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A Holistic Emotions Measurement Model:

Using the Viable System Model to Diagnose Workforce Emotions

being a Thesis submitted for the Degree of PhD

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by

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DEDICATED TO

the ever loving memories of my father, Ch. Sabir Hussain;

the sacrifices made by my mother, Asmat Sabir;

&

my brother, Ch. Khalid Hussain who, after Allah Almighty, was always there

when no one else was!!!

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ABSTRACT

A Holistic Emotions Measurement Model: Using the Viable System Model to Diagnose Workforce Emotions

Research Purpose: The current study attempted to redress the 'narrowness' in the research on the causes of workforce emotional experiences by utilizing the cybernetic Viable System Model (VSM) framework, and developing a reference model to facilitate the integrated view of the related aspects of affective workplace environment.

Methods: Based on VSM distinctions, an analytical tool (named as Holistic Emotions Measurement Model – HEMM) was developed for gauging the broad range of the causes of emotional experiences prevailing in the work environment. It facilitated the joined-up functional and the relational view of the entire working environment adequate for holistic diagnosis of the antecedents of emotions within the work settings. HEMM was tested empirically by conducting survey in Pakistan corporate sector. The development and test of the reference model was guided by the constructivism-positivism philosophy respectively.

Results: The functional and relational view of the workplace environment captured by the reference model helped in comprehending the causes of emotional experiences holistically. The field testing results confirmed the potential

utilization of the tool in diagnosing the antecedents of affective experiences of the employees while at work.

Conclusion: The current study provided an empirical account on the effective utilization of organizational cybernetics principles in the field of organizational behaviour which has remained largely unexplored till date. VSM framework has been proposed as a tool for understanding work environment and diagnosing the causes of the workforce emotions generation, which has enhanced the state-of-art theories on emotions management. The application of the reference model on field provided evidence about the convenient use of VSM in conjunction to Affective Events Theory (AET) as emotions measurement tool.

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ABBREVIATIONS

A-D ACL	Activation-Deactivation Adjective Checklist
AES	Affective Events Scale
AET	Affective Events Theory
AVE	Average Variance Extraction
CSE	Core Self-Evaluation
CSES	Core Self-Evaluation Scale
CSH	Critical Systems Heuristics
CWB	Counterproductive Work Behavior
CWB-C	Counterproductive Work Behavior Checklist
CWB-I	Counterproductive Work Behavior - Interpersonal Dimension
CWB-O	Counterproductive Work Behavior - Organizational Dimension
DES	Dispositional Envy Scale
E	Environment
EI	Emotional Intelligence
Emo	Emotions Experience
FWE	Functional Work Events
GEW	Geneva Emotion Wheel
GIS	Geographical Information Systems
GS	Generalized Self Efficacy
GST	General Systems Theory
HCM	Hierarchical Component Model
HEMM	Holistic Emotions Measurement Model
HOC	High-Order Construct
In O	Inside Operations
JC	Job Characteristics
JCM	Job Characteristics Model
JES	Job Emotion Scale

JS	Job Satisfaction
LC	Locus of Control
LOC	Low-Order Construct
LORV	Law of Requisite Variety
M	Management (Meta-Systemic)
MACL	Moods Adjective Checklist
MAACL	Multiple Affect Adjective Checklist
MAS	Momentary Affect Scale
NA	Negative Activation
Ne	Neuroticism
N.S.	Not Significant
O	Operations
OC	Organizational Commitment
OCS	Organizational Commitment Scale
OCB	Organizational Citizenship Behavior
OCB-I	Organizational Citizenship Behavior – towards Individual
OCB-O	Organizational Citizenship Behavior – towards Organization
O-E	Operations and Environment
O-M	Operations and Management
PA	Positive Activation
PANAS	Positive Affect Negative Affect Schedule
PLS	Partial Least Square
PLS-SEM	Partial Least Square-Structural Equation Modeling
RWE	Relational Work Events
S1	System 1 of Viable System Model
S2	System 2 of Viable System Model
S3	System 3 of Viable System Model
S3*	System 3* of Viable System Model
S4	System 4 of Viable System Model

