawing from Koestner et al. (1991), and Pang and Schultheiss (2005), Lawrence and Jordan (2009, p.104) point out that “Explicit motives are strongly influenced by social demands and normative pressures... Implicit motives, alternatively, are motives connected to basic affective reactions and implicit behavioral dispositions, which are subconsciously aroused and lead to affective preferences”. Lawrence and Jordan (2009, p.104) further point out: “implicit behavioral impulses are linked to implicit learning, physiological responses, and nonverbal behavior...Simply, explicit motives relate to cognitive influenced behavior, while implicit motives relate to subconscious responses linked to affect”. Hustinx et al. (2009, p.562-563) discuss McClelland and others’ (1991 and 1992) bifurcation of achievement motives into implicit and explicit types and the corresponding measurement issues.

Thrash, Elliot, & Schultheiss, (2007, p.962) cite the distinctions researchers including McClelland make between implicit and explicit motives: “Implicit motives are posited to develop early in life through nonverbal affect-based learning whereas explicit motives are posited to develop later and independently through verbally mediated learning”. Thrash et al. (2007) go on to explain the reason why McClelland believed that explicit motives develop independently of implicit motives:

First, individuals lack access to or awareness of their implicit motives and therefore cannot draw on them when adopting explicit values. Second, explicit motives are posited to be determined primarily by social norms and others’ expectations which may or may not be congruent with the individual’s implicit motives (p.962).

Thrash et al. (2007, p.963) further argue that people can take cognizance of arousal of implicit motives through nonverbal cues experienced in the body. Thrash et al. (2007, p.963) cite research conducted by Raphelson

(1957) who found nAch was related to “increased galvanic skin response prior to task engagement”; research by Muecher and Heckhausen (1962) linking nAch to “increased muscle tension”; research by Wendt (1955) linking nAch to “resistance to general central nervous system (CNS) fatigue during task engagement”; and research by McClelland (1995) linking nAch to “a greater drop in urine output after achievement arousal”.

### 2.7.8 Measurement of Achievement Motive

Researchers have identified several types of measures of achievement motive: Thematic Apperception Test (TAT), Picture Story Exercise (PSE), Questionnaire measures, and objective measures. Mayer et al. (2007, p.3) discuss several measures of achievement motivation including Murray’s measures of needs and motives which included TAT, “Edward’s Personal Preference Schedule” (EPPS - Edwards, 1959) and Jackson’s “Personality Research Form” (PRF - Jackson, 1987). Mayer et al. (2007, p.15) point out that achievement motivation measures specifically designed for distinct social contexts such as work, and education are increasingly being used.

Stuart and Roth (2007, p.405) point out that the assumption that explicit (conscious) motivation can be measured, forms the basis of objective motivation measures such as EPPS and PRF. Lawrence and Jordan (2009, p.104) conducted a study contrasting an explicit and an implicit measure of achievement motivation: “Multi-Motive Grid Short version (MMG-S) (Sokolowski et al., 2000), a measure of implicit-related motivation and the needs assessment questionnaire (NAQ) (Heckert et al., 1999), a measure of explicit motivation”.

Hansemark (2000, p.634-635) discusses the development of TAT as a measure of achievement motive: Morgan and Murray (1934) designed TAT for the clinical settings. Based in psychoanalytic theory, TAT measure

“...argues that people will project their own feelings, needs, and motives into the picture...” (Hansemark, 2000, p.635). Spangler (1992, p.141) states that for McClelland, TAT measures were suitable for measuring implicit (non-conscious) motives of people.

Hansemark (2000, p.635) cites the criticism Gjesme and Nygard (1974) have raised against TAT that it is time consuming to administer as well as to score. Based on a review of research, Collins et al. (2004, p.98) point out that unlike self-report measures, TAT measures have “...low internal consistency and test-retest reliability...” Collins et al. (2004, p.98) further point out that self-report measures do not agree with TAT measures or with other self-report measures. Collins et al. (2004, p.112) attribute these low correlations to the possibility that TAT and questionnaire measures may be measuring different dimensions of achievement motivation. Collins et al. (2004, p.112) point out that for McClelland, TAT measures gauge implicit (subconscious) achievement motivation while questionnaire measures deal with explicit (conscious) type of achievement motivation.

Stuart and Roth (2007, p.405) also point out that problems including lack of objectivity, inaccuracies in interpreting responses, and biases which could vitiate the judgment of scorers, are associated with projective measures of achievement motivation. Thrash et al. s (2007, p.961) point out that both classical as well as contemporary researchers of achievement motivation have found that measures of implicit need for achievement such as picture story exercise (PSE) and explicit measures like questionnaires lacked consistency and correspondence between them.

### **2.7.9 Approach Vs. Avoidance Motives**

Elliot and Harackiewicz (1996, p.461) state that achievement motivation pertains to behaviours concerned with competence, characterized

by an approach or an avoidance tendency: people make efforts to achieve competence or to avoid incompetence. Elliot and Harackiewicz (1996, p.461) point out that classical achievement motivation theorists including Lewin and others, McClelland (1961), and Atkinson (1957) considered the 'desire for success' and the 'desire to avoid failure' as "two independent motivational orientations in people". Elliot and Church (1997) propose a hierarchical model of 'approach and avoidance motivation', linking 'mastery-performance' distinction with the 'approach-avoidance' distinction proposed by earlier researchers. Elliot and Church (1997, p.219) argue that 'the need for achievement' and 'the need to avoid failure' are "two underlying competence- relevant motives" which "...energize, select, and direct achievement behavior through the channel of their concrete achievement goal representations". Elliot and Church (1997) further argue that competence expectancies are related but different from motive dispositions, and are antecedents to achievement goals.

### **2.7.10 Achievement Goal Orientations (Mastery and Performance)**

The concept of achievement goals, which includes mastery and performance goal orientations is closely linked to the concept of achievement motive.

#### **2.7.10.1 Definition of Achievement Goals**

Weigand and Burton (2002) state that for Nicholls, achievement goals denote:

Different conceptions of and different reasons for approaching and engaging in achievement activities. They involve different ways of thinking about tasks and outcomes of tasks. ...Primary goal in achievement contexts is the demonstration of ability; specifically, perceptions of success and failure are subjectively defined in accordance with the demonstration of ability (p.2).

Harackiewicz, Baron, and Elliot (1998) define achievement goals as:

The Cognitive representations of the things we wish to accomplish. They serve as guides, providing both direction and energy to behavior... achievement goals concern the pursuit of competence in achievement situations, and they represent students' motivational orientation in particular situations or in classes of related situations (p.2).

Based on Dweck (1986) and Spence and Helmreich (1983), Harackiewicz et al. (1998, p.2) define achievement goals as "...the desire to develop, attain, or demonstrate competence at an activity..." Elliot and Harackiewicz (1996, p.473) point out that achievement goals have impact on "...competence-relevant affect, cognition, and behavior with significance for education, work, and sports settings".

Drawing from Maehr (1989), Elliot and Church (1997, p. 218) define achievement goal as the "purpose of task engagement". Mastery goal orientation is focused on "development of competence and task mastery" and 'performance goal orientation' is aimed at "demonstration of competence relevant to others" (Elliot and Church, 1997, p.218).

#### **2.7.10.2 Development of Achievement Goals**

Elliot (1999, p.175) argues that "... to some degree, achievement goals are likely to be acquired through the process of socialization and accumulated experience in achievement situations and beyond; these variables are presumed to overlay and be rooted in the individual's neuroanatomical foundation present at birth". While discussing the model of achievement motivation proposed by Elliot (1997), Hustinx et al. (2009, p.562) state that for Elliot achievement motivation predicted adoption of mastery goal orientation while fear of failure predicted preference for performance avoidance goals.

### 2.7.10.3 Achievement Motives vs. Achievement Goals

Elliot (1999, p.174) delineate the differences between achievement motives and achievement goals:

Achievement goals are presumed to be distinct from achievement motives – the need for achievement and fear of failure – that are viewed as more general, affectively based dispositions that energize achievement activity and orient individuals towards success or failure. Achievement motives are posited to prompt the adoption of achievement goals, and these goals, in turn, are used to directly regulate achievement behavior. Thus achievement goals are construed as midlevel surrogates for their underlying achievement motives, the cognitive dynamic representations that proximally influence achievement-relevant processes and outcomes (p.174).

### 2.7.10.4 Differences between Mastery and Performance Goal Orientation

Elliot and Church (1997, 218) point out that performance orientation results in outcomes marked by helplessness “...preference for easy or difficult tasks, withdrawal of effort in the face of failure, and decreased task enjoyment” while mastery orientation leads to outcomes such as “...a preference for moderately challenging tasks, persistence in the face of failure, and enhanced task enjoyment...”.

Elliot and Harackiewicz (1996) distinguish the different outcomes caused by adoption of mastery and performance goals:

The adoption of a mastery goal is hypothesized to produce a mastery motivational pattern characterized by a preference for moderately challenging tasks, persistence in the face of failure, a positive affective stance towards learning and enhanced task enjoyment. A

constellation of helpless motivational responses is posited to result from the adoption of a performance goal orientation, as evidenced by a preference for easy or difficult tasks, effort withdrawal in the face of failure, attribution of failure to lack of ability, and decreased task enjoyment (p.462).

Harackiewicz et al. (1998, p.2) argue that people with performance goals do not take up challenges when they feel that their competence is low because:

It threatens the possibility of demonstrating competence. Even when their perceptions of competence are high and individuals are confident that they can perform well, performance oriented individuals may sacrifice learning opportunities to look good in front of others. Furthermore, when pursuing performance goals, individuals who encounter performance difficulties are likely to interpret negative outcomes as a reflection of their ability, and rather than risk continued failure, they are likely to withdraw effort or give up. Thus, Dweck and Legget argue that a performance goal orientation can be maladaptive, especially for individuals who are lower in perceived competence and doubt their ability (p.2).

Elliot (1999, p.170) points out that for Dweck and Bempechat (1983) “...persons with a performance goal and high competence perceptions try to demonstrate their competence relative to others, whereas those with a performance goal and low competence perceptions try to avoid demonstrating their lack of competence relative to others”.

#### **2.7.10.5 Managing Goal Orientations of People**

Harackiewicz et al. (1998, p.14) state “Our results reveal that mastery and performance goals can both initiate positive motivational processes, and

that what seems to be more important than the type of goals pursued is whether goals promote affective and cognitive involvement in the activity”. Harackiewicz et al. (1998, p.11) argue that there are several ways to enhance the interest of people: people can be interested in a task to enhance their skills or to demonstrate their competence to others. Harackiewicz et al. (1998, p.7-8) argue that individuals low in achievement orientation enjoy tasks and are free from anxiety when they are given mastery goals without room for normative comparisons.

#### **2.7.10.6 Achievement Goals and Intrinsic Motivation**

Experiments conducted by Harackiewicz et al. (1998, p.9) demonstrated that “...achievement oriented individuals showed the highest level of intrinsic motivation when assigned a performance target goal, whereas those low in achievement orientation showed the highest level of interest when assigned a mastery target goal”.

Harackiewicz et al. (1998, p.12) cite the findings by Harackiewicz and Sansone (1991) that three variables mediate the relationship between achievement goals and intrinsic motivation: ‘competence valuation’ (the significance people attach to attaining competence), ‘task involvement’ (a person’s concentration and absorption in a task), and ‘perceived competence’ (a person’s evaluation of the extent of his ability). Harackiewicz et al. (1998, p.14) point out that there is “...an ongoing dynamic process through which participants first became affectively committed to attaining competence, and then cognitively involved in the pinball game, resulting in higher levels of subsequent intrinsic motivation”.

#### **2.7.10.7 Competence Valuation and Task Involvement**

Based on Bandura (1986) and Bandura and Cervone (1983), Elliot and Harackiewicz (1994, p.968) state: “goals represent concrete standards for



performance evaluation, and the successful attainment of such standards can enhance competence perceptions”. Elliot and Harackiewicz (1994, p.969) define ‘competence valuation’ as “...the degree to which individuals care about doing well at an activity and reflects an affective commitment to attaining competence” and ‘task involvement’ as “...the degree to which an individual concentrates on and becomes absorbed in an activity”. Elliot and Harackiewicz (1994, p.969) argue that competence valuation and task involvement are “motivational processes” which enable people to get more engaged in activities. Elliot and Harackiewicz (1994, p.969) state that persons who adopt performance achievement goal are focused on demonstrating ability because such persons “define competence normatively” whereas persons who adopt mastery achievement goal concentrate on improving their skills as well as abilities because they “define competence self-referentially”. Elliot and Harackiewicz (1994, p.977) found that “achievement-oriented subjects valued competence most highly when assigned performance goals, whereas subjects low in achievement orientation valued competence most and became more task involved when assigned mastery goals”. Elliot and Harackiewicz (1994, p.978) argue that performance goals inhibit intrinsic motivation while mastery goals enhance intrinsic motivation.

#### **2.7.10.8 Achievement Goals and Environmental Factors**

O’Keefe, Ben-Eliyahu and Linnenbrink Garcia (2013, p.50) argue that people vary in their achievement goal orientations and that “...achievement contexts vary with respect to the achievement goal orientations they invoke. Environments may stress the importance of outperforming others, developing competencies, or both (Ames, 1992; Patrick et al., 2001)”. O’Keefe et al. (2013, p.50) further argue that a person’s context influences on her/his goal orientations.

Elliot (1999, p.176) discusses the ways in which environmental factors stimulate the adoption of achievement goals: direct influence through the strength of the achievement setting, or indirectly by structuring the context towards challenge (success is salient) or fear (failure is salient). Elliot (1999) points out:

Achievement contexts that are structured towards challenge (i.e., the possibility of success is made salient) are likely to activate the need for achievement, that in turn leads to mastery and performance-approach goal adoption whereas achievement contexts that are structured towards threat (e.g., the possibility of failure is made salient), are likely to activate fear of failure, that in turn leads to performance avoidance and performance-approach goal pursuit (p.176).

Elliot (1999, p.176) also points out: “goals that emerge from the environmental cues alone are likely to be weaker and less stable over the course of the achievement situation than those that have a dispositional underpinning”.

### **2.7.11 Hope of Success and Fear of Failure**

Drawing from the works of researchers including Atkinson (1957), Heckhausen (1991), and Heckhausen, Schmalt and Schneider (1985), Belanger et al. (2012, p.3) illustrate that traditionally researchers have discussed ‘approach achievement motivation’ as ‘Hope of Success (HS)’ and ‘avoidance achievement motivation’ as ‘Fear of Failure (FF)’. Lang and Fries (2006) point out that the distinction between ‘Hope of Success’ which is characterized by a tendency to approach success and ‘Fear of Failure’ which is characterized by a tendency to avoid failure forms one of the central assumptions of Atkinson’s risk-taking model (1957).

Elliot (1999) points out:

From the first experiment on level of aspiration conducted by Hoppe (1930) in Lewin's laboratory, two independent motivational orientations were proposed to account for achievement behavior – the desire for success and the desire to avoid failure. Lewin and his colleagues (Lewin et al., 1944) incorporated these approach and avoidance motivational orientations in their theory of resultant valence (the first formal model of achievement motivation), in which achievement behavior was hypothesized to be a function of, in part, dispositional tendencies to seek success and avoid failure (p.170).

Belanger et al. (2012, p.2) state that Lewin, Dembo, Festinger and Sears (1944) originally conceptualized 'approach' and 'avoidance' tendencies in terms of "approaching success or avoiding failure" and that other researchers generally agree with this approach and avoidance conceptualization. Belanger et al. (2012, p.2) further state that for classical proponents of motivation theories such as Atkinson (1964), Lewin (1935) and McClelland et al. (1953) feedback about success enhances the expectancies people have about the outcomes and stimulates approach motivation while feedback about failure reduces expectancies about outcome and thus diminishes motivation.

Elliot and Church (1997, p.218) argue that for classic proponents (Atkinson, McClelland, Murray, and Sears) of the achievement motivation theory, individuals' activity in achievement settings is directed towards either achieving success or avoiding failure.

Wigfield (1994, p.49-50) points out that for 'expectancy-value theorists', individuals' motivation to perform tasks depends on their "...expectancies for success and the value they have for succeeding..."

Wigfield (1994, p.50) cites Atkinson's (1957) definition of expectancy as "...individuals' anticipation that their performance will be followed by either success or failure..." and value as "...the relative attractiveness of succeeding or failing on a task".

Parsons (1981) clarifies the conceptualization of a person's achieving behaviour as:

A function of one's desire for success (Ms) and fear of failure (MAF) as well as one's perceived probability of success and failure at the particular task ...and the incentive or pride associated with success at the task and shame associated with failure (p.2).

Parsons explains how in Atkinson's model, in a person with high achievement motivation, Ms is greater than MAF. Parsons (1981, p.4) point out that Weiner and associates (1970) found, in line with Atkinson's model, that males in whom Ms is more than MAF attribute success in performance of a task to internal factors within the self, such as ability and effort, while males in whom MAF is greater than MS attribute success to external factors such as ease for performing the task. When they encounter failure, persons whose MAF is greater than HS, attribute failure to their own lack of ability and tend to avoid achievement-significant tasks in future.

Based on the work of McClelland (1985), Loon and Casimir (2008) explain the need of achievement thus:

The need for achievement is a function of expectations, which are based on personal standards of excellence. One's performance is compared to one's expectations such that meeting or exceeding these expectations produces positive affect, whereas not meeting these expectations produces negative affect (p.92).

In line with the perspective of Heckhausen (2000), Belanger et al. (2012) argue that the difference between HS and FF consists of the extent to which success or alternatively failure act as incentive. Elliot and Church (1997, p.220) define achievement motivation as the "...generalized desire to succeed" and fear of failure as the "generalized desire to avoid failure".

Based on the work of Atkinson and Raynor (1974) and McClelland et al. (1953), Capa, Audiffren, & Ragot, (2008, p.2) state that "the motive to achieve success reflects a relatively stable personality disposition to strive for success, and to desire and work toward accomplishing challenging personal and professional goals" while "the motive to avoid failure is a relatively stable personality disposition to avoid and anticipate negative effects of failure outcomes in terms of shame, embarrassment, humiliation, loss of status, and esteem".

Citing Pang (2010), Belanger et al. (2012, p.2-3) argue that 'approach achievement motive' motivates people to maximize their odds of succeeding while 'avoidance achievement motive' leads people to minimize their chances of failure while engaged in a task. Belanger et al. (2012, p.3) define hope of success as "...an approach achievement motive involving the belief to succeed, anticipation of reward, and the feeling of positive emotions upon the demonstration of competence in a given task". Belanger et al. (2012, p.3) cite the positive outcomes of HS which include: self-improvement through acquisition of new skills or increasing efficiency (Brunstein & Heckhausen, 2006); and Growth motives (Cooper & Howell, 1961).

Drawing from the work of Atkinson (1957), McGregor and Elliot (2005), and Murray (1938), Belanger et al. (2012, p.3) describe fear of failure, which is triggered by the perceived possibility of failure, as "the motive of avoiding failure in achievement settings because of the shame

associated with failing” characterized by outcomes including experience of negative emotions. Belanger et al. (2012, p.3) also go on to enumerate the self-protective strategies people use when they are motivated by failure: “...self-handicapping strategies, defensive pessimism, strategic withdrawal of effort, and procrastination...”

Diseth and Martinsen (2009) conducted a study on the relationship between achievement motives, i.e., ‘motive for success (Ms)’ and ‘the motive to avoid failure (Mf)’ (p.3), and personality traits and found that extraversion, openness, and conscientiousness are predictors of ‘Ms’ while neuroticism is a predictor of ‘Mf’. Diseth and Martinsen (2009, p.6) further argue that “... it is not obvious either on theoretical or empirical grounds that Ms is the direct opposite of Mf.”

#### **2.7.12 Fear of Failure and Performance-Approach and Performance-Avoidance**

Based on the findings of Birney, Burdick, and Teevan (1969), Elliot (1999, p.174) makes an important distinction between two effects of fear of failure:

Fear of failure is an avoidance motive that orients individuals towards failure; thus it is hypothesized to prompt the adoption of performance-avoidance goals that focus on the avoidance of a negative possibility. Fear of failure is also posited to lead to performance-approach goals, a motive-goal pairing in which the desire to avoid failure is strategically served by striving to attain success.

Capa et al. (2008, p.12) cite the contention of Puca and Schmalt (1999) that approach-oriented persons concentrate on the positive emotions that would result from success while avoidance-driven individuals concentrate on the negative emotions that could result from a failure.

Elliot and Harackiewicz (1996, p.471) demonstrate that performance approach goals (aimed at attaining competence) facilitate intrinsic motivation although performance avoidance goals (aimed at avoiding display of incompetence) inhibits intrinsic motivation. Elliot and Harackiewicz (1996, p.473) argue that achievement contexts determine the effect of achievement goals and states that "...it seems likely that performance-approach and mastery goals will reveal a comparable pattern of results in some contexts and disparate in others". Elliot and Harackiewicz (1996, p.473) delineate the reasons for this phenomenon:

The external evaluation inherent in performance-approach goals may, in some contexts (e.g.: when normative feedback is dispensed in a controlling manner), reduce feeling of self-determination and undermine subsequent intrinsic motivation. In other contexts (e.g., performance of a monotonous or overlearned activity) however, the provision of a performance-approach goal may make competence more salient or valued and, consequently, many enhance intrinsic motivation through the competence valuation process.

### **2.7.13 Other Theories Related to Achievement Motive**

#### **2.7.13.1 Individual vs. Social Oriented Achievement Motivation (IOAM and SOAM)**

Abd-El-Fattah and Patrick (2011, p.92) discuss the two dimensions of the framework which Yang and Yu (1988) and Yu and Yang (1994) developed to examine achievement motivation: 'Individual-Oriented Achievement Motivation' and 'Social-Oriented Achievement Motivation-SOAM'. For Yang and Yu, IOAM is intrinsic and is a product of individualistic cultures where prominence is given to independence whereas SOAM is extrinsic and results from the collectivistic cultures which give importance to dependence (Abd-El-Fattah and Patrick, 2011, p.92). Abd-El-

Fattah and Patrick (2011, p.92) argue that differences in perceptions about the meaning and yardsticks of achievement have an impact on the cognitions, emotions, and behavior of people from different cultures. Abd-El-Fattah and Patrick (2011, p.93) also suggest that IOAM may be linked to mastery achievement goal orientation whereas SOAM may be linked to performance achievement goal orientation.

### **2.7.13.2 Mental Effort, Achievement Motivation and Task Difficulty**

Capa et al. (2008) illustrate through experiments that the ‘mental effort’ exerted on performing a task varies from individual to individual and that mental effort exerted results from the interaction of a person’s achievement motivation and task difficulty. Capa et al. (2008) discuss the concept of ‘effort mobilization which Kukla (1972) deliberated in the context of ‘difficulty law of motivation’:

A person’s intention to try to perform a task would vary with the task’s perceived difficulty. Tasks that are perceived as easy will result in an intention to try a little, tasks that are difficult will result in an intention to try hard, and tasks that are impossible will result in an intention not to try (p.2).

Drawing from the work of researchers such as Aasman et al. (1987), Gendolla and Krüsken (2001) Light and Obrist (1983), Wright and Lockard (2006) and Wright et al. (2003), Capa et al. (2008, p.2) state that “...effort-related physiological reactivity is more pronounced and sustained under moderately difficult conditions than under easy or impossible conditions”.

### **2.7.13.3 Self-attributed Need for Achievement**

Castelli (2008, p.718) argues leaders can enhance the achievement motivation of their followers by using appropriate techniques based on the



type of achievement motivation of the followers. Castelli (2008) states, drawing from Koestner et al. (1991):

Two distinct motivational systems influence learning behavior in different ways and that individuals require different incentives to exert effort and to perform based on their motive type. These motivational systems are referred to as low or high self-attributed need for achievement. Two types of incentives task-intrinsic and social-extrinsic, interact with two types of motives, low and high self-attributed need for achievement (low SAN/high SAN), to determine performance in an achievement situation (p.718).

Castelli (2008, p.718) argues that people with high self-attributed need for achievement have a social-extrinsic orientation which seeks approval from others whereas people with low self-attributed need for achievement have a task-intrinsic orientation perform based on their own internal standard of excellence and thereby derive satisfaction. Castelli (2008, p.718) suggests that for motivating persons with ‘low self-attributed’ need for achievement, leaders must give them challenging tasks while for motivating those with ‘high self-attributed’ need for achievement, leaders must provide extrinsic, social rewards such as encouragement, positive feedback, and commendation.

#### **2.7.13.4 Social Emotions**

Hareli and Weiner (2002, p.183) argue that achievement motivation and behavior are entrenched in a social context: other people react to the outcomes of a person’s achievement strivings and an achiever’s reactions such as her understanding of her performance as well as plans about how to perform in achievement settings in future is ‘sensitive’ to the reactions (current or expected) of others to her performance. Drawing from Fischer

and Tangney (1995), Hareli and Weiner (2002, p.184) argue that achievement situations (involving either success or failure) give rise to emotions directed towards self or others.

#### **2.7.13.5 Private Body Consciousness, Self-monitoring and Preference for Consistency**

While discussing implicit and explicit nAch, Thrash et al. (2007, p.964) discuss the concepts of ‘private body consciousness’, ‘self-monitoring’, and ‘preference for consistency’. By private body consciousness, Thrash et al. (2007, p.964) mean a person’s responsiveness to one’s own internal bodily conditions which enables one’s perception of the arousal of implicit motives. Drawing from Snyder (1974), Thrash et al. (2007, p.964) describe self-monitoring as “a concern with social appropriateness of one’s behavior, a sensitivity to interpersonal cues reflecting others’ expectations and self-presentations, and the monitoring and control of one’s expressive behavior in order to create desired appearances”. Thrash et al. (2007, p.964) describe ‘preference for consistency’ as “...a preference that cognitions be consistent with one another” and people who are high in preference for consistency seek ‘adherence’ i.e., integration of cognitions with “the implications of the established rather than of the new” as stated by Cialdini et al. (1995, cited by Thrash et al., 2007). Thrash et al (2007, p.969) found that private body consciousness, self-monitoring and preference for consistency moderate the relationship between implicit motives and explicit nAch. Thrash et al. (2007, p.969) also found that the relationship between implicit and explicit nAch is positive for persons with high private body consciousness, low self-monitoring and high preference for consistency. Thrash et al., (2007, p.970) conclude that implicit nAch and explicit nAch are related constructs which are distinct owing to the function of the three moderator variables: in persons with high private body consciousness, low

self-monitoring, and high preference for consistency, implicit nAch and explicit nAch are more congruent than in other persons. Thrash et al. (2007, p.970) further argue that in the process of socialization monitored by others including parents, “a concern with meeting others’ standards of acceptable behaviour may lead the individual to internalize values arbitrarily, even if the values are incompatible with implicit motives.” Thrash et al. (2007) argue:

Given that implicit motives develop prior to explicit motives, and given that individuals high in preference for consistency seek adherence with what has already been established, it is likely that a preference for consistency leads these individuals to bring explicit motives into alignment with implicit motives, rather than vice versa (p.971).

#### **2.7.13.6 Task Orientation and Ego Orientation (Social Cognitive Theory)**

Weigand and Burton (2002, p.2) discuss the social cognitive theory of motivation which proposes that variations in behavior do not result from high or low motivation, but rather from differences in goal orientations of people. Weigand and Burton (2002, p.2) discuss the distinction between ‘task orientation’ and ‘ego orientation’. People with task orientation have a unitary concept of ability which they equate with learning and improvement which are self-referential. While they evaluate their own performance, they examine whether they have spent adequate effort and attained mastery in a task. Task oriented people understand from ‘objective failure’ that they need to revise their strategy and persist at the task.

Weigand and Burton (2002) delineate the characteristics of ego oriented individuals for whom the concept of ability is differentiated. For

them effort is not equal to ability; they conceptualize ability as capacity. For ego oriented people:

Self-perceptions of ability are demonstrated when outperforming others. Ego oriented individuals tend to view effort and ability as inversely related. High effort implies low ability and low effort which leads to success implies high ability. Ego oriented individuals with lower perceptions of ability will either participate in easy tasks, in order to maintain a level of perceived competence by achieving success with little effort, or withdraw effort in the face of objective failure (p.2).

Weigand and Burton (2002) found that students who were exposed to mastery climate perceived higher task orientation, competence, and satisfaction. Weigand and Burton (2002) argue that a person's disposition as well as situation interact to develop and adopt task orientation or ego orientation.

If emphasis is placed on effort, improvement, cooperation, and self-referenced goals, then a task-involving (mastery) climate develops. In such a climate, individuals typically adopt adaptive achievement strategies such as working hard, selecting challenging tasks, and task persistence. In contrast, if emphasis is placed on social comparison, winning competition, and other-referenced goals, then an ego-involving (performance) climate develops. In this case, individuals often adopt maladaptive achievement strategies if perceptions of competence are low (p.3).

Weigand and Burton (2002, p.4) argue that in school setting, individual working in small heterogeneous groups are conducive to mastery climate and task orientation because there is little scope for comparison; in performance oriented climates, teachers use larger groups

to facilitate ego orientation because in such settings, social comparison is quite apparent.

### **2.7.13.7 Harmonious vs. Obsessive Passion**

Belanger et al. (2012) contrast the functioning of people with ‘obsessive passion’ which is characterized by rigidity and defensiveness with the behavior of people with ‘harmonious passion’ which is characterized by flexibility and non-defensiveness. Belanger et al. (2012, p.3) argue that people with harmonious passion have mastery goals (‘mastering the task and improving’) while people with obsessive passion have performance approach goals (‘defeating other participants’) and mostly performance avoidance goals (‘avoiding failing relative to others’).

### **2.7.14 Empirical Studies on Achievement Motive**

#### **2.7.14.1 Academic Achievement**

Van der, Sluis, Vinkhuyzen, Boomsma and Posthuma (2010, p.434) cite the finding by Steinmayr and Spinath (2009) that motivational dimensions such as “hope for success, fear of failure, and need for achievement” were more significant predictors of academic accomplishment for 17-year olds than IQ or prior accomplishments.

#### **2.7.14.2 Health and Wellness**

De Lange, Van Yperen, Van der Heijden and Bal (2010, p.119) cite the results of a study conducted by Holahan (1988) among older persons where achievement motivation was observed to be correlated with physical and psychological health and wellness of the subjects.

#### **2.7.14.3 Problem Solving**

Cassidy (2002) conducted a study on the relationship of achievement motivation, and problem solving style and psychological stress and response

to a simulated emergency: it was found that "...those who were more likely to succeed had significantly higher achievement motivation and problem solving scores overall (p.326)".

#### **2.7.14.4 Cardiovascular Reactivity**

Capa et al. (2008, p.12) conducted an experiment to study the relationship between mental effort, achievement motivation, and task difficulty. Capa et al. (2008, p.1) found that "...approach-driven participants performed better and had a stronger decrease of midfrequency band of heartbeat variability than avoidance-driven participants, especially during the difficult task".

#### **2.7.15 The Revised Achievement Motives Scale (AMS-R)**

This subsection discusses the measure of achievement motive which is being used in this study. The problem of measurement of achievement motive has been central to the discussion on achievement motive. For instance, Pang (n.d., p.43) states that the "development of theory on Achievement has been intertwined with the development of its instruments and methods."

The Revised 10-item Achievement Motives Scale (AMS-R) of Lang and Fries (2006) has been used by many researchers for measuring achievement motive. AMS-R is an abridged version of the Achievement Motives Scale of Gjesme and Nygard (1970). Studies by Michou, Matsagouras and Lens (2014), Gerstenberg, Imhoff, Banse and Schmitt (2014), Lange and Crusius (2015) are some of the very recent studies which have used this scale.

Lang and Fries (2006, p.217) state that AMS-R measures self-attributed motives which "...predict immediate specific responses to specific situations or choice behaviour" whereas "...implicit motives predict

spontaneous behavioural trends over time and they are activated by so called activity-incentives”.

While AMS-R has provision to measure both Hope of Success and Fear of Failure dimensions, researchers point out that Fear of Failure has not been explored adequately. For instance, Pang (n.d., p.43) states “...theory regarding fear of failure has never been fully developed. Specifically, predictions about fear of failure regarding effort, persistence, task choice, task performance, and task valence following Atkinson’s expectancy-value theory of motivation has received mottled investigation and support”.

The first five items of the scale measure Hope of Success (i.e., achievement motive) and the items 6 to 10 measure Fear of Failure. Because the focus of this study is on achievement motive, this study uses only the first five items of the Revised Achievement Motives Scale of Lang and Fries (2006).

There have been other studies in the recent past which have used only the first five items of AMS-R scale for measuring achievement motive. For instance, the first five items of the AMS-R have been used by Imhoff, Schmidt and Gerstenberg (2014) for measuring achievement motivation in their study of Trait Self-Control.

Various theories of achievement motive elucidate the antecedents, processes, and outcomes of human behaviour in competence relevant situations. Achievement motive theories explain the effect which success or failure has on an individual’s disposition to continue trying to expend effort with a view to attain success. Although achievement motive is a relatively stable personality trait, it is impacted by situational factors. In this study, the focus is on achievement motive and AMS-R (Lang &

Fries, 2006) has been used to measure the achievement motive of the respondents.

## **2.8 Development of Hypotheses**

### **2.8.1 Job Autonomy and Innovative Work Behaviour**

Many researchers have pointed out that job autonomy is a significant predictor of creativity and Innovative Work Behaviour. Shalley and Gilson (2004, p.36) argue that autonomy is a predictor of creativity at the individual level. Referring to the work of researchers including Krause (2004), Ramamoorthy, Flood, Slattery and Sardesai (2005), and Slatter and Mehmetoglu (2011), De Spiegelaere et al. (2012, p.6) highlight the fact that several empirical studies have established the correlation of autonomy with idea generation and implementation.

While discussing innovation networks, Harrison, Laplante and St-Cyr (2001, p.217) point out that to implement a practice like Total Quality Management, employees need adequate autonomy to facilitate control over work and ‘continuous improvements’. Parzefall et al. (2008, p.170) describe autonomy in terms of an individual’s control over time and the manner in which work is performed and state that there is adequate empirical findings which substantiate the positive correlation between autonomy and innovative behaviours. Parzefall et al. (2008, p.170) refer also to the findings of Csikszentmihalyi (1996), Axtel et al. (2000), and Shalley et al. (2000) and argue that there is a positive correlation between employees’ job autonomy and their involvement in Innovative Work Behaviour. In view of the several findings that job autonomy leads employees to demonstrate Innovative Work Behaviour, it is hypothesized that

*There is a significant relationship between job autonomy and Innovative Work Behavior.*



### 2.8.2 Participative Leadership and Innovative Work Behaviour

Shalley and Gilson (2004, p.45) highlight the importance of participative leadership based on the findings of West and Anderson (1996) who found participative leadership enhanced innovation, and the study of Lind and Tyler (1988) who found that participative leadership was an indispensable dimension of 'procedural justice'. Shalley and Gilson (2004, p.40), also cite a study which Andrews and Farris (1967) conducted among scientists, wherein it was found that creativity was stimulated when managers listened to the apprehensions of the scientists and obtained the inputs of scientists on matters affecting them. Unsworth and Parker (2003, p.21) argue, drawing from the findings of Fiedler (1962), that if the group climate is pleasant, participative leadership style enhanced creativity while under conditions characterized by stress, supervisory leaders enhanced creativity.

Citing the findings of Kanter, (1983) and King and Anderson (2002), de Jong and den Hartog (2003, p.34) argue that participative leadership has been identified very frequently as a predictor of successful innovations because participative leadership style gives employees a say in decision making and control over their work which, in turn, facilitates new ideas.

De Jong and Den Hartog (2008, p.10) conform to the views of Rickards and Moger (2006) in considering participative leadership as an antecedent of innovative work behavior. De Jong and Den Hartog (2008, p.11) cite the studies of the following researchers whose findings lend empirical support to the positive relationship between participative leadership and innovative work behavior: Kanter (1983), Krause (2004), Axtel et al. (2000), and Amabile et al. (2004). Based on the findings made by researchers

that participative leadership style of superiors stimulates Innovative Work Behaviour of employees who report to them, it is posited that

*There is a significant relationship between participative leadership and Innovative Work Behavior*

### **2.8.3 Perceived Support for Innovation and Innovative Work Behavior**

Scott and Bruce (1994) consider support for innovation as a dimension of an organization's climate for innovation.

Ahmed (1998) argues that innovation is closely linked to risks and that an organizational climate which nurtures creativity is an indispensable antecedent of innovation. Gibson and Gibbs (2006, p.461) argue that '... a psychologically safe communication climate may act as a moderating variable that helps overcome the negative effects of these features of virtuality to increase innovation'.

Scott and Bruce (1994, p.601-602) found that employees' perceptions of climate mediated the relationship "...between Leader-Member Exchange and innovative behavior"

Unsworth and Parker (2003, p.22) argue that a psychologically safe climate, which is characterized by the feeling of safety for taking interpersonal risks, has the potential to stimulate innovation. Further, drawing from the findings of Tesluk, Farr and Klein (1997) and Tushmar and Nelson (1990), Unsworth and Parker (2003, p.22) argue that an organization's structure as well as policies which reveal its climate for innovation, has the power to stimulate the innovative behavior of its employees.

Shalley and Gilson (2004, p.45) suggest that managers can stimulate creativity within their organizations by managing the different components

of organizational climate because several dimensions of organizational climate have a positive impact on creativity. Parzefall et al. (2008, p.177) state that there are several empirical studies such as Baer and Frese (2003) and Thamhain (2003) which suggest that an organizational climate which ensures psychological safety, and risk-taking is conducive to innovativeness of its employees. In their study of climate for innovation, Scott and Bruce (1994, p.598) found positive relationship between support for innovation and innovative behavior. Researchers also point out that it is not enough that the organizations support innovation, employees must perceive that their organization supports innovation and Innovative Work Behaviour. In view of the foregoing theoretical considerations and empirical findings which emphasize the significance which support for innovation has for undertaking Innovative Work Behaviour, it is hypothesized that

*There is a significant relationship between perceived support for innovation and Innovative Work Behavior.*

#### **2.8.4 Achievement Motive and Innovative Work Behavior**

Findings of several researchers indicate that achievement motive has the potential to lead to Innovative work behaviour. In a review of research studies on innovation published during 2000-2005, Parzefall et al. (2008, p.169-170) argue that although contextual factors such as management, job, and work environment have some potential to motivate people to creativity, some individuals have a higher achievement need which enhances their intrinsic motivation. Kolodziej (2010, p.43) states that for McClelland and Winter (1969, cited in Furnham, 1995), "...undertaking innovative and engaging tasks..." is a characteristic of people with high achievement motivation. Collins et al. (2004, p.96) state that people with high need for achievement are more likely than those with low need for achievement to engage in innovative behaviors which require planning and working

towards future outcomes and taking personal responsibility for performance of tasks. Collins et al. (2004) suggest:

Organizations in high-paced environments looking for people to take on entrepreneurial roles (i.e., those that involve personal responsibility, feedback on performance, and a moderate degree of risk) to help drive innovations within the firm may wish to use achievement motivation as one of several selection criteria” (p. 112-113).

Loon and Casimir (2008) argue that the need for achievement is significantly related to job-related learning (p.92) and that effective learning is an antecedent of innovation in organizations (p.98). Larawan (2011) found that achievement motivation and organizational orientation of college teachers was positively related to their innovativeness. Amabile et al. (2005, p.386) found that positive emotions are antecedents of creative thinking. According to them, the potential of positive emotions experienced by an employee to trigger creative thinking can last up to a maximum of two days. Positive affect has the potential to facilitate variation in thinking (Amabile et al., 2005, p.391). Positive reactions or feedback from others to creative ideas create positive feelings in employees who suggest creative ideas (Amabile et al., 2005 p.394). Gebert et al. (2003, p.42) argue that whenever an employee faces a situation which calls for an innovative solution, he/she evaluates the situation on two parameters: a) whether there is there a need for change, and b) whether the situation is susceptible to change (i.e., whether the employee has control over the situation). The employee who is guided by hope for success, i.e., achievement motive, comes to a conclusion that that he/she can control the situation and successfully implement the innovative idea. The above considerations lead to the following hypothesis:

*There is a significant relationship between achievement motive and Innovative Work Behavior.*

### 2.8.5 Job Autonomy and Achievement Motive

Castelli (2008, p.720) refer to the suggestion made by deCharms (1968) “...when people perceive the locus of causality for their behavior to be within themselves, they tend to be intrinsically motivated, but when they perceive the locus of causality to be external, they tend to be extrinsically motivated”. Schuler et al. (2010, p.2) discuss the basic tenets of Self Determination theory and argue that as per the SDT proposed by Deci and Ryan (2000), autonomy, competence, and relatedness enhance intrinsic motivation. Shuler et al. (2010) also point out that according to SDT, (Deci, 1971) positive feedback enhances need for competence as well as intrinsic motivation of people.

Dewitt (2007, p.198) argues that as per Cognitive Evaluation theory, perceived competence will not stimulate intrinsic motivation of employees if they do not perceive autonomy also simultaneously. Drawing from the Self Determination Theory of Deci and Ryan (1985, 1991), O’Connor and Vallerand (1994) argue that people actively and autonomously make efforts to successfully interact with their environment; in order to be motivated, people need “...to feel competent, self-initiating, and self-regulating in their daily activities” (p.529). Several researchers have pointed out that achievement motive triggers adoption of mastery achievement goal orientation which facilitates intrinsic motivation in individuals.

Discussing research in the field of task autonomy, Langfred and Moye (2004) state that provision of autonomy is normally considered to enhance the motivation, job satisfaction as well as the performance of employees.

Langfred and Moye (2004) illustrate how autonomy influences approach and avoidance motivation based on the social-cognitive theory of Bandura:

The ability to secure desired outcomes and to prevent undesired outcomes therefore provides a powerful incentive for the development and exercise of personal control...if there are no desirable outcomes to gain or undesirable outcomes to avoid, there is no need for personal control...desire for increased personal control is not an unfocused innate drive but rather a calculated and goal-specific state (p.936).

Achievement motive researchers have demonstrated that achievement motive is characterized by the urge to approach success based on the anticipation of the pleasure which would accrue to the person when a person succeeds in doing a task. Autonomy to choose and strive towards the desired outcomes, thus, stimulates the achievement motive of employees.

Further, drawing from the findings of Samuelson and Marley (1992), Langfred and Moye (2004, p.936) argue that the motivational potential of actual autonomy is determined by an employee's perception of the anticipated net benefit minus the anticipated cost which an employee expects from an action, event, as well as transaction. In view of the above considerations we hypothesize:

*There is a significant relationship between job autonomy and achievement motive.*

### **2.8.6 Participative leadership and Achievement Motive**

The relationship between the leadership style of the leaders and the motivation of employees who report to them has been the subject of research by several researchers. For instance, in line with Maccy and

Schneider (2008), Agarwal et al. (2012, p.209) argue that work engagement (which has been defined as a ‘cognitive-affective motivation at work’) of subordinates is determined to a large extent by the quality of the interactions which an employee has with his/her leader.

Piccolo, Greenbaum, Den Hartog and Folger (2010, p.259) argue that the belief that leaders can nurture intrinsic motivation of employees by changing the characteristics of jobs is central to the Job Characteristics Model proposed by Oldham and Hackman (1976).

Van de Ven (1986, p.596) argues that leadership within the organization has the power to enable employees to break free from the routine systems as well as structures which are enmeshed within established organizations which inhibit generation and implementation of innovative ideas. House (1996) elaborates the major premise which forms the basis for the path-goal theory: “Individuals in positions of authority, superiors, will be effective to the extent that they complement the environment in which their subordinates work by providing the necessary cognitive clarification to ensure that subordinates expect that they can attain work goals and that they will experience intrinsic satisfaction and receive valent rewards as a result of work goal attainment.”

The following contention of Gebert et al. (2003) lends support to the relationship between participative leadership and achievement motive:

Employees must communicate perceived need for change up the hierarchy with subjective and objective prospects of success, so that, at least indirectly, they can categorize the situation as susceptible to change. This is one of the theoretical values of participative leadership: it raises the subjective probability of desired changes being feasible (p.43).

In view of the foregoing considerations on the relationship between participative leadership and motivation, we hypothesize:

*There is a significant relationship between participative leadership and achievement motive.*

### **2.8.7 Perceived Support for Innovation and Achievement Motive**

Some organizational scientists (Scott and Bruce, 1994), consider organizational climate as an individual employee's cognitive representation of the organizational environment. Organizational climate denotes the employees' perception of the kind of behaviours which are expected, supported, and rewarded by the organization (Hofmann et al., 2003). Researchers (e.g., Nybakk et al., 2011) conceptualize 'climate for innovation' as an organizational climate which stimulates or encourages innovation.

Innovation has been considered very closely associated with risk taking behaviours by many researchers (Ahmed, 1998); hence an organizational climate which nurtures creativity is a prerequisite for innovation. Some researchers (Parzefall et al., 2008; Shalley & Gilson, 2004; Unsworth & Parker, 2003) have found that a psychologically safe climate in which employees feel confident about taking risks encourages them to generate and implement new ideas. Thus, the perception of a supportive climate for innovation within their organization triggers the achievement motive of employees, leading them to confidently take risks which are indispensable components of every innovative activity. While engaging in innovative activities which invariably involve risks, managers with high achievement motive need to feel that their organization will support them even if some innovative activities fail. Managers also expect that the organization will provide them with adequate resources – physical resources as well as time – for engaging in Innovative Work Behaviour and



to successfully bring out innovative products and services. While engaging in innovative work behaviours, managers also hope that the organization will reward them for successful completion of innovations. Lang and Fries (2006, p. 217) point out that self-attributed achievement motive is "...facilitated by social incentives like rewards, expectations, demands, and norms that come from outside the task". Achievement motive is also associated with feeling of positive emotions on successful accomplishment of a task. Based on the above considerations, it is hypothesized:

*There is a significant relationship between perceived support for innovation and achievement motive.*

### **2.8.8 Mediation of Achievement Motive between Job Autonomy and Innovative Work Behaviour**

Citing the work of Amabile et al. (1996), Shalley, Zhou and Oldham (2004), Carmeli and Sprietzer (2009), and Yuan and Woodman (2010), De Spiegelaere et al. (2012, p.5) point out that several researchers have found that contextual factors in the organization stimulate Innovative Work Behavior of employees through their effect on motivation. Grant and Berry (2011, p.93) state that managers normally tend to enhance the creativity of their subordinates through facilitating the intrinsic motivation of employees, by measures such as giving them autonomy.