S5	System 5 of Viable System Model
SBN	Smart Business Network
SE	Self-Esteem
SEAM	Systemic Enterprise Architecture Method
SEM	Structural Equation Modeling
SSM	Soft Systems Methodology
STAXI	State-Trait Anger Expression Inventory
VIF	Variance Inflation Factor
VSCM	Viable Scientific Communication Model
VSM	Viable System Model
WE	Work Events

Management based on profoundly scientific principles, and lacking 'heart',

in the sense of human concern, will not succeed.

Beer, 1994

CHAPTER 1	CHAPTER 2	CHAPTER 3	CHAPTER 4	CHAPTER 5	CHAPTER 6	CHAPTER 7
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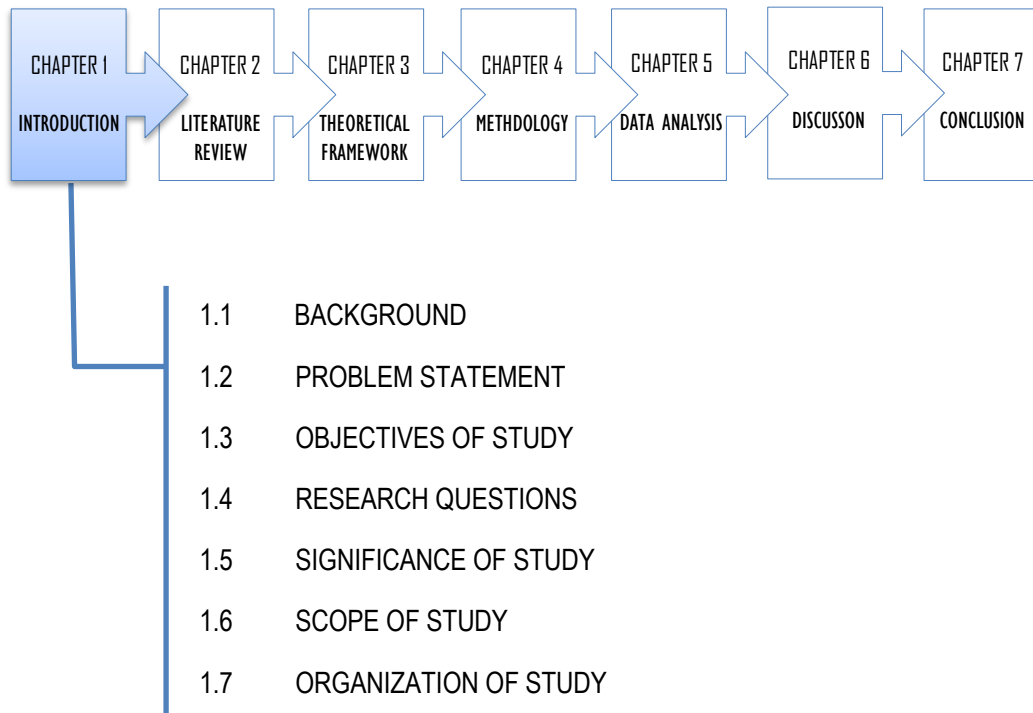
Chapter 1

INTRODUCTION

1.1 BACKGROUND

Emotions have been progressively acknowledged and reported as a vital element of social organizations. Organizations are full of emotions due to the emotional oriented nature of the employee's work experiences (Maitlis and Ozcelik, 2004; Ashforth and Humphrey, 1995). Organizational members have affective personalities and affective experiences (Kelly and Barsade, 2001) making organizations the 'emotional arenas' (Fineman, 1993, 9). It has been identified by the empirical research that emotions need to be engaged for

better understanding of the important work aspects. They are significant for development and maintenance of group sustainability and their commitment towards the goal achievement (Chekroun and Brauer, 2002). Therefore, several researchers and practitioners have been engaged in exploring and understanding the role of emotions in the organizational context (i.e. Fisher, 2002; Weiss and Cropanzano, 1996).

Emotions experienced by the workforce during work are found to have significant influence on their work related attitudes, impacting even the most simple judgments like the views they form about their tasks, colleagues, etc. (Forgas, 2001; George *et al.*, 1998). The positive emotions (like enthusiasm and contentment) and negative emotions (like anger and disappointment) have been found linked with the individual variations in job satisfaction (Fisher, 2000).

Likewise, emotions have also been confirmed to have influential strength in impacting employee's work related behaviours (Furneaux and Nevo, 2008) e.g. productivity, work efficiency, task quality and so on (Martin, 2005; Staw, Sutton, and Pelled, 1994; Staw and Barsade, 1993). Whenever employees confront issues while at work, the triggered emotions impact on their organizational citizenship and counterproductive work behaviours (Belschak and Hartog, 2009). Negative affect has been found significantly related to more withdrawal behaviours (LeBreton *et al.*, 2004) whereas positive affect facilitates the adoption of positive work behaviours like defending the organization, giving productive recommendations, involving in personal

learning and development process, increasing good will and supporting their colleagues (Haidt, 2000; George and Brief, 1992; George, 1991).

Employees work individually as well as in groups, teams, committees etc. creating interactions with other organizational members i.e. co-workers, managers and their clientele. The social connections developed within the work settings comprise an exhibition of emotions, which in turn have effects on the organizational functioning (Gobel and Law, 2007). Research studies have long-established that behaviours adopted by the managers can incite emotional reactions (Humphrey, 2002; Pescosolido, 2002). Manager's behaviours within the organization create emotional undercurrents, which need to be well understood for the comprehension of the behavioral mechanisms within the organization (Vince, 2006). Similarly, co-workers can also stress each another by alienating and undermining each other's levels of confidence (Hackman, 2002).

The positive emotions promote being helpful to others (Ashkanasy and Cooper, 2008; Wrzesniewski and Dutton, 2001; Carlson, Charlin, and Miller, 1988). Positive feelings stimulate cooperative, enthusiastic and positive attitude towards interpersonal tasks (Waugh and Fredrickson, 2006) as compared to negative feelings, which generate distrustful, destructive and hostile attitudes and behaviours (Forgas, 1999). Organizational members holding negative feelings exhibit an awkward behaviour specific to other members and frequently express pessimism, anxiety, insecurity and irritation. A single 'toxic' organizational member may be the catalyst for group-level

dysfunction by influencing the thoughts, feelings and behaviours of others (Felp *et al*., 2006).

The research also confirms that emotions like, happiness, affection, pride, enthusiasm, anger, guilt, worry etc. can be experienced simply from thinking about one's own self (Leary, 2007). Self-conscious emotions arise even due to arbitrary and subjective judgments or evaluations of self (Leary and Buttermore, 2003; Mascolo and Fischer, 1995). These self-conscious emotions result in self-regulation of social behaviours. They guide people in exhibiting behaviours and motivate them to observe the ethics and norms (Baumeister *et al*., 1994).

To sum up, people's emotional experiences within the workplace have a significant influence on their attitudes and behaviours, having substantial implications for individuals as well as organizations (Weiss, 2002). The findings support that understanding of emotions can help management as well as employees themselves, to explain and predict attitudes and behaviours within the work settings (Barsade and Gibson, 2007) whereas their neglect and marginalization can have negative consequences for the whole organization (Mumby and Putnam, 1992; James and Arroba, 1999; Clarke, Hope-Hailey, and Kelliher, 2007).