Joo, Jeung and Yoon (2010, p.354) agree with the findings of Langfred and Moye (2004) and other researchers and contend that motivation links autonomy to performance. The study by Joo et al. (2010) revealed:

Employees exhibited the highest intrinsic motivation when they had higher core self-evaluations and when they perceived higher autonomy in their jobs. In turn, employees perceived the highest in-role performance when they had higher core self-evaluations and when they perceived higher intrinsic motivation (p.364).

Joo et al. (2010, p.364) also found that “intrinsic motivation played ... a full mediating role on the relationship between job autonomy and job performance.” Joo et al. (2010, p.365) found that “...job autonomy would influence performance (high work effectiveness) through its effect on motivation.”

Even while attempting to study intrinsic motivation as a moderator, Dysvik and Kuvaas (2011, p.2) state that for most researchers “... perceived job autonomy leads to increased level of intrinsic motivation, and in turn work performance...” Referring to the findings of researchers such as Gagne and Deci (2005), Dysvik and Kuvaas (2011, p.4) state “contemporary Organizational Behaviour motivational models suggest that the relationship between need for autonomy and work performance is mediated by intrinsic motivation”. Dysvik and Kuvaas (2011, p.5) refer also to the findings of Grouzet, Vallerand, Thill and Provencher (2004) and state that “...social environment influences intrinsic motivation through its impact on need satisfaction or the perception of autonomy, competence and relatedness.”

Gagne and Deci (2005), illustrate the links between autonomy and intrinsic motivation as delineated in Self-Determination Theory (p.340) and the connection between intrinsic motivation and creativity, as delineated in Cognitive Evaluation Theory (p.333). Referring to prior research, Gagne and Deci (2005, p.341) argue that ‘autonomous motivation’ fosters creativity whereas ‘controlled motivation’ is detrimental to creativity. Amabile (1998, p.20) elucidates how motivation mediates the link between autonomy and creativity: “autonomy around process fosters creativity because giving people freedom in how they approach their work heightens their intrinsic motivation and sense of ownership.”

Langfred and Moye (2004, p.935) argue that according to the job design research and literature, motivation links the relationship between employee's autonomy and performance. Specifically, in the Job Characteristics Model of Hackman and Oldham (1976), autonomy, being one among the job characteristics, plays an important role in making the employees motivated in a job. Langfred and Moye (2004, p.935) further elucidate how for Hackman and Oldham (1976), "...autonomy leads to the critical psychological state of 'experienced responsibility for outcomes of the work', which in turn leads to outcomes such as high work effectiveness and high internal work motivation."

Piccolo et al. (2010, p.264) argue that autonomy has the potential to produce intrinsic motivation which, in turn, can lead to increased effort as well as persistence. In line with the concept of effort elucidated by Parsons (1968), Piccolo et al. (2010, p.265) define effort as "the translation of motivation into completed work".

Gebert et al. (2003, p.43) argue that "if sufficient situation control is detected, the person concerned develops innovative initiative in the hope of improving the situation that need to be changed."

Thus, many researchers have found that motivation, specifically intrinsic motivation mediates the relationship between job autonomy and several positive work outcomes such as job performance and creativity. Research findings in the area of achievement motive suggest that job autonomy leads to achievement motive and that achievement motive (conceptualized as hope of success), in turn, leads to creativity and innovative behaviour at work. Therefore it is posited that

*Achievement Motive mediates the relationship between job autonomy and Innovative Work Behavior.*

### **2.8.9 Mediation of Achievement Motive between participative leadership and Innovative Work Behavior**

Dewett (2007, p.199) refers to the study of Shin and Zhou (2003) who demonstrate that “intrinsic motivation mediates the effect of the interaction between leader charismatic behavior and conservation (an individual difference) on creativity.” Dewett (2007, p.199) delineates four antecedents of intrinsic motivation that are commonly discussed in literature: “supervisory encouragement (contextual), autonomy (contextual), self-efficacy (individual difference), and openness to experience (individual difference).” The study done by Dewett (2007, p.197) shows that intrinsic motivation mediates the relationship between the above antecedents and a person’s readiness to take risks, and the readiness to take risks, in turn mediates the influence which intrinsic motivation has on the creativity of employees.

Agarwal et al. (2012, p.214) refer to the suggestion by Schaufeli and Salanova (2008) that “...work engagement mediates the relationship between job resources (variety, control, and feedback) and proactive behavior”.

In a study conducted among teachers, Somech (2005, p.792) found that “...empowerment served as a motivational mechanism that mediated the participative approach-innovation relationship. These results suggest that inviting teachers to join in the decision-making process enhanced teachers’ opportunity to develop a sense of self-efficacy and self-determination.”

Somech (2005, p.779) agrees with the models of Sagie et al. (2002), and states that “...it was not the leadership style per se that increases effectiveness, but rather through its triggering motivational mechanisms...”

Somech (2005, p. 782) refers also to the findings of research by Durham et al. (1997) and Locke and Latham (1990) and argues that the relationship between leadership and productivity is not direct but through motivation. Somech (2005, p.784) further goes on to argue that participative leadership has the potential to "...satisfy human growth needs of self-determination and self-actualization, and through these mechanisms, increase motivation and performance."

Atwater and Carmeli (2009, p.267) analyses the mediating role of 'employee feeling of energy' (which appears to be a 'proxy' measure of motivation) between the perceptions employees have about leadership and 'creative work involvement'. Atwater and Carmeli (2009, p.270) found that "leader-member exchange was positively associated with feelings of energy in employees, which, in turn, was related to a high involvement of employees in creative work".

Liu, Chen, and Yao (2012, p.1) define the concept of 'harmonious passion' as "autonomous internalization of activities, making them part of one's identity, and thus creating a sense of personal enjoyment and free choice". Liu et al. (2012, p.3) found that organizational context as well as individual personality stimulate creativity through the medium of 'harmonious passion'. Liu et al. (2012, p.2) argue that 'harmonious passion' is a greater force than intrinsic motivation in so far as it enables people not only to find intrinsic enjoyment in the job but also to consider their job as a part of their self-identity.

Drawing from the findings of Locke and Latham (1990), Shalley and Gilson (2004, p.38) argue that goal setting is an effective technique for motivation employees. Shalley and Gilson (2004, p.38) further argue that leaders can stimulate creativity of their employees through the process of

goal setting. Shalley and Gilson (2004) further point out that in several studies Shalley (1991, 1995) has found evidence that ‘creativity goals’ augmented ‘creativity performance’.

De Jong and Den Hartog (2008, p.10) argue that “participative leadership enhances individuals’ sense of self-determination, control and responsibility for the task at hand as well as individuals’ level of intrinsic motivation to do a task. In turn, this is expected to result in higher levels of IWB.”

Based on the results of their empirical study, de Jong and Den Hartog (2008) contend:

Participative leadership proved to be a strong predictor of employees’ Innovative Work Behavior. Likely, participative leadership enhances employees’ intrinsic motivation as well as their feelings of responsibility, efficacy and control. These, in turn, are likely to enhance employees’ willingness to engage in innovative work behavior (p.21).

Castelli (2008, p.721) argues that “understanding achievement needs, motivational strategies, and profile characteristics for a given audience may greatly assist leaders in determining appropriate strategies to enhance performance output”. Anderson and West (1998, p.240) explain the importance of participation in the context of participative safety: “the more people participate in decision-making through having influence, interacting, and sharing information, the more likely they are to invest in the outcomes of these decisions and to offer ideas for new and improved ways of working.” Therefore it is hypothesized

*Achievement motive mediates the relationship between participative leadership and Innovative Work Behavior.*

### **2.8.10 Mediation of Achievement Motive between Perceived Support for Innovation and Innovative Work Behavior**

Parzefall et al. (2008, p. 177) discuss the findings of Amabile and Gryskiewicz (1989) and Morrison and Phelps (1999), and argue that “...empirical research suggests that an organizational climate that is considered safe and encourages risk-taking is important in motivating individuals to take initiative.” While discussing the componential model of creativity proposed by Amabile, Tang (1998, p.298) argues that “task motivation is especially dependent on the work environment of the organization.”

Lin and Liu (2012, p.56) state that researches on the relationship between climate and performance have not yielded consistent results; they agree with the contention of Patterson et al. (2004) that this inconsistency is due to the influence of mediating variables including motivation. Drawing from the findings of Amabile et al., (1996), Parker et al. (2003), Patterson et al. (2004), and Shalley and Gilson (2004), Lin and Liu (2012, p. 56) emphasize that organizational contextual variables influence productivity of the organization through the motivation of employees. Lin and Liu (2012) argue that motivation is an important mediator between organizational contextual variables and innovation.

Nybakk et al. (2011, p.417) stresses the significance of the link between climate, motivation and creativity by pointing out that the creativity of an organization originates from its employees and that climate is crucial for the motivation of employees. Nybakk et al. (2011, p.425-426) found that climate for innovation as well as innovation strategy had a significant positive effect on the performance of organizations regardless of the size, sector, or country of operation. Nybakk et al. (2011, p.426) also

found that support of the management, adequacy of resources, and teamwork are factors that contribute to a positive climate for innovation.

Agarwal et al. (2012, p. 209) discuss organizational resources, work engagement, and innovative behavior from the perspective of Job Demands – Resources theory. Agarwal et al. (2012, p.209) point out that job resources including the support from the organization as well as the supervisor enhances the work engagement of organizational members, leading to positive performance of the employees. Based on the above research findings, it is posited

*Achievement motive mediates the relationship between perceived support for innovation and Innovative Work Behavior.*

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<i>Contents</i>	<b>3.1 Objectives of the Study</b>
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This chapter discusses the research methodology of this study. Innovative Work Behaviour (IWB) is the dependent variable of the study. Job autonomy, participative leadership and perceived support for innovation are the independent variables of this study. Achievement motive has been conceptualized as a mediating variable.

### 3.1 Objectives of the Study

The following are the main objectives of the study:

- 1) To study the relationship between the independent variables (job autonomy, participative leadership, and perceived support for innovation) and Innovative Work Behaviour (IWB).
- 2) To study the relationship between achievement motive and IWB.
- 3) To study the relationship between the independent variables of this study (job autonomy, participative leadership, and perceived support for innovation) and achievement motive.
- 4) To study the mediating role of achievement motive on the relationship between the independent variables (job autonomy, participative leadership, and perceived support for innovation) and IWB.
- 5) To study whether the IWB of managers varies significantly based on the selected demographic variables (age, field of study, and work experience in the current organization) of this study.

### 3.2 Hypotheses of the Study

Based on the review of literature, the following hypotheses have been formulated, in line with the conceptual framework of the study:

- 1) There is a significant relationship between job autonomy and Innovative Work Behaviour.

- 2) There is a significant relationship between participative leadership and Innovative Work Behaviour.
- 3) There is a significant relationship between perceived support for innovation and Innovative Work Behaviour.
- 4) There is a significant relationship between achievement motive and Innovative Work Behaviour.
- 5) There is a significant relationship between job autonomy and achievement motive.
- 6) There is a significant relationship between participative leadership and achievement motive.
- 7) There is a significant relationship between perceived support for innovation and achievement motive.
- 8) Achievement motive mediates the relationship between job autonomy and Innovative Work Behaviour.
- 9) Achievement motive mediates the relationship between participative leadership and Innovative Work Behaviour.
- 10) Achievement motive mediates the relationship between perceived support for innovation and Innovative Work Behaviour.

### 3.3 Definition of the Variables of the Study

The theoretical and operational definitions of the variables of this study are presented in this section. The following variables have been studied in this research:

- 1) Job autonomy
- 2) Participative leadership
- 3) Perceived support for innovation

- 4) Achievement motive
- 5) Innovative Work Behaviour.

Published scales have been used for measuring all the five variables of this study.

### **3.3.1 Job Autonomy**

#### **Theoretical Definition**

Job autonomy is “the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out” (Oldham & Hackman, 2010, p.4).

#### **Operational Definition**

Job autonomy is the extent of a manager’s freedom in planning and prioritizing work, and deciding on the manner in which his/her job is performed. In this study, job autonomy of managers is measured using an adapted version of the Perceived Job Autonomy Scale of Ramamoorthy, Flood, Slattery, and Sardesai (2005). This is a nine-item, five point, Likert type scale.

### **3.3.2 Participative Leadership**

#### **Theoretical Definition**

Participative leadership has been defined as the “...joint decision making or at least shared influence in decision making by a superior and his or her employees...” Koopman and Wierdsma (1998), cited by Somech (2005, p.778).

#### **Operational Definition**

Participative leadership is a leadership style in which the leader enables managers who report to him to involve in making decisions

regarding the work unit. In this study, participative leadership is measured using an adapted version of the six-item, five point, Participative Leadership scale of de Jong and Den Hartog (2008).

### **3.3.3 Perceived Support for Innovation**

#### **Theoretical Definition**

Perceived Support for Innovation is defined as “the expectation, approval and practical support of attempts to introduce new and improved ways of doing things in the work environment” (West, 1990, cited by Van Gorp, 2012).

#### **Operational Definition**

Perceived support for innovation is the perception of signals which managers receive from their organization regarding organizational expectations for and potential outcomes of Innovative Work Behaviour. In this study, perceived support for innovation is measured using an adapted version of the Siegel Scale for Support for Innovation (1978) which has been expanded by Scott and Bruce (1994). This is a five point scale which has eight items.

### **3.3.4 Achievement motive**

#### **Theoretical Definition**

McClelland defined achievement motive as the “...recurrent concern with surpassing standards of excellence” (cited by Schuler, Sheldon, & Frohlich, 2010, p.2). Lang and Fries (2006, p.216) define achievement motive as a “...generalized evaluative and behavioural tendency in situations in which a standard of excellence can be applied”.

#### **Operational Definition**

Achievement motive is a tendency of managers to anticipate pleasure and to approach success in achievement situations. In this study achievement motive has been measured using the first five items (Hope of Success scale)

of the four point Revised Achievement Motives Scale (AMS-R scale) of Lang and Fries (2006), which is a shortened version of the Achievement Motive Scale of Gjesme and Nygard.

### **3.3.5 Innovative Work Behaviour**

#### **Theoretical Definition**

Farr and Ford (1990) define Innovative Work Behaviour as “...an individual’s behaviour that aims to achieve the initiation and intentional introduction (within a work role, group, or organization) of new and useful ideas, processes, products, or procedures” (cited by de Jong and Den Hartog, 2008, p.5).

#### **Operational Definition**

Innovative Work Behaviour is a manager’s behaviour aimed at the generation, championing, and implementation of new ideas in his/her organization. In this study, Innovative Work Behaviour has been measured using Janssen’s nine-item scale of individual innovation in the workplace (cited in Janssen & Van Yperen, 2004).

## **3.4 Scope of the Study**

### **3.4.1 Population**

The population of this study consists of all managers working in public limited and private limited spices exporting companies in the state of Kerala, India. Managers working in spice exporting firms which were registered as sole proprietorships, partnerships, and cooperatives were excluded from the purview of this study.

Only managers from spice exporting companies which have manufacturing units where spices are processed, were selected for the purpose of this study. Bulk exporters of spice commodities without manufacturing units were excluded from the purview of the study.

Senior executives (board level functionaries) of companies were excluded from the purview of this study. All managerial staff, designated as supervisors, junior executives, and managers have been considered for the purpose of this study.

This study was done among managers working in the spice exporting companies situated in the State of Kerala, India. Indian spices industry exported spices worth Rupees 14, 899 crores in 2014-15 (The Economic Times, June 15, 2015).

Spice processing units in Kerala, India, are profit making firms with significant share in the international spice trade (Malayala Manorama, November 2, 2015). These firms are known for their innovative products, processes, as well as managerial innovations. A study conducted by the NSTMIS, CSIR and NISTADS (June, 2012) found that firms belonging to the food processing industry in Kerala are among the most innovative firms in India. Spice processing firms are situated at the apex level of the food processing firms in terms of technology, innovation, value generation, export earnings and profits.

It was expected that managers working in the spices exporting companies in Kerala are likely to demonstrate Innovative Work Behavior because of the demonstrated innovative output of their companies. A similar criterion was used by Amabile et al. (2005, p.376) in their study on the relationship between emotions and creativity wherein they selected participants 'only if creativity was a possible outcome of their team's project' because the main variable under research was creativity. It was also expected that there would be variance in the level of firm-level innovation of various spice exporting companies operating in the state of Kerala, India and correspondingly in the Innovative Work Behaviour of managers working in those companies.

### **3.4.2 Location of the Study**

This study has been done among managers working in spices exporting companies operating in the state of Kerala, India. Some of the spices exporting companies operating within the state of Kerala have managers working outside the state of Kerala as well. However, only the managers who are working within the state of Kerala have been considered for this study. Further, only managers from spices exporting companies which have manufacturing units within the state of Kerala have been considered for the purpose of this study.

### **3.4.3 Period of Study**

Data collection was conducted during the period December 2013 to March 2014.

### **3.4.4 Source of Data**

Primary data collected from managers working in spices exporting companies in the State of Kerala, India have been used for this study.

## **3.5 Research Design**

This study is explanatory in nature because it examines the relationships between the variables which have been selected for the purposes of this study.

## **3.6 Sample Design**

### **3.6.1 Unit of Study / Observation**

Individual managers have been the units of observation of this study.

### **3.6.2 Sampling Technique Used**

All managers working in registered public limited and private limited spice exporting companies in the State of Kerala were chosen as the



population of this study. Two-stage sampling, with simple random sampling procedure in both stages, has been adopted for this study.

In the first stage, seventeen companies (50%) of the spice exporting companies operating in Kerala as on October 31, 2013 were selected from the list of licensed spice exporting companies given on the official website of the Spices Board of India, through simple random sampling. The list of such companies as on October 31, 2013 were drawn from the website of Spices Board (<http://www.indianspices.com/>).

In the second stage, one hundred and fifty seven managers from the seventeen selected companies were chosen as respondents through simple random sampling.

### **3.6.3 Sample Size**

One hundred and fifty seven samples have been selected from 17 companies for this study.

## **3.7 Analysis Design**

Statistical analysis were conducted using SPSS (Version 20) and WarpPLS (Version 5.0) Structural Equation Modeling (SEM). For testing of hypotheses as well as for analyzing the measurement model and the structural model, WarpPLS SEM was used.

## **3.8 Data Collection and Measures of Constructs**

### **3.8.1 Tool of Data Collection**

Questionnaire (self-report) has been used for data collection.

### **3.8.2 Level of Measurement**

All the variables of the study have been measured by means of interval scales.

### 3.8.3 Measures of Constructs

1. Job Autonomy:

Job autonomy was measured using the Job Autonomy Scale developed by Ramamoorthy, Flood, Slattery, and Sardesai (2005). This scale consists of 9 items.

2. Participative Leadership:

Participative leadership was measured using the 6-item Participative Leadership Scale developed by de Jong and den Hartog (2010).

3. Perceived Support for Innovation:

Perceived support for innovation was measured using an adapted version of 8 items from the Climate for Innovation Scale of Scott and Bruce (1994). Scott and Bruce had modified and expanded the Siegel Scale for Support for Innovation (1978) and included it as a subscale of their Climate for Innovation scale. This is a five point scale which has eight items.

4. Achievement Motive:

Achievement motive was measured by the Revised Achievement Motive Scale (AMS-R Scale) developed by Lang and Fries (2006). Lang and Fries have abridged the original 30-item AMS of Gjesme and Nygard (1970) to arrive at their 10-item AMS-R Scale. The first 5 items of AMS-R deal with Hope of Success while the next 5 items deal with Fear of Failure. For the purposes of this study, only the first 5 items dealing with Hope of Success have been used to measure achievement motive.

5. Innovative Work Behaviour:

Innovative Work Behaviour was measured using Janssen's (2000) nine-item Scale of Individual Innovation in the workplace (cited in Janssen & Van Yperen, 2004).

### 3.8.4 Instrument of Data Collection

The instrument of data collection consists of 40 items. Part I comprises of 3 questions relating to the demographic variables selected for the study: age, field of study, and work experience in the current organization. Respondents were given the following options to furnish data about their field of study:

- 1) Engineering (Diploma/Degree/PG)
- 2) Management
- 3) Engineering and Management
- 4) Science (Degree/PG/PhD)
- 5) Finance (Degree/PG/ICWA/CA)
- 6) Others

Part II of the instrument consists of five items (the first five questions of the AMS-R). It is a four-point scale where respondents indicate the extent to which the statements apply to them (1 = Never, 2 = Rarely, 3 = Often, and 4 = Always).

Part III of the instrument consists of nine items of the Job Autonomy Scale. It is a five-point scale with options for the respondents to indicate the degree to which the statements apply to them (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Always).

Part IV of the instrument comprises of the six items of the Participative Leadership Scale. This is a five-point scale with options for the respondents to indicate the extent to which the statements apply to them (1 = Totally Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Totally Agree).

Part V of the instruments consists of nine items of the Innovative Work Behaviour Scale. This is a five-point scale where the respondents have the option to indicate the extent to which the statements apply to them (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Always).

Part VI of the instrument consists of the eight-item Perceived Support for Innovation Scale. This scale is a five-point scale wherein the respondents have the option to indicate the extent to which the statements apply to their organization (1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree).

### 3.9 Reliability and Factor Validity of Measures of Constructs

#### 3.9.1 Job Autonomy Scale

##### 1) Reliability

The original Job Autonomy scale has 9 items. Reliability analysis using Chronbach's Alpha method revealed that three items of this scale had low Item-Total correlation. The removal of these three items (items 1, 3, and 8) resulted in a 6-item Job Autonomy Scale. Reliability analysis after the removal of three items with low Item-Total correlation resulted in enhanced Chronbach Alpha (.820), indicating increased reliability of the scale. Table 3.1 presents the result of the final reliability analysis of the Job Autonomy Scale:

**Table 3.1: Reliability of Job Autonomy Scale**

Scale	Number of Items	Chronbach's Alpha
Job Autonomy Scale	6	.820

## 2) Factor Analysis

**Table 3.2: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity of Job Autonomy Scale**

KMO		.842
Bartlett's Test of Sphericity	Approx. Chi-Square	283.571
	df.	15
	Sig.	.000

The result of KMO test is 0.842 which is much more than the cut-off value of 0.5. The result of Bartlett's test (significance .000) is significant at  $p < .01$ . The results of KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity performed on Job Autonomy Scale justified the use of factor analysis of this scale. Exploratory Factor Analysis with Principal Component Analysis resulted in the extraction of one component which explained 52.91% of the total variance of the scale.

### 3.9.2 Participative Leadership Scale

#### 1) Reliability

The Participative Leadership scale has 6 items. Reliability analysis using Chronbach's Alpha method showed that all the items have acceptable Item-Total correlation. Table 3.3 presents the result of the reliability analysis of the Participative Leadership scale:

**Table 3.3: Reliability of Participative Leadership Scale**

Scale	Number of Items	Chronbach's Alpha
Participative Leadership Scale	6	.859

## 2) Factor Analysis

**Table 3.4: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity of Participative Leadership Scale**

KMO		.842
Bartlett's Test of Sphericity	Approx. Chi-Square	445.263
	df.	15
	Sig.	.000

The results of KMO Measure of Sampling Adequacy (value more than 0.5) and Bartlett's Test of Sphericity ( $p < .01$ ) shows that it is appropriate to conduct factor analysis of the participative leadership scale. Exploratory Factor Analysis with Principal Component Analysis resulted in the extraction of one component which explained 59.28% of the total variance of the scale.