Despite of the non-negligible significance of emotional aspects of the workforce, the availability of methods for comprehending them are rather marginal (Fisher, 2000). Scholars in organizational behaviour discipline are constantly faced with challenging question of model utilization to best investigate the emotional phenomena. Several methods have been adopted by

them for understanding the emotional experiences of the employees, with few oriented towards the comprehension of the emotions structure while others focused on the measurement of its causes and consequences. However, the research on emotions has overemphasized the consequences of emotional states, at the expense of examining the causes (Weiss, 2002) resulting in the limited understanding of the causal factors behind the emotional experiences.

For understanding the workforce emotions phenomena, the comprehension of the reasons behind emotions elicitation are as important as its implications for the organization, creating the 'balance' between the two (Weiss, 2002). The increased awareness of the reasons behind the experiencing of emotions by the employees and its subsequent impact on their work related outcomes can provide management a mean for recognizing employee's emotions and giving space and resources to support individuals most exposed to stressors, in order, to avoid injuring the health of the organization (Nicholson, 1998).

Weiss and Cropanzano's (1996) Affective Events Theory (AET) is known to be the major endeavor for developing a comprehensive framework capable of mapping the path of emotional experiences from its causes to consequences (Erol-Korkmaz, 2010; Wegge *et al.*, 2006; Briner, 1999). It established that the features of the organization's working environment influence the occurrence of certain work events (Weiss and Cropanzano, 1996) which provide stimuli, perceived and appraised, inducing positive or negative emotions (Fox, 2002). The emotional experiences, due to these affective work events, may have immediate influence on work actions or may influence work attitudes or behaviours over time (Grandey, Tam, and Brauburger, 2002).

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Since the development, it has been held as a pivotal description of the workforce emotions, affecting attitudes and behaviours within the workplace (Ashton-James and Ashkanasy, 2005; Weiss and Beal, 2005). Work events phenomenon has been used by several researchers in their studies for the empirical investigation on the role of work events in stimulating employees' emotions and its subsequent impact on their attitudes and behaviours towards the organization (e.g. Fisher, 2000; Basch and Fisher, 1998)

Nevertheless, AET only offers a 'macro structure' for identifying the reasons and results of emotions experienced by employees at work (Weiss and Beal, 2005; Wegge *et al*., 2006). Its explanation of emotional antecedents present with in the work environment is more general in nature and needs to be known better (Brief and Weiss, 2002). It is also limited in conceiving the emotional antecedents external to organization, giving restricted view of employee's affective phenomenon (Ashton-James and Ashkanasy, 2004). Ashkanasy and Daus (2002) suggested that affective events causing emotions must not to be ignored even if they seem to be unimportant.

The study of emotions in organization is 'narrow' in its research on the determinants of emotional states specific to the work environment (Brief and Weiss, 2002). Work environment is known to have a significant influence on workers emotional experiences by disposing certain events. Brief and Weiss (2002, 299) stated "we know less than we should about features of work environment that are likely to produce particular (positive and negative) emotions" amongst the individuals (Lindebaum and Fielden, 2011).

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Brief and Weiss (2002, 299) suggested that "what we do not have and need are theories that guide us in identifying specific kinds of work conditions and/or events (physical, social or economic) associated with workforce emotions" (Lindebaum and Fielden, 2011). In order to meet this requirement, we need to look for qualitatively rich practical approaches (Fineman, 1993) "built from the ground up rather than imported from other areas of psychology" (Brief and Weiss, 2002, 300). As the better understanding of the working environment and its related aspects can lead to enhanced conceptualization of the influence it holds on workforce emotional experiences.

It is imperative to take the major aspects of the working environment inherent to the organizational existence into consideration for assessing their influence on workforce emotions collectively. These aspects might be functional or social in nature, both internal and external to the organization. Focusing on a single aspect in isolation, cannot give the in depth view of the interrelated organizational work environment characteristics responsible for employees emotional experiences and reactions.