### 3.9.3 Perceived Support for Innovation Scale

#### 1) Reliability

The original Perceived Support for Innovation scale has 8 items. Reliability analysis using Chronbach's Alpha method showed that three items (items 3, 4, and 8) had low Item-Total correlation. The removal of these three items resulted in a 5 item Perceived Support for Innovation scale. Reliability analysis after the removal of three items with low Item-Total correlation resulted in improved Chronbach's Alpha, indicating increased reliability of the scale. Table 3.5 presents the result of the final reliability analysis of the Perceived Support for Innovation scale:

**Table 3.5: Reliability of Perceived Support for Innovation Scale**

Scale	Number of Items	Chronbach's Alpha
Perceived Support for Innovation Scale	5	.808

## 2) Factor Analysis

**Table 3.6: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity of Perceived Support for Innovation Scale**

KMO		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	295.545
	df.	10
	Sig.	.000

The results of KMO Measure of Sampling Adequacy (value more than 0.5) and Bartlett's Test of Sphericity ( $p < .01$ ) pertaining to the Perceived Support for Innovation scale justifies conducting factor analysis of this scale. Exploratory Factor Analysis with Principal Component Analysis resulted in the extraction of one component which explained 56.75% of the total variance of the scale.

### 3.9.4 Achievement Motive Scale

#### 1) Reliability

The Achievement Motive scale used in this study has 5 items. Reliability analysis using Chronbach's Alpha method showed that all the items have acceptable Item-Total correlation. Table 3.7 presents the result of the reliability analysis of the Achievement Motive scale:

**Table 3.7: Reliability of Achievement Motive Scale**

Scale	Number of Items	Chronbach's Alpha
Achievement Motive Scale	5	.770

## 2) Factor Analysis

**Table 3.8: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity of Achievement Motive Scale**

KMO		.783
Bartlett's Test of Sphericity	Approx. Chi-Square	192.504
	df.	10
	Sig.	.000

The results of KMO Measure of Sampling Adequacy (value more than 0.5) and Bartlett's Test of Sphericity ( $p < .01$ ) conducted on the Achievement Motive Scale shows that it is appropriate to conduct factor analysis of this scale. Exploratory Factor Analysis with Principal Component Analysis resulted in the extraction of one component which explained 52.53% of the total variance of the scale.

### 3.9.5 Innovative Work Behaviour Scale

#### 1) Reliability

The Innovative Work Behaviour scale has 9 items. Reliability analysis using Chronbach's Alpha method showed that three items (items 2, 5, and 8) had low Item-Total correlation. The removal of these three items resulted in a 6-item Innovative Work Behaviour Scale. Reliability analysis after the removal of three items with low Item-Total correlation resulted in improved Chronbach's Alpha, indicating increased reliability of the scale. Table 3.9 presents the result of the reliability analysis of the Innovative Work Behaviour scale:

**Table 3.9: Reliability of Innovative Work Behaviour Scale**

Scale	Number of Items	Chronbach's Alpha
Innovative Work Behaviour Scale	6	.808



## 2) Factor Analysis

**Table 3.10: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity of Innovative Work Behaviour Scale**

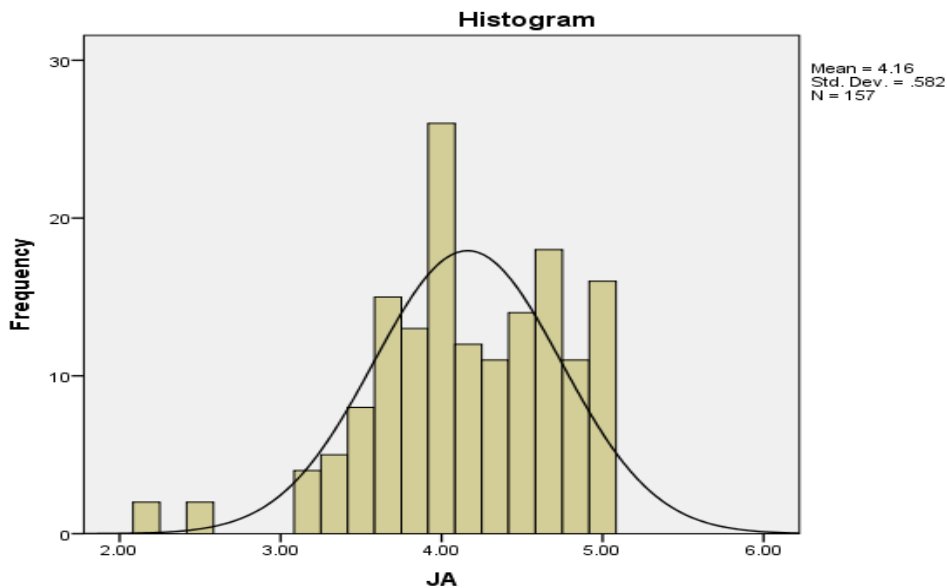
KMO		.808
Bartlett's Test of Sphericity	Approx. Chi-Square	273.843
	df.	15
	Sig.	.000

The results of KMO Measure of Sampling Adequacy (value more than 0.5) and Bartlett's Test of Sphericity ( $p < .01$ ) conducted on the Innovative Work Behaviour Scale shows that it is appropriate to conduct factor analysis of this scale. Exploratory Factor Analysis with Principal Component Analysis resulted in the extraction of one component which explained 51.25% of the total variance of the scale. Janssen's Scale of Individual Innovation in the Work place (2000) has three questions each, to measure three dimensions of Innovative Work Behaviour: idea generation, idea championing, and idea implementation. However, factor analysis through Principal Component Analysis resulted in the extraction of only one component. A similar result emerged from the confirmatory factor analysis of this scale conducted by de Jong and den Hartog (2010, p 31-34) which led them to suggest that Innovative Work Behaviour is a one-dimensional construct.

### 3.10 Distribution of Data

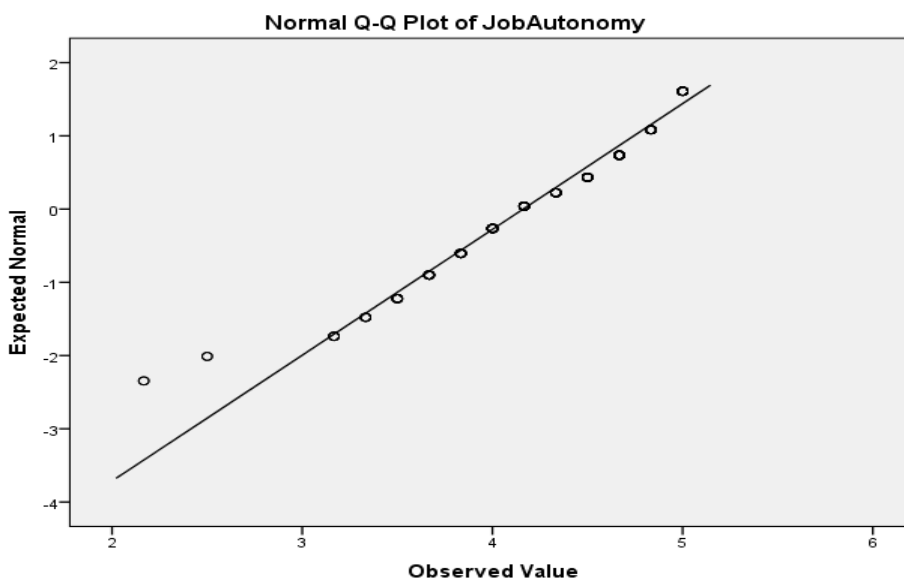
This section deals with the distribution of data with a view to ascertain the type of statistical tests to be used in the study. Parametric tests can be conducted only on normally distributed data whereas lack of normal distribution call for non-parametric tests. In this section, the results of assessment of normality of data by means of Histogram and normal Q-Q plot is discussed. Subsequently, Skewness and Kurtosis of the data are assessed with a view to ascertain normality of the data.

### 3.10.1 Job Autonomy (JA)



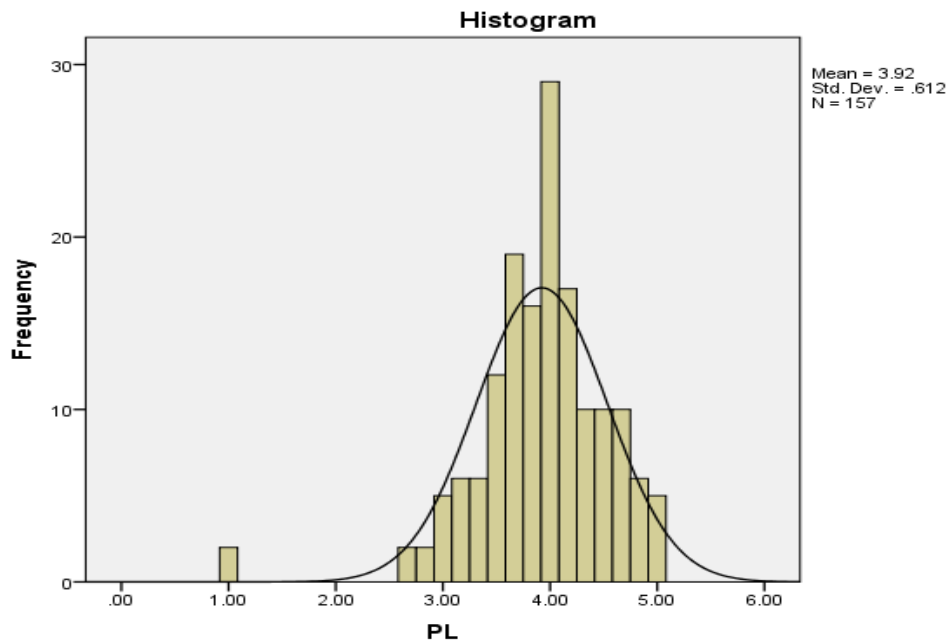
**Figure 3.1: Histogram with Normal Curve of Job Autonomy (JA)**

The above histogram presents the job autonomy scores of the respondents along with a normal curve for the distribution. Eyeballing of the normal curve as well as the Q-Q plot shows that there is some deviation from normal distribution.



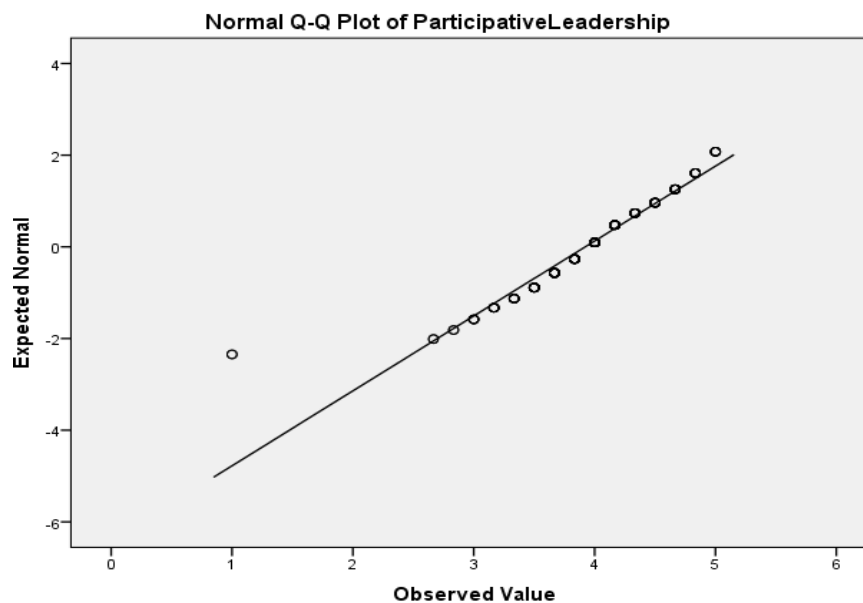
**Figure 3.2: Normal Q-Q Plot of Job Autonomy**

### 3.10.2 Participative Leadership (PL)



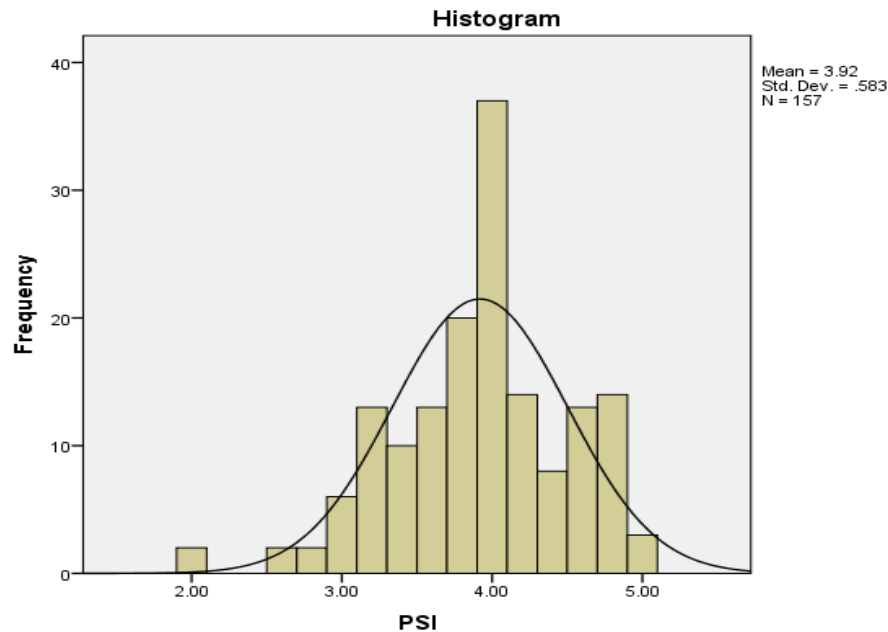
**Figure 3.3: Histogram with Normal Curve of Participative Leadership (PL)**

The histogram with normal curve of participative leadership scores as well as the normal Q-Q plot of participative leadership scores indicates that there is some deviation from normality.



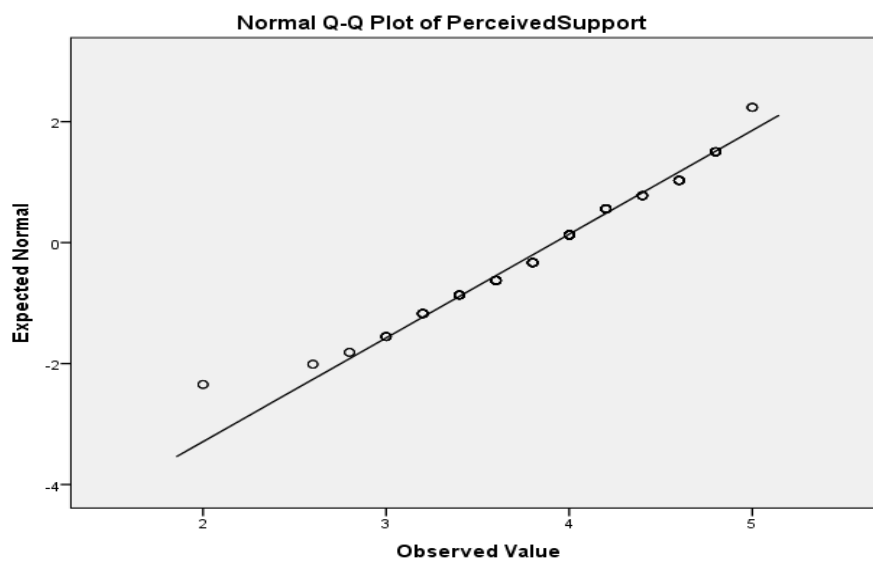
**Figure 3.4: Normal Q-Q Plot of Participative Leadership**

### 3.10.3 Perceived Support for Innovation (PSI)



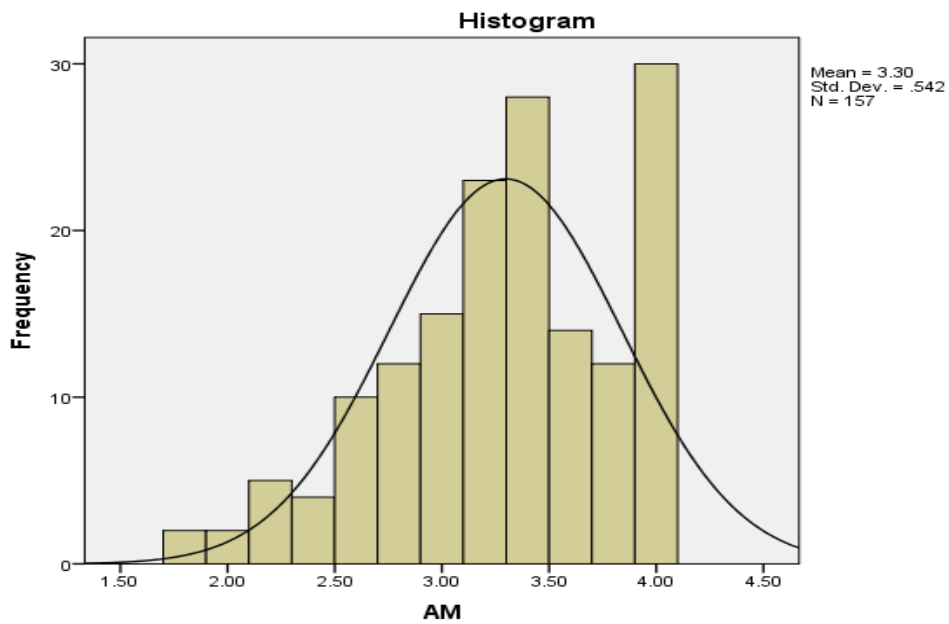
**Figure 3.5: Histogram with Normal Curve of Perceived Support for Innovation (PSI)**

Eyeballing of the histogram as well as the normal Q-Q plot of the perceived support for innovation scores indicates that the data has some deviation from normality.



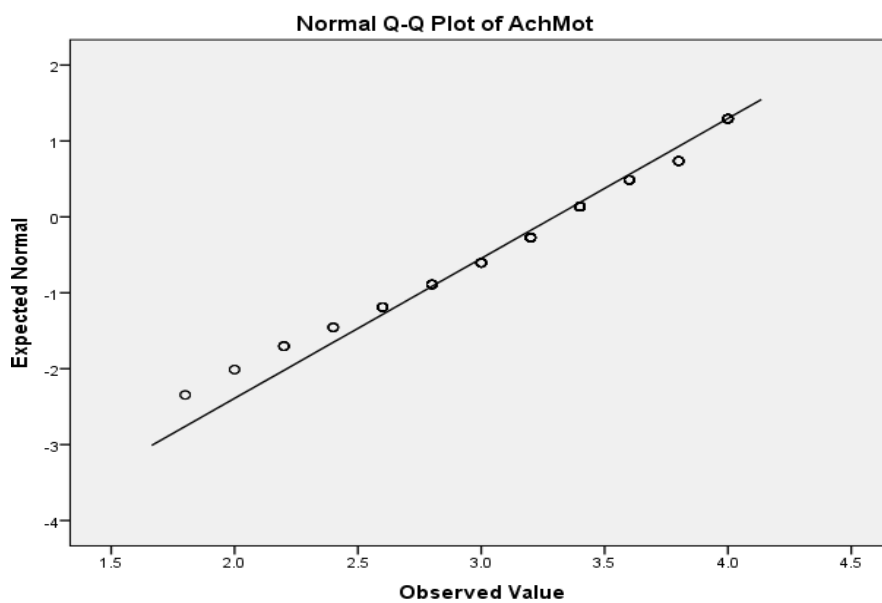
**Figure 3.6: Normal Q-Q Plot of Perceived Support for Innovation**

### 3.10.4 Achievement Motive (AM)



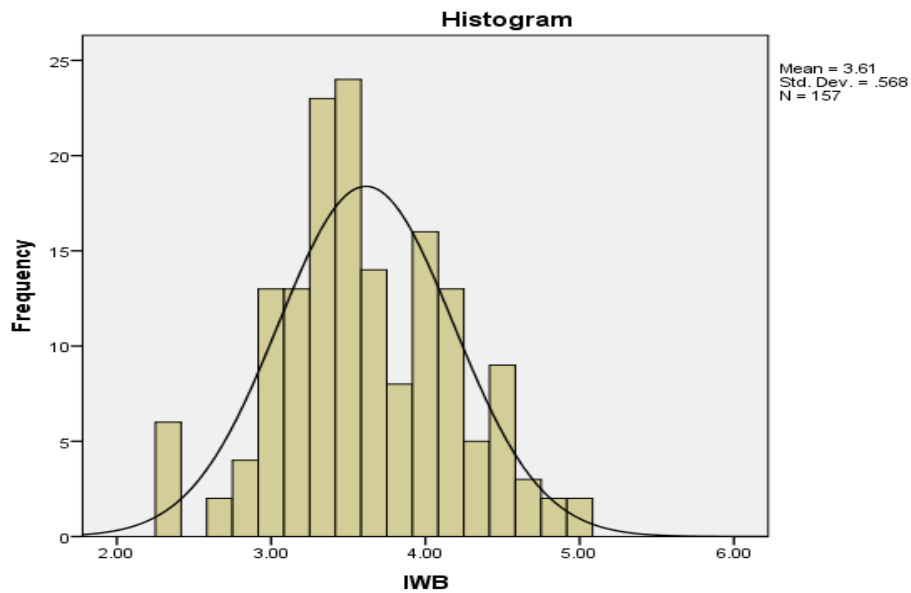
**Figure 3.7: Histogram with Normal Curve of Achievement Motive (AM)**

The histogram with normal distribution of achievement motive and the normal Q-Q plot of achievement motive indicates deviation from normal distribution.



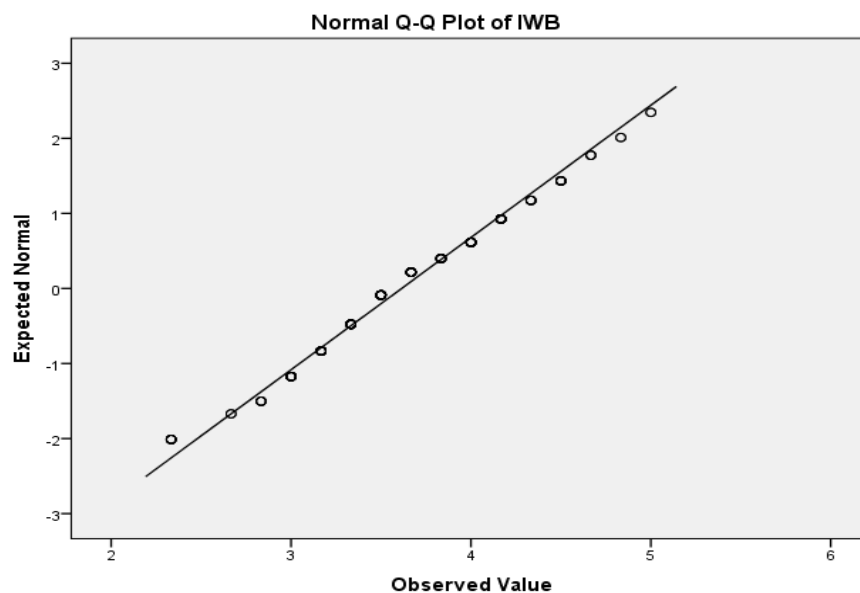
**Figure 3.8: Normal Q-Q Plot of Achievement Motive**

### 3.10.5 Innovative Work Behaviour (IWB)



**Figure 3.9: Histogram with Normal Curve of Innovative Work Behaviour (IWB)**

Eyeballing of the normal curve and Q-Q plot of Innovative Work Behaviour scores shows that the data distribution of Innovative Work Behaviour is almost normal.



**Figure 3.10: Normal Q-Q Plot of Innovative Work Behaviour**

### 3.11 Analysis of Normality of Data (Skewness, Kurtosis, and z Scores)

Assessment of distribution of data by means of histogram with normal curve and normal Q-Q plot shows there is deviation from normal distribution for most variables of this study. Hence Skewness, Kurtosis, and z scores of data distributions of all variables of this study were examined with a view to obtain a more accurate assessment of the distribution of data. The following table shows the mean, Standard Deviation, Skewness, Kurtosis, and z scores of the data.

**Table 3.11: Skewness, Kurtosis and z Scores**

Sl. No.	Variable	Mean	Standard Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Z	Statistic	Z
1	Job autonomy	4.1646	.58209	-.685	-3.53093	.846	2.197403
2	Participative Leadership	3.9225	.61194	-1.350	-6.95876	5.295	13.75325
3	Perceived Support for Innovation	3.9185	.58308	-.462	-2.38144	.442	1.148052
4	Achievement Motive	3.2968	.54236	-.547	-2.81959	-.214	-0.55584
5	Innovative Work Behaviour	3.6146	.56766	.098	0.505155	-.127	-0.32987

The above table indicates that for all variables except Innovative Work Behaviour, Skewness is negative, denoting left-skewed data distributions. Kurtosis is positive for job autonomy, participative leadership, and for perceived support for innovation data distributions. Kurtosis is negative for achievement motive and Innovative Work Behaviour data distributions. Except for participative leadership data, all other data distributions have Skewness and Kurtosis values less than one.

The z value of all data distributions were computed to assess normality. The z value of +/- 1.96 for both Skewness and Kurtosis indicates that the data is not normally distributed. Based on this criteria, only the data distribution pertaining to Innovative Work Behaviour is normally distributed. Data pertaining to job autonomy, participative leadership, perceived support for innovation, and achievement motive are not normally distributed.

As a result, parametric tests can be conducted only for the data on Innovative Work Behaviour. Accordingly, for testing the relationship between demographic variables and IWB, ANOVA, which assumes normal distribution, has been conducted.

For all the other data, only non-parametric can be used. Hence hypothesis testing using WarpPLS SEM has been used for data pertaining to job autonomy, participative leadership, perceived support for innovation and achievement motive scales.

### **3.12 Limitations of the Study**

This study has three limitations. Firstly, the design of this study is cross-sectional. A longitudinal study would have captured more enriched data on the variables and led to more significant findings. Secondly, the data for all the measures of this study has been collected through self-report method. Self-report method has the potential for leading to common method bias which the researcher has controlled by adopting specific statistical measures aimed at controlling common method bias. The results of CFA done through WarpPLS has demonstrated that the measures of constructs of this study are free from common method bias. Thirdly, the scope of this study was limited to the managers working in spice exporting sector in Kerala, India.



This chapter has presented several important issues pertaining to research methodology such as objectives of the study, hypotheses, research design, sample design, analysis design, measures of data collection, and particulars of data collection. This chapter has also discussed reliability and validity of the measures of constructs of this study. Distribution of data has also been examined in this chapter. Analysis of Skewness and Kurtosis has revealed that measures other than Innovative Work Behaviour are not normally distributed.

Absence of normal distribution necessitates that non-parametric tests should be used to test the hypotheses of this study. Accordingly, WarpPLS Structural Equation Modeling has been used to test the hypotheses of this study.

Three demographic variables (age, field of study, and work experience in the current organization) have been selected for this study with a view to examine how these variables relate to Innovative Work Behaviour. Data pertaining to Innovative Work Behaviour scale are normally distributed. The relationships between demographic variables and Innovative Work Behaviour have been tested using ANOVA and Post-Hoc HSD test. The next chapter discusses the results of data analysis.

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## Chapter **4**

### **DATA ANALYSIS**

*Contents*

- 4.1 Demographic Profile of the Respondents**
- 4.2 The Relationship between Demographic Variables and Innovative Work Behaviour**
- 4.3 Descriptive Statistics**
- 4.4 Correlations among the Variables**

## 4.1 Demographic Profile of the Respondents

In this section, the demographic profile of the participants of this study is presented. The following demographic variables of the respondents have been selected for this study:

- 1) Age
- 2) Field of Study
- 3) Work experience in the current organization.

### 4.1.1 Age of the Respondents

This section discusses the profile of the respondents based on age. Table 4.1 shows the distribution of respondents based on their age.

**Table 4.1: Distribution of Respondents by Age**

Age Group	Frequency	Percentage
21 to 30 years	54	34.4
31 to 40 years	56	35.7
41 to 50 years	39	24.8
51 to 60 years	8	5.1
<b>Total</b>	<b>157</b>	<b>100</b>

Fifty six respondents (35.7%) were in the age group 31 to 40 years while fifty four respondents (34.4%) were in the age group of 21 to 30 years. Thirty nine respondents (24.8%) belonged to the age group 41 to 50 years and eight respondents (5.1%) belonged to the age group 51 to 60 years. The mean age of the respondents was 36.44 and the standard deviation was 8.27.

### 4.1.2 Field of Study of the Respondents

This section presents the profile of the respondents based on their field of study. Table 4.2 illustrates the profile of the respondents based on their field of study:

**Table 4.2: Distribution of Respondents Based on Field of Study**

Sl. No.	Field of Study	Frequency	Percentage
1	Engineering (Diploma/Degree/Post Graduate)	13	8.3
2	Management	48	30.6
3	Engineering and Management	14	8.9
4	Science (Degree/Post Graduate/ PhD)	35	22.3
5	Finance (Degree/Post Graduate/ ICWA/CA)	34	21.7
6	Others	13	8.3
<b>Total</b>		<b>157</b>	<b>100</b>

Forty eight respondents (30.6%) had qualifications only in Management whereas thirty five respondents (22.3%) had qualifications in Science. Thirty four respondents (21.7%) of the respondents were qualified in Finance while fourteen respondents (8.9%) had their educational qualifications in both Engineering and Management. Thirteen respondents (8.3%) had their educational qualifications only in Engineering. Thirteen respondents (8.3%) have been placed in the category 'other' based on their field of study. Respondents with qualifications in Management constituted the largest group (30.6%) in terms of field of study.

### 4.1.3 Work Experience of the Respondents in their Current Organization

This section presents the distribution of respondents based on their work experience in their current organization. Table 4.3 shows the distribution of the respondents based on years of work experience in their current organization.

**Table 4.3: Distribution of Respondents Based on Work Experience in their Current Organization**

Work Experience	Frequency	Percent
1 to 5 years	93	59.2
6 to 10 years	29	18.5
11 to 15 years	14	8.9
16 to 20 years	14	8.9
21 to 25 years	7	4.5
<b>Total</b>	<b>157</b>	<b>100</b>

Ninety three respondents (59.2%) had 1 to 5 years of work experience in their current organization. Twenty nine respondents (18.5%) had 6 to 10 years of work experience in their current organization. There were fourteen respondents (8.9%) who had 11 to 15 years of work experience in their current organization. Another fourteen respondents (8.9%) had 16 to 20 years of work experience in their current organization. Seven respondents (4.5%) had 21 to 25 years of work experience in their current organization. The mean work experience of the respondents in their current organization was 6.78 years and the standard deviation was 6.67. The group with 1 to 5 years of work experience in the current organization (59.2%) was the largest group in terms of work experience in the current organization.

#### **4.2 The Relationship between Demographic Variables and Innovative Work Behaviour – Results of ANOVA and Discussion**

This section presents the relationship between the selected demographic variables (age, field of study, and work experience in the current organization) and Innovative Work Behaviour, the dependent variable of this study.

### 4.2.1 Age and Innovative Work Behaviour

**Table 4.4: Innovative Work Behaviour Scores of Different Age Groups**

Age Group	N	IWB Score	
		Mean	SD
21 – 30 years	54	3.44	.54
31 – 40 years	56	3.89	.50
41 – 50 years	39	3.57	.59
51 – 60 years	8	3.17	.25
Total	157	3.61	.56

A one way ANOVA indicated that the differences in the Innovative Work Behaviour scores of managers in different age groups were statistically significant at the 0.05 level,  $F = 8.720$ ,  $p = .000$ .

**Table 4.5: ANOVA - Age and Innovative Work Behaviour**

Factor	Dependent Variable	<i>F</i>	<i>P</i>
Age	Innovative Work Behaviour	8.720	.000

Tukey's HSD test showed that age-group 31-40 ( $n = 56$ ,  $M = 3.89$ ,  $SD = .50$ ) had significantly higher scores on Innovative Work Behaviour when compared to age group 21-30 ( $n = 54$ ,  $M = 3.44$ ,  $SD = .54$ ), age group 41-50 ( $n = 39$ ,  $M = 3.57$ ,  $SD = .59$ ), and age group 51-60 ( $n = 8$ ,  $M = 3.17$ ,  $SD = .25$ ).

The results show that managers in the age group 31 to 40 have higher scores on Innovative Work Behaviour. While explaining the componential model of creativity, Amabile (1998) argues that expertise is a prerequisite of creativity. There is a lead time which is required to develop expertise as managers. This might be a reason why managers in the age group 31-40 have higher scores on IWB, when compared to managers in the age group 21 to 30.

Further, organizations which have adopted innovation as a strategy might be cautious while managing innovations. For instance, Gebert et al. (2003), emphasize the need to address the “unplanned, negative secondary effects of situation control” (p.42) and argue that, organizations must be careful to address the tendency, in particular among young employees, to adopt a stance of “everything-or-nothing...or...now-or-never thinking” (p.48) while managing innovations.

The reason for lower IWB scores of managers in age groups 41-50 and 51-60 might be because of their tendency to maintain the status quo in organizations. However, the relationship between age and Innovative Work Behaviour needs to be explored further.

#### 4.2.2 Field of Study and Innovative Work Behaviour

**Table 4.6: Field of Study and Innovative Work Behaviour**

Field of Study	N	IWB Score	
		Mean	SD
Engineering	13	3.52	.48
Management	48	3.56	.49
Engineering and Management	14	3.5	.63
Science	35	3.7	.70
Finance	34	3.7	.57
Others	13	3.5	.40
<b>Total</b>	<b>157</b>	<b>3.61</b>	<b>.56</b>

A one way ANOVA indicated that the differences in the Innovative Work Behaviour scores of managers from different field of study were not statistically significant at the 0.05 level,  $F = 0.759$ ,  $p = .581$ .

**Table 4.7: ANOVA – Field of Study and IWB**

Factor	Dependent Variable	F	p
Field of Study	Innovative Work Behaviour	0.759	.58

The results show that there is no significant difference in the Innovative Work Behaviour scores of groups of managers with educational qualifications in different fields of study. The present finding implies that managers with educational qualifications in various disciplines such as management, science, and finance, etc. can demonstrate Innovative Work Behaviour just like their colleagues with engineering and technical qualifications.

Researchers emphasize the point that Innovative Work Behaviour is not the exclusive domain of technical personnel employed in Research and Development department of organizations. Organizational scientists also argue that nowadays every employee needs to demonstrate Innovative Work Behaviour. The present finding indicates that managers who participated in the present study, can and do engage in Innovative Work Behaviour, irrespective of the field of study.

#### 4.2.3 Work Experience in the Current Organization and Innovative Work Behaviour

**Table 4.8: Work Experience in the Current Organization and IWB**

Work Experience in the Current Organization	N	IWB Score	
		Mean	SD
1 to 5 years	94	3.58	.53
6 to 10 years	28	4.01	.53
11 to 15 years	12	3.55	.41
16 to 20 years	16	3.15	.50
21 to 25 years	7	3.57	.64
<b>Total</b>	<b>157</b>	<b>3.61</b>	<b>.56</b>

A one way ANOVA indicated that the differences in the Innovative Work Behaviour scores of managers in different groups, classified based on years of work experience in their current organization were statistically significant at the 0.05 level,  $F = 7.258$ ,  $p = 000$ .



Tukey's HSD test showed that managers with 6 to 10 years of work experience in the current organization ( $n = 28$ ,  $M = 4.01$ ,  $SD = .53$ ) had significantly higher scores on Innovative Work Behaviour when compared to managers with 1 to 5 years of work experience in the current organization ( $n = 94$ ,  $M = 3.58$ ,  $SD = .53$ ) and 16 to 20 years of work experience in the current organization ( $n = 16$ ,  $M = 3.15$ ,  $SD = .50$ ).

Tukey's HSD test also showed that managers with 1 to 5 years of work experience in the current organization ( $n = 94$ ,  $M = 3.58$ ,  $SD = .53$ ) had significantly higher scores on Innovative Work Behaviour when compared to managers 16 to 20 years of work experience in the current organization ( $n = 16$ ,  $M = 3.15$ ,  $SD = .50$ ).

**Table 4.9: ANOVA–Work Experience in the Current Organization and Innovative Work Behaviour**

Factor	Dependent Variable	<i>F</i>	<i>P</i>
Work Experience (years) in the Current Organization	Innovative Work Behaviour	7.258	.000

The result of ANOVA indicates that there is a significant difference in the Innovative Work Behaviour scores of managers based on their work experience in the current organization.

There have been many changes in the very nature of “job” during the past few decades such as virtuality and job crafting. Researchers point out that life-time employment is now a thing of the past. People move from job to job and from organization to organization more frequently. People reskill themselves and reinvent their careers in new domains, leveraging skills that are transferable across different domains. However, researchers including Amabile (1998) point out that domain expertise is a prerequisite of creativity at work. The current finding shows that managers need to have a certain

minimum tenure of work in an organization before they can display Innovative Work Behaviour.

Besides, Chakrabarti's (1978) contention that creativity and innovation in organizations, especially the work of an innovation champion calls for political and social skills implies that Innovative Work Behaviour demands a certain length of work experience within an organization. Further, Mura et al. (2012) argue that Innovative Work Behaviour requires knowledge management and knowledge sharing, especially, tacit knowledge. The finding also implies that managers require a certain extent of work experience in an organization before their seniors and peers will share tacit knowledge with them.

A managerial implication of this finding is that organizations which have innovation as a strategy will benefit if they ensure quicker on-boarding of new managers because socialization within the new organization, and acquisition of social and political contacts within an organization appears to be a prerequisite for managers to engage in Innovative Work Behaviour.

### **4.3 Descriptive Statistics of the Variables**

This study is focused on five variables namely, job autonomy, participative leadership, perceived support for innovation, achievement motive, and Innovative Work Behaviour. Job autonomy, participative leadership, and perceived support for innovation are the independent variables of this study. Achievement motive has been conceptualized as a mediating variable in this study. Innovative Work Behaviour is the dependent variable of this study. For achievement motive, the maximum score that can be obtained is four. For all other variables, the maximum score possible is five. The descriptive statistics pertaining to the measures of constructs of this study are presented in table 4.10.

**Table 4.10: Descriptive Statistics of Variables**

Variable	N	Mean	Median	SD
Job Autonomy	157	4.16	4.16	.58
Participative Leadership	157	3.92	4.0	.61
Perceived Support for Innovation	157	3.91	4.0	.58
Achievement Motive	157	3.30	3.4	.54
Innovative Work Behaviour	157	3.61	3.5	.56

The mean score as well as the median score of the job autonomy scale was 4.16 and the standard deviation of this measure was .58. The participative leadership scale had a mean score of 3.92, median score of 4.0, and standard deviation of .61. The perceived support for innovation scale had a mean score of 3.91, median score of 4.0, and standard deviation of .58. The mean score of the achievement motive scale was 3.3, while the median score of this scale was 3.4 and the standard deviation was .54. The Innovative Work Behaviour scale had a mean score of 3.61, median score of 3.5 and standard deviation of .56. For all variables except job autonomy, the mean and median scores differ.

#### 4.4 Correlations among the Variables

Correlations and  $p$  values of the relationships among the variables of this study are discussed in this section. In this section, the magnitudes of correlation coefficients are explained based on Cohen's (1988) guidelines (cited by Hemphill, 2003). According to Cohen (cited by Hemphill, 2003), a correlation coefficient of 0.10 is defined as "small" while a correlation coefficient of 0.30 is classified as "medium", and a correlation coefficient of 0.50 is considered "large". Correlations among the variables of this study are presented in table 4.11.

**Table 4.11: Correlations among the Variables**

Variables	Innovative Work Behaviour	Job Autonomy	Participative Leadership	Perceived Support for Innovation	Achievement Motive
Innovative Work Behaviour	1				
Job Autonomy	.413	1			
Participative Leadership	.414	.353	1		
Perceived Support for Innovation	.423	.243	.478	1	
Achievement Motive	.304	.455	.063	.140	1

The magnitude of the correlation between job autonomy and Innovative Work Behaviour is medium,  $r = .41$ ,  $p = <0.001$ . The strength of the correlation between participative leadership and Innovative Work Behaviour is medium,  $r = .41$ ,  $p = <0.001$ . The magnitude of the relationship between perceived support for innovation and Innovative Work Behaviour is also medium,  $r = .42$ ,  $p = <0.001$ . The strength of the correlation between achievement motive and Innovative Work Behaviour is medium,  $r = .3$ ,  $p = <0.001$ . The extent of the correlation between job autonomy and participative leadership is medium,  $r = .35$ ,  $p = <0.001$ . The magnitude of the correlation between job autonomy and perceived support for innovation is weak,  $r = .24$ ,  $p = 0.002$ . The magnitude of the relationship between job autonomy and achievement motive is medium,  $r = .45$ ,  $p = <0.001$ . The strength of the relationship between perceived support for innovation and participative leadership is medium,  $r = .478$ ,  $p = <0.001$ . There is a weak and non-significant correlation between participative leadership and achievement motive,  $r = .06$ ,  $p = 0.43$ . The strength of the correlation

between perceived support for innovation and achievement motive is weak and non-significant,  $r = .14$ ,  $p = 0.081$ .

This chapter began with a discussion of the demographic profile of the respondents which included their age, field of study, and work experience in their current organization.

In the second section, the relationship between each demographic variable and Innovative Work Behaviour was tested by ANOVA. The results of ANOVA indicated that there is a significant difference in the IWB scores of managers belonging to various age groups. The results also showed that the IWB scores of managers varied significantly based on the years of work experience in their current organization. However, ANOVA revealed that there is no significant difference in the IWB scores of managers from different groups classified based on the field of study of managers.

The descriptive statistics pertaining to the variables of this study was presented in the third section. The fourth section consisted of a discussion of the correlations among the variables of this study.

The next chapter presents the analysis of the measurement model as well as the research model of this study.

.....OR.....

## Chapter 5

### **ANALYSIS OF THE MEASUREMENT MODEL AND THE RESEARCH MODEL OF THE STUDY**

- Contents*
- 5.1 Overview of PLS SEM
  - 5.2 Analysis of the Measurement Model of the Study
  - 5.3 Analysis of the Research Model

This chapter presents the results of the analysis of the measurement model and the research model of the study. WarpPLS Structural Equation Modeling (SEM) was used to conduct the analysis. This chapter is divided into three sections. The first section discusses some salient features of PLS Structural Equation Modeling. The second section deals with the measurement model of this study and presents details such as assessment of the reliability and validity of the latent variables of this study. In the third section, results of assessment of the Research model of the study is presented along with the model parameters.

## **5.1 Overview of PLS SEM**

Partial Least Squares (PLS) Structural Equation Modeling (SEM) is being used by researchers in diverse fields. Wagner, Hassanein, and Head (2014) used PLS SEM in their study, with laboratory experiment, on age and website usability. Peng and Lai (2012) point out that PLS SEM which is widely being used in social and psychological research is increasingly being used also in the area of Operations Management (OM) research. Wong (2013) discusses the use of PLS SEM in the area of marketing research. Hamidizadeh, Koolivand, & Hajkarimi, (2014) have used WarpPLS SEM in their study of burn out.

### **5.1.1 Advantages of PLS SEM**

PLS SEM has two major advantages: PLS SEM does not assume that the data be normally distributed, and PLS SEM can be used when sample sizes are low. PLS SEM is considered suitable especially in research where sample sizes are relatively low. Wagner et al. (2014, p.275) point out the following about sample size:

The minimum suggested sample size for PLS modeling is the greater of (1) ten times the number of items in the most complex construct in the

model, or (2) ten times the number of paths leading to the dependent variable in the model with the most independent variables (Chin, 1998; Gefen et al., 2000).

Wong (2013, p.5) states that minimum sample size can be calculated “depending on the maximum number of arrows pointing at a latent variable as specified in the structural equation model...”.

### **5.1.2 Features of PLS SEM**

PLS SEM denotes Structural Equation Modeling using the Partial Least Squares method. Structural equation modeling (SEM) is “...a general term used to refer to a class of multivariate statistical methods where complex relationships among latent variables and indicators are estimated at once” (Kock, 2015, p.101). Normally several indicators are utilized to measure a latent variable. Kock (2015, p.101) states: “Key measures of relationships among latent variables are path coefficients (or standardized partial regression coefficients) and corresponding P values. Key measures of relationships among latent variables and their respective indicators are weights and loadings, and corresponding P values”.

#### **5.1.2.1 Endogenous and Exogenous Latent Variables**

Kock (2015, p.100) defines a latent variable as “a variable that is measured through multiple variables called indicators or manifest variables”. Latent variables are indirectly measured by means of many latent variables.

There are two types of latent variables: endogenous latent variables which are affected by other latent variables and, exogenous latent variables which are not dependent on other variables in the SEM model. Endogenous latent variables have arrows pointing to them in the SEM model while exogenous latent variables do not have any arrows pointing to them in the model.



### **5.1.2.2 Inner Model and the Outer Model**

Kock (2015, p.100) distinguishes the inner model of the SEM model from the outer model: “in a structural equation modeling analysis, the inner model is the part of the model that describes the relationships among the latent variables that make up the model. In this sense, the path coefficients are inner model parameter estimates”. The outer model in SEM “...is the part of the model that describes the relationships among the latent variables that make up the model and their indicators. In this sense, the weights and loadings are outer model parameter estimates” (Kock, 2015, p.100). Indicators denote “manifest variables that are actually used in the measurement model as direct measures of latent variables” (Kock, 2015, p.100).

### **5.1.3 Confirmatory Factor Analysis (CFA) in WarpPLS**

Normally a Confirmatory Factor Analysis (CFA) is conducted together with Structural Equation Modeling. WarpPLS SEM has the provision for conducting CFA (Kock, 2015, p.58). Citing Kline (2008), Schumacher and Lomax (2004), Kock (2015, p.59) states that the p values which are given for indicators of all latent variables are considered as the ‘validation parameters of a confirmatory factor analysis’ because “they result from a test of a model where the relationship between indicators and latent variables are defined beforehand”. Thus the assessment of the measurement model in WarpPLS is equivalent to a CFA.