We need to take a holistic view of the organizational work environment, incorporating its main work or operations, management functions, social relations built within as well as the environment in which it operates. Along with the affective organizational factors, an employee's affective personality also needs to be taken into considerations due to its motivational characteristics (e.g. Weiss and Cropanzano, 1996). In essence, a complete understanding of the workforce emotions phenomena within the organizational system requires the composite view of the inter-connectedness amongst the

every-day organizational functions performed, the social relations built within and the personality attributes of its members. This integrated view would be able to provide the better understanding of the composite reasons behind the emotional experiences of the employees within the organizational settings.

The study proposes that one of the systems approaches - organisational cybernetics- can be useful in widening the existing 'narrowness' in the understanding of workplace determinants of emotional experiences. It offers a holistic view of the entire functioning and performance of the organization gaining insights into the present situation and future requirements of the organization (Espinosa and Walker, 2011).

The concept of system can be understood "as a collection of interrelated parts with a purpose that work together to create a coherent whole" (Espinosa and Walker, 2011, 6). The purpose of adopting systems approach relates to its ability to produce a clear holistic account of an organization's functional and social settings (Ackoff, 1971). The systemic interconnectivity amongst different aspects of the work environment would permit to observe the collective impact of the workplace features on the emotions of the employees.

Beer's cybernetic Viable System Model (VSM) provides 'a meta-language to represent complex social systems' by mapping the structural elements of the organization and the patterns of interaction existing amongst them and the environment (Espinosa and Walker, 2011). Several investigations proposed VSM as a valuable, effective and state-of-the-art reference framework capable of diagnosing and designing the structure of an organization from a variety of perspectives, facilitating managers in coping with complexity more efficiently

(Espinosa *et al.*, 2011, Gmur *et al.*, 2010, Leonard, 2007). The use of Viable System Model (VSM) can significantly aid in gaining a consolidated functional and social account of an organizational working environment, including its operations, management and the external environment. This functional and relational aspect of the organization together with the individual's personality dimension can provide a holistic account of the reasons behind the production of emotions within the organization at the individual level. In essence, the VSM can provide a holistic comprehension of the work environment eliciting employee's emotions and subsequent reactions.

The study proposes that VSM can facilitate the integrated view of the related aspects of the working environment of the system-in-focus i.e. its operations, managerial functions, external environment, social relations and the social beings embedded within. This holistic view of the organizational system offered by VSM will aid in the development of an analytical tool aiming to develop a broader view of the antecedents of the emotional experiences, which will offer a better understanding of the employee's emotions and its influence on work related outcomes (George and Jones, 1996, 1997).

1.2 PROBLEM STATEMENT

Workforce emotions constitute a significant part of an organization's life. Emotions not only escalate the individual performance within organization but also further develop his intellectual capabilities (Bless and Fiedler, 2006), playing a significant role in increasing the organizational competitiveness in the market and sustaining its growth (Forgas and George, 2001).

Despite of the significance of emotions, the problem of assessing the causes behind the workforce emotional experience has remained unsolved. The current methodologies and frameworks available for understanding the antecedents of workforce emotions lack in explaining the work environment and its features adequately (e.g. AET). This deficiency results in the fragmented investigation of the affect oriented work related aspects. This partial view of work environment also undermines the comprehension of its effect on the work related outcomes.

Therefore, to understand the complex work environment and its interrelated aspects-functional, relational, personal- we need a guiding framework which can provide a holistic understanding of the work environment and its integral features responsible for triggering emotions amongst the employees.

Over last 50 years, a body of knowledge has been accumulated - called systems theory – which is based on the principle of holistic view, applicable and transferable across the domains in all the firms of organization. However the application of systems approach to the diagnosis of the antecedents and the management of workforce emotions is rather marginal.