## **5.2 Analysis of the Measurement Model of the Study**

Indicators of a reflective latent variable are characterized by high correlation among themselves and with the latent variable itself. The measurement model of this study has been set as reflective because the inter-item correlation of indicators of all the latent variables of this study are expected to be high and are redundant in their meaning, in line with the

recommendations of Kock (2015, p. 45). In this section, as part of the assessment of the measurement model of this study convergent validity, discriminant validity, predictive validity, and reliability of the measurement instruments are examined and the results are reported.

### **5.2.1 Convergent Validity**

Measurement instruments are considered to have convergent validity if the respondents understand the question-statements pertaining to a latent variable exactly in the same way that the designers of the measurement instruments meant.

#### **5.2.1.1 Combined Loadings and Cross-loadings**

In WarpPLS, combined loadings and cross-loadings indicate the convergent validity of the measurement instruments. Indicators that do not meet the criteria are to be removed. Based on the recommendation of Hair et al. (1987; 2009), Kock (2015, p.59) recommends the following criteria for deciding whether the convergent validity of a measurement model is acceptable: "...that the P values associated with the loadings be equal to or lower than 0.05; and that the loadings be equal to or greater than 0.5".

Table 5.1 shows the indicator loadings and cross-loadings of all the latent variables of this study. Each cell in table 5.1 refers to a link between an indicator and a latent variable. The loadings are unrotated while cross-loadings are rotated (Kock, 2015, p.58). The figures in parentheses denote the loadings of reflective latent variables. Table 5.1 also contains p values for indicators related to each latent variable. These p values are the parameters for validating the Confirmatory Factor Analysis.

Table 5.1: Combined Loadings and Cross-Loadings of Indicators

Indicator	Iwb	Achmot	Supinv	Jobauto	Partlead	Type	SE	P Value
IWB1	<b>(0.753)</b>	-0.004	-0.066	0.096	0.175	Reflective	0.068	<0.001
IWB3	<b>(0.790)</b>	0.240	-0.017	-0.288	0.097	Reflective	0.067	<0.001
IWB4	<b>(0.674)</b>	0.022	-0.204	0.088	-0.114	Reflective	0.069	<0.001
IWB6	<b>(0.764)</b>	-0.241	0.063	0.309	-0.132	Reflective	0.068	<0.001
IWB7	<b>(0.546)</b>	0.043	0.077	-0.333	0.139	Reflective	0.071	<0.001
IWB9	<b>(0.741)</b>	-0.056	0.149	0.055	-0.144	Reflective	0.068	<0.001
AM1	-0.135	<b>(0.671)</b>	0.091	-0.198	0.129	Reflective	0.069	<0.001
AM2	-0.030	<b>(0.693)</b>	-0.236	0.070	0.032	Reflective	0.069	<0.001
AM3	0.049	<b>(0.694)</b>	0.064	0.191	-0.025	Reflective	0.069	<0.001
AM4	0.011	<b>(0.726)</b>	0.125	0.018	-0.005	Reflective	0.068	<0.001
AM5	0.083	<b>(0.829)</b>	-0.040	-0.073	-0.106	Reflective	0.067	<0.001
PSI1	-0.004	0.055	<b>(0.873)</b>	-0.010	-0.019	Reflective	0.066	<0.001
PSI2	-0.062	0.015	<b>(0.774)</b>	0.143	0.218	Reflective	0.067	<0.001
PSI5	-0.039	-0.093	<b>(0.737)</b>	0.097	-0.002	Reflective	0.068	<0.001
PSI6	0.168	-0.063	<b>(0.760)</b>	-0.125	-0.174	Reflective	0.068	<0.001
PSI7	-0.079	0.094	<b>(0.597)</b>	-0.131	-0.030	Reflective	0.070	<0.001
JA2	0.070	0.064	-0.115	<b>(0.797)</b>	0.024	Reflective	0.067	<0.001
JA4	0.007	0.045	0.266	<b>(0.730)</b>	-0.064	Reflective	0.068	<0.001
JA5	-0.133	-0.246	-0.011	<b>(0.689)</b>	0.159	Reflective	0.069	<0.001
JA6	-0.121	0.042	0.004	<b>(0.770)</b>	-0.089	Reflective	0.068	<0.001
JA7	0.174	0.026	-0.056	<b>(0.685)</b>	-0.123	Reflective	0.069	<0.001
JA9	0.008	0.051	-0.088	<b>(0.685)</b>	0.103	Reflective	0.069	<0.001
PL1	0.029	0.189	0.024	-0.173	<b>(0.731)</b>	Reflective	0.068	<0.001
PL2	0.084	0.106	0.126	-0.147	<b>(0.806)</b>	Reflective	0.067	<0.001
PL3	-0.080	-0.034	-0.110	-0.043	<b>(0.826)</b>	Reflective	0.067	<0.001
PL4	-0.119	-0.025	0.045	-0.034	<b>(0.767)</b>	Reflective	0.068	<0.001
PL5	0.115	-0.079	-0.062	0.287	<b>(0.658)</b>	Reflective	0.069	<0.001
PL6	-0.010	-0.152	-0.027	0.145	<b>(0.818)</b>	Reflective	0.067	<0.001

The table of combined loadings and cross-loadings (Table 5.1) shows the convergent validity of the measurement scales of this study. The table shows that the p values associated with the loadings of all latent variables of this study are less than 0.05 and that the loadings of all latent variables (figures in parentheses) are greater than 0.5. Thus, all indicators of all latent variables of this study have good convergent validity.

### **5.2.1.2 Pattern Loadings and Cross-loadings**

Table 5.2 shows the pattern loadings and cross-loadings. In this table, each cell shows an indicator-latent variable link. The loadings and cross-loadings in this table are from a pattern matrix (i.e., rotated). “Since these loadings and cross-loadings are from a pattern matrix, they are obtained after the transformation of a structure matrix through a widely used oblique rotation frequently referred to as Promax” (Kock, 2015, p.60). Kock (2015) states that unlike orthogonal rotation, oblique rotation is characterized by the assumption that latent variables are correlated. Kock (2015, p.60) also argues that “...oblique rotation methods are most appropriate in a SEM analysis, because by definition latent variables are expected to be correlated. Otherwise, no path coefficient would be significant”.

Table 5.2: Pattern Loadings and Cross-Loadings of Indicators

Indicator	Iwb	Achmot	Supinv	Jobauto	Partlead
IWB1	<b>(0.658)</b>	-0.004	-0.066	0.096	0.175
IWB3	<b>(0.798)</b>	0.240	-0.017	-0.288	0.097
IWB4	<b>(0.774)</b>	0.022	-0.204	0.088	-0.114
IWB6	<b>(0.736)</b>	-0.241	0.063	0.309	-0.132
IWB7	<b>(0.576)</b>	0.043	0.077	-0.333	0.139
IWB9	<b>(0.744)</b>	-0.056	0.149	0.055	-0.144
AM1	-0.135	<b>(0.797)</b>	0.091	-0.198	0.129
AM2	-0.030	<b>(0.701)</b>	-0.236	0.070	0.032
AM3	0.049	<b>(0.566)</b>	0.064	0.191	-0.025
AM4	0.011	<b>(0.696)</b>	0.125	0.018	-0.005
AM5	0.083	<b>(0.854)</b>	-0.040	-0.073	-0.106
PSI1	-0.004	0.055	<b>(0.871)</b>	-0.010	-0.019
PSI2	-0.062	0.015	<b>(0.652)</b>	0.143	0.218
PSI5	-0.039	-0.093	<b>(0.743)</b>	0.097	-0.002
PSI6	0.168	-0.063	<b>(0.819)</b>	-0.125	-0.174
PSI7	-0.079	0.094	<b>(0.673)</b>	-0.131	-0.030
JA2	0.070	0.064	-0.115	<b>(0.753)</b>	0.024
JA4	0.007	0.045	0.266	<b>(0.659)</b>	-0.064
JA5	-0.133	-0.246	-0.011	<b>(0.819)</b>	0.159
JA6	-0.121	0.042	0.004	<b>(0.835)</b>	-0.089
JA7	0.174	0.026	-0.056	<b>(0.669)</b>	-0.123
JA9	0.008	0.051	-0.088	<b>(0.624)</b>	0.103
PL1	0.029	0.189	0.024	-0.173	<b>(0.762)</b>
PL2	0.084	0.106	0.126	-0.147	<b>(0.757)</b>
PL3	-0.080	-0.034	-0.110	-0.043	<b>(0.933)</b>
PL4	-0.119	-0.025	0.045	-0.034	<b>(0.814)</b>
PL5	0.115	-0.079	-0.062	0.287	<b>(0.529)</b>
PL6	-0.010	-0.152	-0.027	0.145	<b>(0.790)</b>

### 5.2.2 Discriminant Validity

Kock (2015, p.68) states that the discriminant validity of a measurement instrument is good if “...the question-statements (or other measures) associated with each latent variable are not confused by the respondents answering the questionnaire with the question-statements associated with other latent variables, particularly in terms of the meaning of the question-statements”.

Kock (2015) also presents the criteria for determining discriminant validity of a latent variable:

For each latent variable, the square root of the average variance extracted should be higher than any of the correlations involving that latent variable (Fornell & Larcker, 1981). That is, the values on the diagonal of the table containing correlations among latent variables, which are the square roots of the average variances extracted for each latent variable, should be higher than any of the values above or below them in the same column. Or, the values on the diagonal should be higher than any of the values to their left or right, in the same row (p.68).

Based on the above criteria, the following tables (Table 5.3 and 5.4) show that all latent variables of this study have good discriminant validity.

**Table 5.3: Correlations among Latent Variables with Square Roots of Average Variances Extracted**

Variables → ↓	Innovative Work Behaviour	Achievement Motive	Support for Innovation	Job Autonomy	Participative Leadership
Innovative Work Behaviour	<b>(0.716)</b>	0.304	0.423	0.413	0.414
Achievement Motive	0.304	<b>(0.725)</b>	0.140	0.455	0.063
Support for Innovation	0.423	0.140	<b>(0.753)</b>	0.243	0.478
Job Autonomy	0.413	0.455	0.243	<b>(0.727)</b>	0.353
Participative Leadership	0.414	0.063	0.478	0.353	<b>(0.770)</b>

Note: Square root of Average Variance Extracted (AVE) is shown on diagonal.

Table 5.4 presents the 'p' values for correlations among latent variables.

**Table 5.4: P Values for Correlations**

Variables → ↓	Innovative Work Behaviour	Achievement Motive	Support for Innovation	Job Autonomy	Participative Leadership
Innovative Work Behaviour	1.000	<0.001	<0.001	<0.001	<0.001
Achievement Motive	<0.001	1.000	0.081	<0.001	0.433
Support for Innovation	<0.001	0.081	1.000	0.002	<0.001
Job Autonomy	<0.001	<0.001	0.002	1.000	<0.001
Participative Leadership	<0.001	0.433	<0.001	<0.001	1.000

### 5.2.3 Indicator Weights

Kock (2015, p.63) states that in WarpPLS, “each latent variable score is calculated as an exactly linear combination of its indicators, or of its indicators and measurement error, where the weights are multiple regression coefficients linking the indicators to the latent variable”.

An indicator with a negative Weight-loading signs (WLS) implies that the concerned indicator contributes a negative value to the R-squared of that latent variable (Kock, 2015). He also points out that a Negative WLS sign also indicates a Simpson’s Paradox, which implies that the link between an indicator and a latent variable is not plausible or is reverse. Table 5.5 shows that all the indicators of all latent variables of this study has positive WLS, implying that all indicators make positive contribution to the R-squared value of the latent variables.

Table 5.5 also presents the effect sizes of all the indicators. Kock (2015, p64) states: “as with the effect sizes for paths, the effect sizes for indicators are calculated as the absolute values of the individual contributions of the corresponding indicators to the R-squared coefficients of the latent variable to which each indicator is associated”. Based on Cohen’s (1988) recommendations, Kock (2015) recommends values of 0.02, 0.15 and 0.35 respectively for small, medium, or large effect sizes. Kock (2015, p.64) recommends that “all indicator be equal to or greater than 0.02. Table 5.5 shows that in line with the above recommendations, the effect sizes of all the indicators of all the latent variables of this study are greater than 0.02.

Table 5.5: Indicator Weights

	IWB	Achmot	Supinv	Jobauto	Partlead	SE	P Value	VIF	WLS	ES
IWB1	(0.245)	0.000	0.000	0.000	0.000	0.076	<0.001	1.688	1	0.184
IWB3	(0.257)	0.000	0.000	0.000	0.000	0.075	<0.001	1.830	1	0.203
IWB4	(0.219)	0.000	0.000	0.000	0.000	0.076	0.002	1.421	1	0.148
IWB6	(0.248)	0.000	0.000	0.000	0.000	0.076	<0.001	1.816	1	0.190
IWB7	(0.177)	0.000	0.000	0.000	0.000	0.077	0.011	1.233	1	0.097
IWB9	(0.241)	0.000	0.000	0.000	0.000	0.076	<0.001	1.751	1	0.179
AM1	0.000	(0.256)	0.000	0.000	0.000	0.076	<0.001	1.395	1	0.172
AM2	0.000	(0.264)	0.000	0.000	0.000	0.075	<0.001	1.393	1	0.183
AM3	0.000	(0.264)	0.000	0.000	0.000	0.075	<0.001	1.421	1	0.183
AM4	0.000	(0.276)	0.000	0.000	0.000	0.075	<0.001	1.497	1	0.201
AM5	0.000	(0.316)	0.000	0.000	0.000	0.075	<0.001	1.883	1	0.262
PSI1	0.000	0.000	(0.307)	0.000	0.000	0.075	<0.001	2.853	1	0.268
PSI2	0.000	0.000	(0.273)	0.000	0.000	0.075	<0.001	2.352	1	0.211
PSI5	0.000	0.000	(0.260)	0.000	0.000	0.075	<0.001	1.538	1	0.191
PSI6	0.000	0.000	(0.268)	0.000	0.000	0.075	<0.001	1.758	1	0.204
PSI7	0.000	0.000	(0.210)	0.000	0.000	0.076	0.003	1.447	1	0.126
JA2	0.000	0.000	0.000	(0.251)	0.000	0.076	<0.001	1.955	1	0.200
JA4	0.000	0.000	0.000	(0.230)	0.000	0.076	0.001	1.662	1	0.168
JA5	0.000	0.000	0.000	(0.217)	0.000	0.076	0.002	1.506	1	0.150
JA6	0.000	0.000	0.000	(0.243)	0.000	0.076	<0.001	1.717	1	0.187
JA7	0.000	0.000	0.000	(0.216)	0.000	0.076	0.003	1.435	1	0.148
JA9	0.000	0.000	0.000	(0.216)	0.000	0.076	0.003	1.459	1	0.148
PL1	0.000	0.000	0.000	0.000	(0.206)	0.076	0.004	2.105	1	0.150
PL2	0.000	0.000	0.000	0.000	(0.227)	0.076	0.002	2.455	1	0.183
PL3	0.000	0.000	0.000	0.000	(0.232)	0.076	0.001	2.467	1	0.192
PL4	0.000	0.000	0.000	0.000	(0.216)	0.076	0.003	2.196	1	0.165
PL5	0.000	0.000	0.000	0.000	(0.185)	0.077	0.009	1.664	1	0.122
PL6	0.000	0.000	0.000	0.000	(0.230)	0.076	0.001	2.247	1	0.188

Notes: P values <0.05 and VIFs <2.5 are desirable for formative indicators

VIF = Indicator Variance Inflation Factor;

WLS = Indicator Weight-loading sign; (-1 = Simpson's paradox in latent variable);

ES = Indicator Effect Size.

All latent variables are reflective.



### 5.2.4 Latent Variable Coefficients

Several important coefficients of the latent variables of this study are presented in this section. R-squared, Adjusted R-squared, and Q-square coefficients relating to endogenous latent variables have been presented in table 5.6. These coefficients denote the percentage of variance explained by these latent variables as well as the predictive validity of these variables (Kock, 2015). In line with Cohen's (1988), Kock (2015) recommends that R-squared as well as Adjusted R-squared coefficients should be more than 0.02. Table 5.6 shows that the R-squared (0.360) and Adjusted R-squared value (0.343) of the innovative work behaviour latent variable block is much above the recommended minimum values. The R-squared (0.166) and Adjusted R-squared value (0.150) of the achievement motive latent variable block is also much above the recommended minimum values. The high R-squared values denote that these latent variable explain an acceptable amount of variance. The high Adjusted R-square values of these endogenous latent variables indicate that these variables have high predictive validity.

#### 5.2.4.1 Assessment of Reliability

Although WarpPLS reports both Chronbach's Alpha and Composite Reliability Coefficient, Kock (2015) argues that the latter is more acceptable. Table 5.6 shows that all latent variables of this study have both Chronbach's Alpha values as well as Composite Reliability Coefficients more than the stipulated value of 0.7, indicating that different respondents of this study have understood the questions pertaining to all the latent variables of this study in the same way.

Convergent validity requires that the Average Variance Extracted (AVE) of all the latent variables be more than 0.5. The AVE values

presented in table 5.6 demonstrate that all the latent variables of the study have acceptable convergent validity.

#### **5.2.4.2 Common Method Bias (Full Collinearity VIFs)**

Kock (2015, p.66) states that “full collinearity VIFs of 3.3 or lower suggest the existence of no multicollinearity in the model and no common method bias”. Table 5.6 shows that full collinearity VIFs of all latent variables of this study are much below the threshold of 3.3. This implies that all latent variables of this study are free from multicollinearity and common method bias.

#### **5.2.4.3 Predictive Validity (Q-squared Coefficients)**

Kock (2015) states that Stone-Geisser Q-squared coefficients greater than zero indicates that an endogenous latent variable has acceptable predictive validity. Table 5.6 shows that both endogenous latent variables of this study, innovative work behaviour (0.362) and achievement motive (0.237), have acceptable Q-squared coefficients, and thus have good predictive validity.

#### **5.2.4.4 Unimodality and Normality**

Kock (2015) states that if any latent variable is lacking in unimodality or normality, it is necessary to use non-parametric analysis. Table 5.6 shows that other than Innovative Work Behaviour scale, all other latent variables of this study are non-normal, a finding which justifies the use of WarpPLS SEM which is a non-parametric method, for this study.

Table 5.6: Latent Variable Coefficients

Items \ Variables ↓	Iwb	achmot	Supinv	Jobauto	Partlead
R-squared	0.360	0.166			
Adj. R-squared	0.343	0.150			
Composite Reliability	0.862	0.846	0.866	0.870	0.897
Chronbach's Alpha	0.806	0.772	0.805	0.821	0.861
Average Variance Extracted	0.513	0.525	0.568	0.529	0.593
Full Collin. VIF	1.486	1.331	1.410	1.520	1.503
Q-squared	0.362	0.237			
Min	-2.337	-2.728	-3.314	-3.422	-4.806
Max	2.420	1.279	1.823	1.432	1.742
Median	-0.192	0.131	0.124	-0.015	0.105
Mode	-1.065	1.279	0.124	1.432	0.105
Skewness	0.076	-0.588	-0.479	-0.686	-1.364
Exc. Kurtosis	-0.104	-0.163	0.413	0.781	5.239
Rohatgi-Szekely test of unimodality	Yes	Yes	Yes	Yes	Yes
Klaassen-Mokveld-van Es test of unimodality	Yes	Yes	Yes	Yes	Yes
Jarque-Bera test of normality	Yes	No	No	No	No
Robust Jarque-Bera test of normality	Yes	No	No	No	No

#### 5.2.4.5 Assessment of Confounding Variables

When the link between a latent variable and another latent variable is not a genuine causal link, but occurs due to the influence of a third variable, that third variable may be termed a confounder (Kock, 2015). “A table with correlations among latent variable error terms containing VIFs associated with the error terms on the diagonal” (Kock, 2015, p.69) is provided in WarpPLS SEM, to rule out the possibility of confounder and the criteria for

identifying a confounder states that the VIFs pertaining to error terms should be “equal to or lower than 3.3”. VIFs given in the following table (Table 5.7) indicate that there is no confounding effect between the following latent variables of this study.

**Table 5.7: Correlations among Latent Variable Error Terms with Variance Inflation Factors**

	e (iwb)	e (achmot)
e (iwb)	(1.000)	0.007
e (achmot)	0.007	(1.000)

Note: Variance Inflation Factors (VIFs) shown on diagonal.

Error terms (residuals) included are for endogenous latent variables.

#### 5.2.4.6 Assessment of Multicollinearity

WarpPLS SEM assesses vertical multicollinearity which is defined as “predictor-predictor collinearity in a latent variable block containing one or more latent variable predictors and one latent variable criterion” and stipulates that “...block VIFs of 3.3 or lower suggest the existence of no vertical multicollinearity in a latent variable block...” (Kock, 2015, p.70). Table 5.8 shows that the latent variables of this study have block VIFs lower than the threshold value of 3.3, implying absence of vertical multicollinearity.

**Table 5.8: Block Variance Inflation Factors**

Variables → ↓	Innovative Work Behaviour	Achievement Motive	Support for Innovation	Job Autonomy	Participative Leadership
Innovative Work Behaviour	-	1.231	1.376	1.362	1.420
Achievement Motive	-	-	1.058	1.086	1.091
Support for Innovation	-	-	-	-	-
Job Autonomy	-	-	-	-	-
Participative Leadership	-	-	-	-	-

Note: These VIFs are for the latent variables on each column (predictors), with reference to the latent variables on each row (criteria).

### 5.3 Analysis of the Research Model

Innovative Work Behaviour is the dependent variable of this study. Job autonomy, participative leadership and perceived support for innovation are the independent variables of this study. Achievement motive has been conceptualized as a mediating variable. Table 5.9 shows the path coefficients of the relationships among the latent variables of this study. Table 5.10 shows the p values for the path coefficients of the models.

**Table 5.9: Path Coefficients of the Model**

Variables	Innovative Work Behaviour	Achievement Motive	Support for Innovation	Job Autonomy	Participative Leadership
Innovative Work Behaviour	-	0.221	0.261	0.200	0.197
Achievement Motive	-	-	0.061	0.413	-0.131
Support for Innovation	-	-	-	-	-
Job Autonomy	-	-	-	-	-
Participative Leadership	-	-	-	-	-

**Table 5.10: P Values of the Path Coefficients of the Model**

Variables	Innovative Work Behaviour	Achievement Motive	Support for Innovation	Job Autonomy	Participative Leadership
Innovative Work Behaviour	-	0.002	<0.001	0.005	0.005
Achievement Motive	-	-	0.221	<0.001	0.046
Support for Innovation	-	-	-	-	-
Job Autonomy	-	-	-	-	-
Participative Leadership	-	-	-	-	-

Figure 5.1 presents the research model of this study with the path coefficients, corresponding p values and R-squared values of endogenous latent variable blocks. R-squared value of 0.36 of the innovative work behaviour latent variable block indicates that the research model of this study explains 36% variance in innovative work behaviour.