Beer's Viable System Model (VSM) inspired in the neurophysiology of the human beings offers a clear basis for the diagnosis and design of complex and dynamic social organizations (Pfiffner, 2010; Gmur *et al.*, 2010; Rios, 2010). The VSM framework offers an integrated view of the functional, relational and human perspective inherent to the organizational working environment. Its structural description of the system's operations, its management and the environment in which it exists, gives a holistic view of all the members

functioning together and the interactions amongst them. Together with the personal aspect of the employee who makes the smallest unit of any organizational system.

The study proposes the adoption of the theory of organisational viability (i.e. VSM) - to comprehend the interrelated aspects of the working environment for diagnosing the wide-spread causes of workforce emotions within the organization, thus providing a base for its effective management.

1.3   OBJECTIVES OF STUDY

The study of emotions is one of the most densely populated fields of organizational behaviour academic research. However, there has been surprisingly marginal research on the application of systems theory to the diagnosis and management of workforce emotions. Similarly, despite the growing research interest in Viable System Model, no study has been undertaken addressing the potential of VSM framework for giving the holistic account of the workforce emotional experiences impacting their work related attitudes and behaviours.

The current study attempts to adopt the cybernetic Viable System Model to comprehend the complex work environment and its interrelated aspects-functional, relational, personal- for the holistic diagnosis of the work environment and its features, responsible for triggering emotions amongst the employees. This study reflects the appropriateness of the approach adopted by the management and academicians for assessment of the causes of employee's emotional experiences, wide-spread in the work environment. The conceptual

basis of the study is that reasons behind the emotional experiences of the employees within the organization need to be observed holistically for its better conception and management.

The current study attempts to redress the 'narrowness' (Brief and Weiss, 2002) and 'imbalance' (Weiss, 2002) in the research on the causes of emotional states by exploring the functional and social and human aspects of the work environment. It attempts to fill the existing gap by using the VSM framework, facilitating the integrated view of the related aspects of the working environment i.e. operations, managerial functions, external environment, social relations and employee's personality embedded within; for developing an analytical tool capable of gauging the broad range of the causes of emotional experiences prevailing in the work environment.

Following are the objectives to be achieved through this study:

1.   To improve the current understanding of the work environment and related workforce emotional experiences by reinterpreting them from a systems perspective.

2.   To develop the model for diagnosing the causes of workforce emotional experiences based on the systems principles of the VSM - used as a conceptual device for producing a holistic understanding of the work environment producing workforce emotions; such a model would enhance and complement state-of-art theories on emotions management.

3.   To test the explanatory power of the suggested emotions measurement model to determine the potential benefits for its use in understanding the affective work environment and its related features.

In nutshell, the study aims to complement the state-of-art theories on emotions management by offering a better depiction of the work environment and its related aspects for diagnosing the underlying causes behind the production of workforce emotions within organizational settings.

First, the study illustrates the potential of the VSM as a conceptual device for classifying the causes of workforce emotional experiences widely-spread in the organization; it develops a tool capable of giving the snapshot of the entire working environment and its aspects for identifying the reasons behind the emotional occurring at the individual level within the organization.

Later, the study describes the use of the developed model to assess the impact of personal and work-related emotional experiences of employees on their work-related attitudes and behaviours within the organization.

1.4   RESEARCH QUESTIONS

The current investigation addresses the following questions:

1.   How the VSM theory can provide a framework for better understanding of the entire working environment, and the events in particular influencing the employee's emotions?

2.   How VSM, in complement to other state-of-art theories of emotions measurement, can illuminate the existing understanding of the causes

behind the employees' affective states and its relationship to employee's attitudes and behaviours?

1.5   SIGNIFICANCE OF STUDY

The important contribution made by the current study is development of a theoretical framework for emotions measurement, capable of giving the holistic view of work environment and workforce emotions in the organizational settings. The formal studies specific to this knowledge domain have been marginal. The use of cybernetics approach in emotions measurement methodologies have been adopted for the first time since the initial development of this field of investigation.