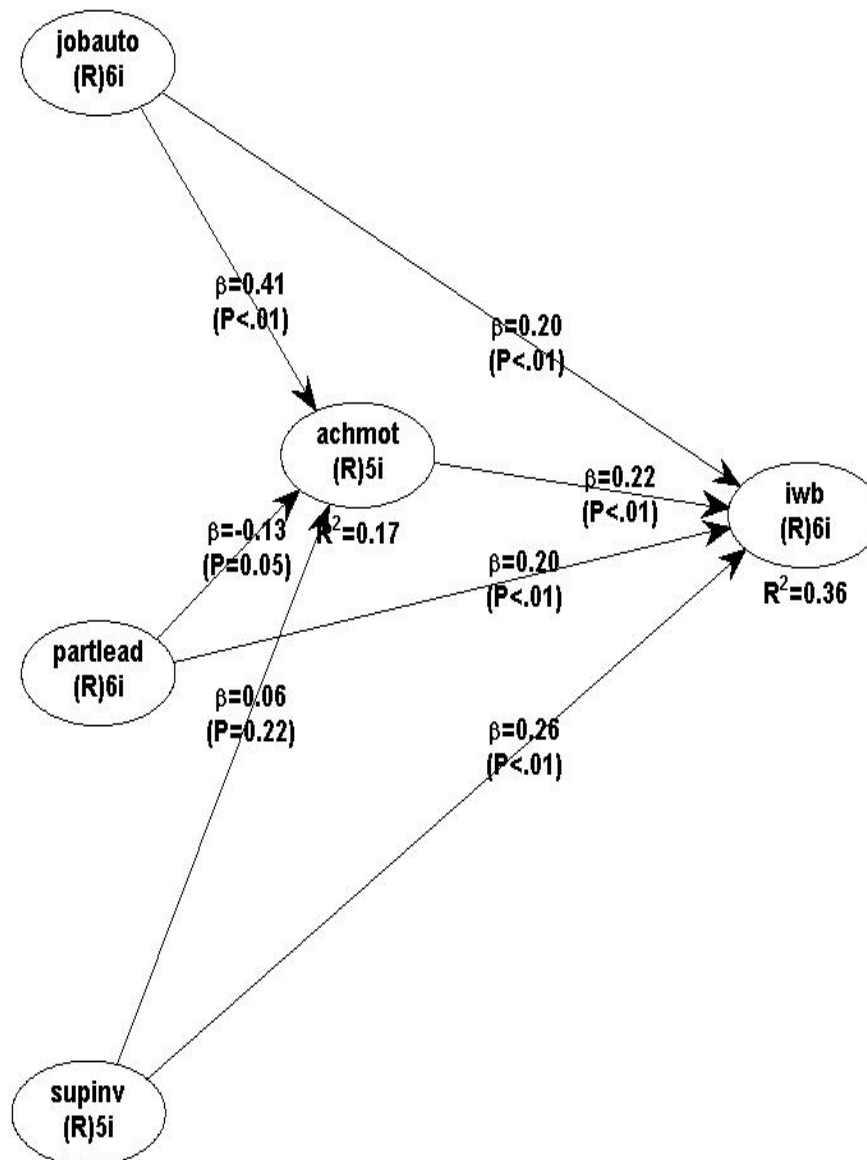


Figure 5.1: The Research Model of the Study

Table 5.11 presents the model fit indices which have emerged from the analysis of the research model of the study.

**Table 5.11: Model Fit Indices**

Serial No.	Indices	Value	P Value	Decision Rule
1	Average Path Coefficient (APC)	0.212	0.002	-
2	Average R-squared (ARS)	0.263	<0.001	-
3	Adjusted Average R-squared (AARS)	0.246	<0.001	-
4	Average block VIF (AVIF)	1.232	-	acceptable if $\leq 5$ , ideally $\leq 3.3$
5	Average full collinearity VIF (AFVIF)	1.450	-	acceptable if $\leq 5$ , ideally $\leq 3.3$
6	Tenenhaus GoF (GoF)	0.379	-	small $\geq 0.1$ , medium $\geq 0.25$ , large $\geq 0.36$

The following sections present general WarpPLS SEM analysis results of the research model. These results pertain to the model fit indices of the research model.

### 5.3.1 Average Path Coefficient (APC)

Kock (2015, p.51) recommends that the p value of Average Path Coefficient (APC), Average R-squared, and Adjusted Average R-square should be equal to or less than 0.05 (at 0.05 significance level). The Average Path Coefficient (APC) of the hypothesized model of this study is 0.212, with p value of 0.002 which is much lower than the threshold of 0.05.

### **5.3.2 Average R-squared (ARS)**

Average R-squared and Adjusted Average R-square values denote the percentage of variance explained by the model as well as the predictive validity of the latent variables. The Average R-squared value of the hypothesized model is 0.263 with p value of <0.001. The result shows that the Average R-squared (ARS) value of the model is significant and thus has good predictive validity.

### **5.3.3 Adjusted Average R-squared (AARS)**

Kock (2015) states that Adjusted Average R-squared coefficients offset artificial increases in R-squared coefficients on account of predictors that do not contribute to the explanatory capacity of latent variable blocks. The AARS of the hypothesized model is 0.246 with p value of <0.001. This result shows that the AARS of the hypothesized model is significant with good predictive validity.

### **5.3.4 Average Block VIF (AVIF) and Average full collinearity VIF (AFVIF)**

In WarpPLS SEM, AVIF measures vertical collinearity whereas AFVIF estimates full collinearity or multicollinearity. Inclusion of new latent variables in a study may increase AVIF and AFVIF. Kock (2015, p.51) recommends that both AVIF and AFVIF values are equal to or less than 3.3. In this study, both AVIF (1.232) and AFVIF (1.450) are much below the threshold of 3.3, implying absence of both vertical collinearity and multicollinearity.

### **5.3.5 Tenenhaus GoF**

Tenenhaus GoF denotes the explanatory power of a model. GoF has been defined as “the square root of the product between what they refer to as the average communality index and the ARS” (Tenenhaus et al., 2005



cited by Kock, 2015, p.51). Community index of a latent variable is the “sum of the squared loadings for that latent variable, each loading associated with an indicator, divided by the number of indicators” (Kock, 2015, p.51). For calculating a model’s average community index, all latent variables of the model are considered. Unrotated loadings from structure loadings and cross-loading table are considered for calculating GoF.

Citing Wetzels et al. (2009), Kock (2015, p.51) states that “the average variance extracted (AVE) for each latent variable equals the corresponding community index. Wetzels et al. (2009) also proposed the following thresholds for the GoF: small if equal to or greater than 0.1, medium if equal to or greater than 0.25, large if equal to or greater than 0.36. They did so by assuming a minimum acceptable average AVE of 0.5, and using Cohen’s (1988) thresholds for small, medium, and large effect sizes”.

Tenenhaus GoF (GoF) of the hypothesized model of this study is 0.379, indicating a large fit.

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## Chapter **6**

### **RESULTS AND DISCUSSION**

*Contents*

- 6.1 Summary of Results of the Tests of Hypotheses**
- 6.2 Results of Tests of Hypotheses and Discussion of Findings**

## 6.1 Summary of Results of the Tests of Hypotheses

**Table 6.1: Summary of Results of the Tests of Hypotheses**

Sl. No.	Alternative Research Hypotheses	Result
1	There is a significant relationship between job autonomy and Innovative Work Behaviour.	H0 Rejected
2	There is a significant relationship between participative leadership and Innovative Work Behaviour.	H0 Rejected
3	There is a significant relationship between perceived support for innovation and Innovative Work Behaviour.	H0 Rejected
4	There is a significant relationship between achievement motive and Innovative Work Behaviour.	H0 Rejected
5	There is a significant relationship between job autonomy and achievement motive.	H0 Rejected
6	There is a significant relationship between participative leadership and achievement motive.	H0 Rejected
7	There is a significant relationship between perceived support for innovation and achievement motive.	H0 Rejected
8	Achievement motive mediates the relationship between job autonomy and Innovative Work Behaviour.	H0 Rejected
9	Achievement motive mediates the relationship between participative leadership and Innovative Work Behaviour.	Failed to reject H0.
10	Achievement motive mediates the relationship between perceived support for innovation and Innovative Work Behaviour.	Failed to reject H0.

## 6.2 Results of Tests of Hypotheses and Discussion of Findings

Data analysis (chapter 4) has shown that the data pertaining to the dependent variable of this study (innovative work behaviour) is normally distributed. However, the data pertaining to the other variables of this study (job autonomy, participative leadership, perceived support for innovation, and achievement motive) are not normally distributed. Normal

distribution of the data is an assumption of parametric tests of hypothesis. Hence WarpPLS (Version 5.0) Structural Equation Modeling (SEM) which uses nonparametric estimation techniques which does not require normal distribution of data (Kock, 2015, p.33), has been used for tests of hypothesis of this study.

Hypothesis testing using WarpPLS involves creating a direct link between the predictor latent variable and criterion latent variable and estimating the path coefficient, and p value of the direct link. The path coefficient indicates a direct link's strength and the p value shows the statistical significance of the link (Kock, 2015, p.43). Hypotheses 1-7 of this study have been tested as per this procedure.

The following sub-sections present details of tests of hypotheses. Each sub-section consists of the statement of the alternative research hypothesis, results of test of hypothesis in tabular form, discussion of the results, and theoretical as well as managerial implications.

### 6.2.1 Results of Test of Hypothesis 1

**Hypothesis 1:** There is a significant relationship between job autonomy and innovative work behaviour.

#### Results

**Table 6.2: Influence of Job Autonomy on IWB**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Job Autonomy	IWB	.42	<.01	H0 Rejected

Table 6.2 shows the results of the test of hypothesis of the relationship between job autonomy and Innovative Work Behaviour. The path coefficient for the relation between job autonomy and Innovative Work Behaviour is 0.42, p value = <.01, R-square value = 0.18.

The p value of  $<.01$  requires the rejection of the null hypothesis. The results show that there is a significant relationship between job autonomy and innovative work behaviour.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results demonstrate that there is a significant relationship between job autonomy and innovative work behaviour of managers. The results indicate that job autonomy influences innovative work behaviour. This finding implies that organizations can stimulate innovative work behaviour of managers by giving them job autonomy.

### **Theoretical Implications**

Ahmed (1998) distinguished between strategic and operational autonomy. Operational autonomy refers to the freedom given to employees in matters pertaining to routine, in-role performance while strategic autonomy refers to the freedom an employee has, to set his own agenda.

Gebert et al. (2003) found that innovative organizations give greater autonomy to their employees. They advocated the need to maintain a balance in giving autonomy to people at work. Too little of autonomy stifles creativity and innovative behaviour whereas too much of job autonomy results in chaos and lack of focus. Thus the contention of Gebert et al. (2003) implies that if job autonomy is used strategically, it can lead to innovative work behaviour.

Langfred and Moyer (2004) also argue that job autonomy has to be given to employees strategically. For Langfred and Moyer (2004), it is desirable to give job autonomy to employees doing jobs characterized by low interdependence and high task variability whereas it is not desirable to give autonomy to employees doing jobs characterized by high interdependence and low task variability.

The review of literature has revealed that if used strategically, job autonomy can function as a human resource factor which can stimulate innovative work behaviour of managers. The present finding shows that job autonomy is a strategic human resources factor which can influence innovative work behaviour of managers. The current finding implies that strategic job autonomy need to be given to managers in order to stimulate innovative work behaviour.

### Managerial Implications

Top management and human resources executives of organizations which identify innovation as a core business strategy need to give job autonomy to its managers. Job autonomy needs to be given to managers strategically because too little of it stifles innovative behaviour while too much job autonomy results in distraction of employees from the strategic focus of the organization. As suggested by Gebert et al. (2003), giving job autonomy to managers must be linked to the process of integration which includes orienting managers to the strategies of the organization and aligning the innovative work behaviour of managers with the strategies of the firm.

### 6.2.2 Results of Test of Hypothesis 2

**Hypothesis 2:** There is a significant relationship between participative leadership and innovative work behaviour.

### Results

**Table 6.3: Influence of Participative Leadership on IWB**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Participative Leadership	IWB	.42	<.01	H0 Rejected

Table 6.3 presents the results of the test of hypothesis of the relationship between participative leadership and Innovative Work Behaviour: Beta = 0.42, p value = <0.01. The null hypothesis is rejected, based on the p value of <.01. The results indicate that there is a significant relationship between participative leadership and innovative work behaviour.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results indicate that there is a significant relationship between participative leadership style of a boss and the innovative work behaviour of managers reporting to him/her. Innovative work behaviour pertains to the generation, championing, and implementation of new ideas. A leader who follows participative leadership style facilitates and nurtures new ideas. Participative leadership style of bosses encourages managers to take risks and to engage in innovative work behaviour.

### **Theoretical Implications**

This finding corroborates earlier research findings which reported that participative leadership is a predictor of innovative work behaviour. A leader who follows participative style of leadership allows subordinates or members to have a say in decision-making by incorporating their suggestions, and viewpoints (House, 1996).

Managers who report to a leader/boss who follows participative leadership style feels encouraged to involve in innovative activities because they have the confidence that their leader will obtain the support of the organization as well as adequate resources for creativity and innovation (Shalley & Gilson, 2004).

Many researchers have highlighted that innovative work behaviour is fraught with risks and the possibility of failures. Many new ideas proposed by people do not get accepted by others, and many new ideas that are accepted, fail at the implementation stage. The possibility of risks and failures make people reluctant to engage in innovative work behaviour (Van de Ven, 1986). Participative leadership style of the superior encourages managers to generate new ideas and share it with significant others. Managers who feel that their boss would accept useful and feasible new ideas, feel encouraged to generate new ideas. Managers working under a participative leader also feels confident that bona fide mistakes and failures in the generation and implementation of new ideas will be tolerated.

### **Managerial Implications**

Executives / bosses of organizations which have adopted innovation as a business strategy need to follow participative style of leadership to facilitate the emergence of new and useful ideas from managers who report to them. A participative style infuses confidence in managers that their ideas will be accepted by their boss who represents the management. Managers working under a participative boss also feels that their boss will garner adequate support and resources from the organization for implementation of the new ideas. The more radical the departure of new idea from the current practice of the organization, the more difficult it will be to implement an innovative idea. A participative leader makes possible idea generation and implementation in such a context.



### 6.2.3 Results of Test of Hypothesis 3

**Hypothesis 3:** There is a significant relationship between perceived support for innovation and innovative work behaviour

#### Results

**Table 6.4: Influence of Perceived Support for Innovation on IWB**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Perceived Support for Innovation	IWB	.44	<.01	H0 Rejected

Table 6.4 shows the results of test of hypothesis of the relationship between perceived support for innovation and innovative work behaviour, Beta Value = 0.44, p value = <0.01. The P value of <0.01 mandates the rejection of the null hypothesis. The results show that there is a significant relationship between perceived support for innovation and innovative work behaviour.

### Discussion, Theoretical Implications and Managerial Implications

#### Discussion

The results show that there is a significant relationship between perceived support for innovation and innovative work behaviour of managers. The results imply that if managers perceive that there is adequate support for engaging in innovation in their organization, they will engage in innovative work behaviour.

#### Theoretical Implications

This finding corroborates the findings of Scott and Bruce (1994) who found perceived support for innovation as an antecedent of innovative

behaviour of employees. The finding is also in consonance with several other studies which found that constructs such as psychological safety, and climate for innovation are antecedents of innovative work behaviour.

Knowledge, skills, and other abilities of managers may not guarantee innovative work behaviour without an organizational climate which supports innovation. Further, it is not enough that the organization supports innovation. Managers must perceive that the organization has adopted innovation as a crucial business strategy and that there is a climate conducive for innovation within the organization. The present finding also implies that organizations which support and nurture innovation and enable managers to perceive the organization's support for innovation through tangible ways, are able to stimulate innovative work behaviour.

### **Managerial Implications**

Innovation and creativity find a mention in the vision, mission, or strategy statements of many organizations. The current finding implies that it is not enough that organizations adopt innovation as a key business strategy with a view to achieve competitive advantage. Managers and other employees must also perceive that their organization supports the generation and implementation of new ideas. Managers must feel confident that their organization provides a psychologically safe working environment where risk taking is encouraged and people are insulated from the adverse effects of bona fide mistakes and failures in pursuing innovations. Organizations can facilitate perceived support for innovation through several measures including recognition (Scott & Bruce, 1994) and appreciation of managers who take risks and engage in innovative behaviours at work. Mistakes may be transformed into opportunities wherefrom people can learn by analyzing what went wrong.

### 6.2.4 Results of Test of Hypothesis 4

**Hypothesis 4:** There is a significant relationship between achievement motive and innovative work behaviour

#### Results

**Table 6.5: Influence of Achievement Motive on IWB**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Achievement Motive	IWB	.36	<.01	H0 Rejected

Table 6.5 presents the results of the test of hypothesis on the relationship between achievement motive and Innovative Work Behaviour, Beta value = 0.36, p value = <0.01. The p value of <.01 necessitates the rejection of the null hypothesis. The results show that there is a significant relationship between achievement motive and innovative work behaviour.

### Discussion, Theoretical Implications and Managerial Implications

#### Discussion

This finding implies that achievement motive is an antecedent of innovative work behaviour of managers. The present finding confirms earlier research findings which have identified achievement motive as well as innovativeness as characteristics of managers.

Situations involving innovative work behaviour is characterized by the possibility of risks and failures. Achievement oriented managers are moderate risk takers who need immediate feedback on the results of their actions in competence relevant situations. Achievement oriented managers take moderate risks and strive to get immediate feedback because they intensely desire to maximize their chances of success. For an organization with a strategy of innovation, achievement oriented managers are great

assets because such managers conscientiously take risks, maximizing the possibility of the personal success of their innovative work behaviour as well as the success of innovation efforts of the organization as a whole.

### **Theoretical Implications**

This finding is in agreement with the findings of Collins (2004) and Kolodziej (2010) who argue that high achievement motivation leads people to engage in innovative behaviours. The present finding is in agreement also with the findings of Gebert et al. (2003), Loon and Casimir (2008), and Larawan (2011) who identified achievement motive as an important antecedent of innovative behaviour of people in organizations.

Researchers (Elliot & Church, 1997) have also found that achievement motive leads to the adoption of mastery goal orientation which is characterized by adoption of moderately difficult goals, persistence in the event of failure, and enjoyment of the task. These characteristics are important in innovation-related activities which call for trial and error, persistence in failure, and positive emotional disposition to the task in hand. Stuart and Roth (2007) suggested that there is an apparent contradiction in achievement motive theory. They were doubtful as to how achievement motive which entails moderate risk taking can lead to innovative behaviours which involves risk taking. The present finding indicates that managers high in achievement motive can and do display innovative work behaviour. The propensity of achievement oriented managers to take moderate risks enhances the possibility of success of their innovative behaviours because they take moderate with a view to maximize the chances of success. Thus achievement oriented managers are in a vantage position to conscientiously take risks in alignment with the strategy of the organization and engage in innovative work behaviour and maximize the possibility of success of such innovative activities.

## Managerial Implications

Organizations need to identify achievement oriented managers. Achievement oriented managers need to be made aware of the details of the innovation strategy of the organization. Such managers must be given the opportunity to take risks with a view to bring about innovations. Failures in innovation efforts should not be projected as the personal failure of managers. Regular feedback needs to be given to achievement oriented managers regarding the progress and the outcome of innovation efforts of the organization. Organizations also need to train managers in achievement motive. Organizational contextual variables should be provided with a view to stimulate achievement motive.

### 6.2.5 Results of Test of Hypothesis 5

**Hypothesis 5:** There is a significant relationship between job autonomy and achievement motive

#### Results

**Table 6.6: Influence of Job Autonomy on Achievement Motive**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Job Autonomy	Achievement Motive	.46	<.01	H0 Rejected

Table 6.6 presents the results of the test of hypothesis of the relationship between job autonomy and achievement motive, Beta = 0.46, p value = <0.01. The p value of <.01 requires the rejection of the null hypothesis. The results show that there is a significant relationship between job autonomy and achievement motive.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results imply that there is a significant relationship between job autonomy of managers and their achievement motive. Job autonomy denotes the freedom to schedule work and to determine the procedure to carry out work (Oldham & Hackman, 2010). McClelland (as cited in Kolodziej, 2010) conceptualized achievement motive as continuous drive to augment a person's performance level and to attain success in competitive situations. Giving job autonomy to managers enhances their achievement motivation.

### **Theoretical Implications**

The present finding is in agreement with the earlier research findings on job autonomy and motivation. Earlier research findings relating to job autonomy and motivation indicate that job autonomy is an important predictor of motivation in general, and of intrinsic motivation in particular (Castelli, 2008, Shuler et al., 2010).

There have also been research findings which sheds light on the relationship between job autonomy and achievement motive. The present finding is in agreement with the findings of Langfred and Moye (2004) who argue that autonomy motivates people because autonomy provides people with an opportunity to choose and attain what they consider as positive and desirable. Behaviour which arise from achievement motive are driven by the desire to obtain what people consider as beneficial to them, namely the anticipation of pleasure which a person would get when he/she would succeed in a task or activity.

### **Managerial Implications**

Achievement motive has been identified by several researchers as one of the most career-relevant motive disposition with significance for

fields such as education, sports, and work. Researchers including McClelland have found that achievement motive is an important characteristic trait of entrepreneurs and managers. Though it is a relatively stable personality trait, achievement motive is impacted by factors in the work environment. Job autonomy is a contextual variable which influences achievement motive.

Achievement motive has been associated with several positive outcomes including persistence in the face of failure. Organizations which intend to benefit from the achievement motive of its managers need to stimulate their achievement motive by measures such as providing job autonomy to managers.

### 6.2.6 Results of Test of Hypothesis 6

**Hypothesis 6:** There is a significant relationship between participative Leadership and Achievement Motive.

#### Results

**Table 6.7: Influence of Participative Leadership on Achievement Motive**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Participative Leadership	Achievement Motive	.25	<.01	H0 Rejected

The results of the test of hypothesis of the relationship between participative leadership and achievement motive is presented in table 6.6, Beta = 0.25, p value = <0.01. The p value of <.01 necessitates the rejection of the null hypothesis. The results indicate that there is a significant relationship between participative leadership style and achievement motive.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results show that participative leadership style of bosses is significantly related to achievement motive of managers who report to them. Researchers have pointed out that although achievement motive is a relatively stable personality trait, it is influenced by contextual factors in the work place. Piccolo et al. (2010) point out that Hackman and Oldham's job characteristics model is based on the fundamental assumption that leaders can enhance the motivation of followers by changing the characteristics of jobs. Scott and Bruce (1994) point out that people generalize their perceptions about their superiors to their organization. Thus a leader's participative style may influence the achievement motive of managers who report to him/her.

### **Theoretical Implications**

Participative leadership style denotes a leadership style in which the leader involves the members in making decisions involving the work unit. Researchers have found that participative leadership style enhances the motivation of followers and results in better decision being made (Somech, 2005). Gebert et al. (2003) point out that participative leadership style of a boss enables the followers to confidently communicate up the hierarchy the need for change. This is the very phenomenon which occurs in the process of championing.

Achievement motive of managers result from the interplay of personal as well as contextual factors. Researchers have pointed out that achievement motive involves a cognitive evaluation, an affective commitment, as well as a behavioural dimension. The contention of Gebert et al. (2003) implies that in the context of innovation, participative leadership style of the boss generates hope of success motive disposition (i.e., achievement motive) in the follower.



Van de Ven (1986) argues that new ideas are usually resisted especially by large, successful organizations which prefer to maintain the status quo. He also contends that new ideas can get rejected at several stages. Van de Ven also argues that leadership is very critical for the management of innovation. Participative leadership style results in encouragement of new ideas, and facilitates faster dissemination of new ideas through organizational channels, through the process of championing. A manager who reports to such a boss gets a feedback that his/her new idea will be accepted and may get implemented if found appropriate. Such a favourable cognitive evaluation concomitant with a positive affective dimension which result from participative leadership style of the superior has the potential to stimulate the achievement motive of managers who report to him.

### Managerial Implications

A participative leader encourages involvement of managers in decision making. Organizations which adopt innovation as a business strategy needs to ensure that bosses strive to follow a participative leadership style for nurturing innovation. Participative leadership acts as a contextual variable within the organization which stimulates achievement motive of managers.

### 6.2.7 Results of Test of Hypothesis 7

**Hypothesis 7:** There is a significant relationship between perceived support for innovation and achievement motive

#### Results

**Table 6.8: Influence of Perceived Support for Innovation on Achievement Motive**

Predictor Variable	Criterion Variable	Beta	P Value	Result
Perceived Support for Innovation	Achievement Motive	.16	<.01	H0 Rejected

The results of the test of hypothesis of the relationship between perceived support for innovation and achievement motive is presented in table 6.8, Beta = 0.16, p value = <0.01. The p value of <.01 mandates the rejection of the null hypothesis. The results show that there is a significant relationship between perceived support for innovation and achievement motive.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results indicate that there is a significant relationship between the perceived support for innovation within a firm and the achievement motive of managers. Achievement motive is characterized by moderate risk taking. Affective commitment as well as cognitive evaluation of the possibility of success precede choice of alternative courses of action in a competence relevant situation by people (Harackiewicz et al., 1998). Perceived support for innovation within an organization encourages managers to anticipate the possibility of success, take moderate risks and engage in competent relevant activities. The perceived support for innovation within an organization, thus influences the achievement motive of managers.

### **Tests of Hypotheses 8, 9 and 10 – Tests of Mediation**

Testing of hypotheses 8, 9, and 10 involve testing of mediation of achievement motive between the three independent variables (job autonomy, participative leadership, and perceived support for innovation) and innovative work behaviour.

There are many approaches to testing of mediation. The test of indirect effects through Structural Equation Modeling (SEM) has now become prevalent. Many authors point out that it is advantages to test mediation through test of indirect effects in SEM. For instance, Kenny (2015), who equates mediation effect to the quantum of indirect effect,

states: “In contemporary mediation analysis, the indirect effect is the measure of the amount of mediation”. Kenny also points out that tests to gauge indirect effects are part of some Structural Equation Modeling programs. Gunzler, Chen, Wu, and Zhang (2013) consider SEM a suitable approach to test mediation and points out that there are advantages in performing mediation analysis using SEM. Kock (2015, p.57), the proponent of WarpPLS SEM, also highlights the advantages of conducting analysis of mediating effects by means of estimation of indirect effects in WarpPLS.

Kock (2015, p.80-81) argues that “...indirect effects allow direct estimations, via resampling, of the P values associated with mediating effects that have traditionally relied on non-automated and thus time-consuming calculations based on linear (Preacher & Hayes, 2004) and non-linear (Hayes & Preacher, 2010) assumptions”.

In this study, analyses of mediation (hypotheses 8, 9, and 10) have been done through the estimation of indirect effects in WarpPLS SEM program. WarpPLS reports the following outputs in a test of indirect effects: indirect effect, p value for indirect effects, and effect size.

### 6.2.8 Results of Test of Hypothesis 8

**Hypothesis 8:** Achievement motive mediates the relationship between job autonomy and innovative work behaviour

#### Results

**Table 6.9: Mediation of Achievement Motive between Job Autonomy and Innovative Work Behaviour**

Predictor Variable	Outcome Variable	Mediator Variable	Indirect effect	P Value	Effect Size	Result
Job Autonomy	IWB	Achievement Motive	0.098	0.040	0.041	H0 Rejected

Table 6.9 shows the results of the test of the indirect effect of achievement motive on the relationship between job autonomy and innovative work behaviour, Indirect effect = 0.098, p value = 0.04, effect size = 0.041. P value of 0.04 justifies the rejection of the null hypothesis.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results indicate that achievement motive mediates between job autonomy and innovative work behaviour of managers. The small effect size (0.041) appears to indicate that achievement motive partially mediates between job autonomy and innovative work behaviour of managers. This indicates the presence of factors outside the adopted model affecting the relationship between job autonomy and innovative work behaviour.

### **Theoretical Implications**

The findings imply that job autonomy stimulates the achievement motive of managers which, in turn, leads them to engage in innovative work behaviour. This finding is in line with earlier research which found that motivation in general mediates between job autonomy and innovative work behaviour. The current findings differ from earlier studies in so far as the present findings suggest that achievement motive mediates between job autonomy and innovative work behaviour. Much of the earlier research in the area had concentrated on intrinsic motivation as a mediator. However, Amabile, one of the leading researchers in this domain had suggested that it is difficult to make people intrinsically motivated. This finding suggests that achievement motive can operate as a variable which can mediate between job autonomy and innovative work behaviour.

### **Managerial Implications**

Organizations which have adopted innovation as a business strategy can leverage achievement motive as a factor which mediates between job

autonomy and innovative work behaviour. Organizations can benefit by hiring managers with achievement motive, training current managers in achievement motive, and by providing contextual human resource factors such as job autonomy to augment achievement motive. Thus stimulation of achievement motive by giving strategic autonomy to managers may act as an alternate strategy for organizations to bring about innovative work behaviour. This implies that organizations need to identify the level of achievement motive of managers and devise appropriate strategies to augment their achievement motive.

### 6.2.9 Results of Test of Hypothesis 9

**Hypothesis 9:** Achievement motive mediates the relationship between participative leadership and innovative work behaviour.

#### Results

**Table 6.10: Mediation of Achievement Motive between Participative Leadership and Innovative Work Behaviour**

Predictor Variable	Outcome Variable	Mediator Variable	Indirect effect	P Value	Effect Size	Remarks
Participative Leadership	IWB	Achievement Motive	0.078	0.081	0.03	Failed to reject H0

Table 6.10 presents the result of the test of indirect effect of achievement motive on the relationship between participative leadership and innovative work behaviour, indirect effect = 0.078, p value = 0.081, effect size = 0.030. P value of 0.081 requires the acceptance of the null hypothesis.

### Discussion, Theoretical Implications and Managerial Implications

#### Discussion

The results indicate that achievement motive does not mediate the relationship between participative leadership style of superiors and the innovative work behaviour of managers reporting to them.

### Theoretical Implications

Oldham and Hackman (2010) argue that in the recent decades, several facets of organizations such as the very nature of job, and relationship between organizations and managers have undergone significant changes. They also argue that motivation as a factor has relegated to the background in terms of importance and social dimensions of work such as the scope for networking, type of leadership and support which employees receive from the organization have become equally prominent.

### Managerial Implications

The results of the test of hypothesis 9 indicate that participative leadership style of executives have a direct and significant influence on the innovative work behaviour of managers. Participative leadership style of executives appears to be a very important trigger of extra-role behaviours such as innovative work behaviour.

#### 6.2.10 Result of Test of Hypothesis 10

**Hypothesis 10:** Achievement motive mediates the relationship between perceived support for innovation and innovative work behaviour

#### Results

**Table 6.11: Mediation of Achievement Motive between Perceived Support for Innovation and Innovative Work Behaviour.**

Predictor Variable	Outcome Variable	Mediator Variable	Indirect effect	P Value	Effect Size	Remarks
Perceived Support for Innovation	IWB	Achievement Motive	0.050	0.187	0.02	Failed to reject H0.

Table 6.11 shows the results of the test of hypothesis of the mediation of achievement motive on the relationship between perceived support

for innovation and innovative work behaviour, Indirect effect = 0.050, p value = 0.187, effect size = 0.02. P value of 0.187 necessitates the acceptance of the null hypothesis.

## **Discussion, Theoretical Implications and Managerial Implications**

### **Discussion**

The results indicate that achievement motive does not mediate between the perceived support for innovation and innovative work behaviour of managers.

### **Theoretical Implications**

Perceived support for innovation is a strong predictor of innovative work behaviour. However, the hypothesized mediation of achievement motive between perceived support for innovation and innovative work behaviour is not significant. The results appear to confirm the contention of Oldham and Hackman (2010) that owing to the unprecedented changes which have occurred in the recent decades in the way people work, the social dimension of jobs has become as important as the motivational aspects of a job.

### **Managerial Implications**

There is a strong direct link between perceived support for innovation and innovative work behaviour of managers. It is not enough that organizations support innovation. Managers need to perceive that their organization is supportive of innovations. In addition to letting managers know that innovation is a crucial business strategy, organizations need to ensure that managers perceive their organizations as supportive of innovation through tangible methods such as expectations, norms, rewards, and recognition which would make managers feel that their organization supports innovation.



## Chapter **7**

### **SUMMARY OF FINDINGS AND CONCLUSION**

- Contents*
- 7.1 Summary of Findings**
  - 7.2 Conclusion**
  - 7.3 Scope for Further Research**



## 7.1 Summary of Findings

This study has been focused on strategic HR factors influencing the Innovative Work Behaviour of managers. The following have been the research questions of the study:

- 1) Do the contextual predictors of IWB (job autonomy, participative leadership, and perceived support for innovation) influence Innovative Work Behaviour in the Indian context?
- 2) Is there a significant relationship between achievement motive and Innovative Work Behaviour?
- 3) Do the contextual predictors of IWB influence achievement motive?
- 4) Do the contextual predictors of IWB influence Innovative Work Behaviour through the mediation of achievement motive?
- 5) Are demographic variables (age, educational qualifications, and work experience in the current organization) significantly related to Innovative Work Behaviour?

Based on the focus of research and on the review of literature, the research objectives were formed, and the hypotheses were made based on the objectives. No hypotheses were formed for demographic variables. Table 7.1 presents the objectives, hypotheses, and the findings of the study.

Table 7.1: Objectives, Hypotheses and Findings of the Study

Objectives of the Study	Alternative Research Hypotheses	Findings
1) To study the relationship between the independent variables and IWB	1) There is a significant relationship between Job autonomy and IWB	H0 Rejected.
	2) There is a significant relationship between participative leadership and IWB	H0 Rejected.
	3) There is a significant relationship between perceived support for innovation and IWB	H0 Rejected.
2) To study the relationship between achievement motive and IWB.	4) There is a significant relationship between achievement motive and IWB	H0 Rejected.
	5) There is a significant relationship between job autonomy and achievement motive.	H0 Rejected.
3) To study the relationship between the independent variables of the study and achievement motive.	6) There is a significant relationship between participative leadership and achievement motive.	H0 Rejected.
	7) There is a significant relationship between perceived support for innovation and achievement motive.	H0 Rejected.

Objectives of the Study	Alternative Research Hypotheses	Findings
4) To study the mediating role of achievement motive on the relationship between the independent variables and IWB.	8) Achievement motive mediates the relationship between job autonomy and IWB. 9) Achievement motive mediates the relationship between participative leadership and IWB. 10) Achievement motive mediates the relationship between perceived support for innovation and IWB.	H0 rejected.  Failed to reject H0.  Failed to reject H0.
5) To study whether the IWB of managers vary significantly based on the selected demographic variables.	-  -  -	Differences in IWB scores of managers in different age groups were statistically significant.  There is no significant difference in the IWB scores of managers with educational qualifications in different fields of study.  Differences in IWB scores of managers in different groups, classified based on years of work experience in their current organization were statistically significant.

## 7.2 Conclusion

This study has revealed that Job autonomy, participative leadership, and perceived support for innovation are strategic Human Resource factors which organizations can leverage to bring about innovative work behaviour of managers. For organizations which have adopted innovation as a core business strategy, these HR factors are very crucial for encouraging innovative work behaviour of managers which, in turn, will lead to firm level innovations. These factors have to be leveraged strategically, in alignment with the strategic objectives of the organization.

This study has revealed that achievement motive is a significant predictor of Innovative Work Behaviour. This study has also found that achievement motive mediates the relationship between job autonomy and Innovative Work Behaviour. These findings suggest that achievement motive is another factor which organizations can leverage to bring about Innovative Work Behaviour. Firms which have adopted innovation as an important strategy, can hire persons with high achievement motive (Collins et al., 2004), train people in achievement motive, and provide contextual factors such as job autonomy which facilitate achievement motive in managers with a view to stimulate Innovative Work Behaviour.

It was also found that achievement motive did not mediate the relationship between two independent variables (participative leadership and perceived support for innovation) and innovative work behaviour. This finding reveals that there is an emerging trend in organizations whereby the social dimensions of jobs (such as participative leadership and perceived support for innovation) have become as important as the motivational dimensions of a job. This finding is in agreement with the suggestions of Oldham and Hackman (2010) who argued that the social dimensions of jobs are becoming increasingly important.

In agreement with the contentions of Spreier, Fontaine, and Malloy (2006), the current findings also suggest that organizations need to stimulate achievement motive strategically, i.e., by balancing achievement motive of managers with collaboration and participation. Spreier et al. (2006, p.2) cite the strategy of IBM which changed its focus from individual achievement of managers to socialized power. They point out that over the years, the culture of IBM has become characterized by “collaboration and team leadership – a culture that balanced influencing and helping others with the drive to achieve. Although the motives of the leaders had not changed (the executives were still very high achievers), their behaviour had”.

This study has shown that managers with educational qualifications in any domain can demonstrate Innovative Work Behaviour. This finding implies that Innovative Work Behaviour is not the exclusive domain of technically qualified persons working in R & D department of organizations. This finding suggests that organizations can manage the process of innovation and align the work behaviour of all managers, irrespective of their field of study, to the business strategy of innovation.

The findings of this study suggests that a manager’s work experience in an organization is significantly related to his/her Innovative Work Behaviour. Organizations need to accelerate the onboarding as well as socialization of new hires in order to ensure that new managers are enabled to network and develop adequate social and political skills in the context of the new organization which, in turn, will facilitate knowledge sharing and Innovative Work Behaviour.

The findings of the current study corroborate the contention of Jorgensen, Bekker, and Matthews (2009, p.451) who argue that “effective management of an organization’s human resources has become a critical

issue for ensuring sustained innovation capacity”. The present findings are also in alignment with Kozlowski’s exhortation (cited in Jorgensen et al., 2009, p.451) that “Human Resource Management (HRM) to be more distinctively embedded in organizational strategy in order to facilitate innovation”. Chen and Huang (2007) also argue that successful Human Resource Management leads to successful innovation. Bal, Bozkurt, and Ertemsir (2013, p.1071) argue that legacy Human Resource Management activities must be transformed and aligned with the innovation strategy of organizations.

The findings of the current study shows that job autonomy, participative leadership, perceived support for innovation, and achievement motive lead to innovative work behaviour. These findings demonstrate the strategic role which HRM needs to play in achieving the core business strategy of innovation.

In order to bring about firm level innovations, organizations which use innovation as a key strategy need to share the strategy of the organization with all managers so as to ensure that all managers are aware of the strategic direction of the organization. Organizations also need to use HR factors such as job autonomy, participative leadership, perceived support for innovation, and achievement motive strategically with a view to stimulate the Innovative Work Behaviour of managers.

### **7.3 Scope for Further Research**

This study has examined the relationship between the selected variables in the context of companies in the spices exporting sector. This study needs to be replicated in other manufacturing domains as well for better generalization.

The relationship among the selected variables need to be examined among the rank and file workers also. Further, the influence which the selected variables have on Innovative Work Behaviour needs to be examined also in the context of the service sector.

Earlier research has revealed that group processes influence Innovative Work Behaviour of employees. The influence of group processes on achievement motive needs to be examined through further research.

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## **APPENDICES**

**Age and Innovative Work Behaviour - Post Hoc Multiple Comparisons**

Dependent Variable: IWB  
Tukey HSD

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
age group 21-30 years	age group 31-40 years	-.44268*	.10103	.000	-.7051	-.1803
	age group 41-50 years	-.13010	.11131	.647	-.4192	.1590
	age group 51-60 years	.27160	.20067	.530	-.2496	.7928
age group 31-40 years	age group 21-30 years	.44268*	.10103	.000	.1803	.7051
	age group 41-50 years	.31258*	.11048	.027	.0256	.5995
	age group 51-60 years	.71429*	.20021	.003	.1942	1.2343
age group 41-50 years	age group 21-30 years	.13010	.11131	.647	-.1590	.4192
	age group 31-40 years	-.31258*	.11048	.027	-.5995	-.0256
	age group 51-60 years	.40171	.20559	.210	-.1323	.9357
age group 51-60 years	age group 21-30 years	-.27160	.20067	.530	-.7928	.2496
	age group 31-40 years	-.71429*	.20021	.003	-1.2343	-.1942
	age group 41-50 years	-.40171	.20559	.210	-.9357	.1323

\*. The mean difference is significant at the 0.05 level.

**Work Experience in the Current Organization – Post Hoc HSD Multiple Comparisons**

Dependent Variable: IWB  
Tukey HSD

(I) Currentexp	(J) Currentexp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
current exp = 1-5 years	current exp 6-10 years	-.43452*	.11345	.002	-.7477	-.1213
	current exp 11-15 years	.02778	.16154	1.000	-.4182	.4738
	current exp 16-20 years	.42708*	.14251	.026	.0336	.8205
	current exp 21-25 years	.01190	.20645	1.000	-.5581	.5819
current exp 6-10 years	current exp = 1-5 years	.43452*	.11345	.002	.1213	.7477
	current exp 11-15 years	.46230	.18182	.087	-.0397	.9643
	current exp 16-20 years	.86161*	.16514	.000	.4057	1.3175
	current exp 21-25 years	.44643	.22268	.269	-.1683	1.0612
current exp 11-15 years	current exp = 1-5 years	-.02778	.16154	1.000	-.4738	.4182
	current exp 6-10 years	-.46230	.18182	.087	-.9643	.0397
	current exp 16-20 years	.39931	.20124	.279	-.1563	.9549
	current exp 21-25 years	-.01587	.25062	1.000	-.7078	.6760
current exp 16-20 years	current exp = 1-5 years	-.42708*	.14251	.026	-.8205	-.0336
	current exp 6-10 years	-.86161*	.16514	.000	-1.3175	-.4057
	current exp 11-15 years	-.39931	.20124	.279	-.9549	.1563
	current exp 21-25 years	-.41518	.23880	.414	-1.0745	.2441
current exp 21-25 years	current exp = 1-5 years	-.01190	.20645	1.000	-.5819	.5581
	current exp 6-10 years	-.44643	.22268	.269	-1.0612	.1683
	current exp 11-15 years	.01587	.25062	1.000	-.6760	.7078
	current exp 16-20 years	.41518	.23880	.414	-.2441	1.0745

\*. The mean difference is significant at the 0.05 level.



## QUESTIONNAIRE

## PART - I

1	Age	
2	Educational Qualifications	1) Engineering (Diploma/Degree/PG) 2) Management 3) Engineering & Management 4) Science(Degree/PG) 5) Finance(Degree/PG/ICWA/CA) 6) Others
3	Work experience in the present organization	

## PART – II

**Directions:** Please indicate the degree to which the following statements apply to you by **circling one option** which best describes you. Options: **1 = Never; 2 = Rarely; 3 = Often; 4 = Always.**

No.	Statements	Never	Rarely	Often	Always
1	I like situations, in which I can find out how capable I am.	1	2	3	4
2	When I am confronted with a problem, which I can probably solve, I am attracted to start working on it immediately.	1	2	3	4
3	I enjoy situations, in which I can make use of my abilities.	1	2	3	4
4	I am appealed by situations allowing me to test my abilities.	1	2	3	4
5	I am attracted by tasks, in which I can test my abilities.	1	2	3	4

### PART III

**Directions:** Please indicate the degree to which the following statements apply to you by **circling one option** which describes you best. Options: **1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; and 5 = Always.**

**With what frequency do you engage in behaviours listed below:**

Sl. No.	Statements	Never	Rarely	Sometime	Often	Always
1	I choose the methods to carry out my work.	1	2	3	4	5
2	I often review my work objectives.	1	2	3	4	5
3	I am prepared to challenge existing organizational policies and practices to bring about improvements.	1	2	3	4	5
4	I plan my work.	1	2	3	4	5
5	I often review the methods I use to get the job done.	1	2	3	4	5
6	I decide the order in which I do things.	1	2	3	4	5
7	I often review how well I communicate information with colleagues on work-related issues.	1	2	3	4	5
8	I have full authority in determining how much time I spend on particular tasks.	1	2	3	4	5
9	I often review my approach to getting the job done.	1	2	3	4	5

### PART IV

**Directions:** Please indicate the degree to which the following statements apply to you by **circling one option** which describes you best. Options: **1 = Totally Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; and 5 = Totally Agree.**

Sl. No.	Statements	Totally disagree	Disagree	Undecided	Agree	Totally agree
1	My superior asks for my opinion.	1	2	3	4	5
2	My superior asks me to suggest how to carry out assignments.	1	2	3	4	5
3	My superior consults me regarding important changes.	1	2	3	4	5
4	My superior lets me influence decisions about long-term plans and directions.	1	2	3	4	5
5	My superior allows me to set my own goals.	1	2	3	4	5
6	My superior gives me considerable opportunities for independence and freedom.	1	2	3	4	5

## PART V

**Directions:** Please indicate the degree to which the following statements apply to you by **circling one option** which describes you best. Options: **1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; and 5 = Always.**

Sl. No.	Statements	Never	Rarely	Sometimes	Often	Always
1	How often do you create new ideas for improvement?	1	2	3	4	5
2	How often do you mobilize support for innovative ideas?	1	2	3	4	5
3	How often do you search out new working methods, techniques or instruments?	1	2	3	4	5
4	How often do you acquire approval for innovative ideas?	1	2	3	4	5
5	How often do you transform innovative ideas into useful applications?	1	2	3	4	5
6	How often do you generate original solutions to problems?	1	2	3	4	5
7	How often do you introduce innovative ideas in a systematic way?	1	2	3	4	5
8	How often do you make important organizational members enthusiastic for innovative ideas?	1	2	3	4	5
9	How often do you thoroughly evaluate the application of innovative ideas?	1	2	3	4	5

## PART VI

**Directions:** Please indicate the extent to which the following statements apply to your organization by **circling one option** which best describes your organization. Options: **1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; and 5 = Strongly Agree.**

Sl. No.	Statements	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	Creativity is encouraged here.	1	2	3	4	5
2	Our ability to function creatively is respected by the leadership.	1	2	3	4	5
3	Around here people are allowed to try to solve the same problem in different ways.	1	2	3	4	5
4	The main function of members in this organization is to follow orders that come down through the channels.	1	2	3	4	5
5	Around here a person can get into a lot of trouble by being different.	1	2	3	4	5
6	The reward system here encourages innovation.	1	2	3	4	5
7	This organization publicly recognizes those who are innovative.	1	2	3	4	5
8	The reward system here benefits mainly those who do not create disturbance in the existing situation.	1	2	3	4	5

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