Likewise, the theory of viability i.e. VSM has been proposed for the management of emotions which is unique in its kind as it has not been done before.

In the study, VSM framework has been proposed as a tool for classifying the causes of the workforce emotions generation, which enhances the state-of-art theories on emotions management.

Also, Affective Events Theory has been used with system's perspective, again, which is relatively new study in its kind.

1.6   SCOPE OF STUDY

This research has connotation for practitioners and researchers. It gives empirical evidence on the significance of VSM as a guiding tool for diagnosing the antecedents of workforce emotions from the functional and the

relational perspective, inherent to its sustainability and performance. Corporate heads and managers can implement VSM to manage the emotions by its effective comprehension and understanding.

1.7   ORGANIZATION OF THESIS

The thesis is based upon seven chapters illustrated below:

1 — '*Introduction*' discusses the operational background leading to the problem statement, the objectives of the study, research questions, its significance, and the organization of the thesis.

2 — '*Literature Review*' includes extensive theoretical base pertaining to the work & personality related antecedents and consequences of workforce emotions; the gaps in existing emotions measurement methods and the systems solution to the problem.

3 — '*Theoretical Framework - Holistic Emotions Measurement Model (HEMM)*' elaborates on the development of the model capable of diagnosing the work environment holistically and also outlines the research model for the ground testing of HEMM.

4 — '*Methodology*' highlights the study design adopted for achieving the study objectives. It discusses the research philosophy, approach, strategy, time-horizon, data collection methods and data analysis techniques. Further it highlights the measurement models development and pilot testing.

5 — '*Data Analysis*' discusses about the administration of the questionnaire for data collection for main survey leading to statistical analysis of the proposed measurement and structural models of the study.

6 — '*Discussion*' chapter deliberates on the findings of the statistical tests to determine the utility of the suggested model (HEMM).

7 — '*Conclusion*' concludes the study with the critical review of the objectives accomplished and the contribution made to the knowledge along with the limitations of the study and directions for future research.

Chapter 2

LITERATURE REVIEW

Introduction

The chapter encompasses the literature review pertaining to the workplace emotions and the systemic principles of the theory of organizational viability (i.e. VSM). The first section (2.1) of the chapter presents an overview of the workforce emotions within organizational settings. It presents details on the workplace specific causes of emotions elicitation amongst the employees (2.1.1) and also highlights the role of personality in these emotional experiences (2.1.2). It proceeds further with the literature pertaining to the influence of individual's emotions on his/her work attitudes and work behaviours (2.1.3). The next section of the chapter delineates on workforce emotions measurement methods: structure based methodologies (2.2.1) and event based measurement (2.2.2),5 adopted for measuring emotions.

Subsequently, section (2.3) introduces the field of systems approach for the holistic understanding of the workplace environment and summarizes on the cybernetic Viable System Model (VSM) developed by Stafford Beer (2.3.1). It highlights on its applications for the diagnosis and design of social systems (2.3.1.1). It also discusses its structural arrangement (2.3.1.2) and the main principles of requisite variety (2.3.1.3) and recursivity (2.3.1.4). Finally, the chapter deliberates on the application of VSM for workforce emotions management (2.3.2) by suggesting the utilization of its principles of requisite variety and recursivity for emotions management (2.3.2.1 and 2.3.2.2).

<p style="text-align:center">*****</p>

2.1   EMOTIONS WITHIN ORGANIZATIONAL SETTINGS

Over time, emotions have been viewed under a number of lenses by a variety of disciplines, including psychology (Cornelius, 1996), sociology (Williams, 2001), biology (Damasio, 1994), computing technology (Gratch and Marshella, 2006) and management (Fineman, 2000; Herriot, 2001); with emphasis on its physiological underpinnings (Frijda, 1986), cognitive and affective accounts (Lazarus, 1991; Plutchik, 1980) and social meaning (Averill, 1980).

The naturalists consider emotions as 'basic' and inherent to the underlying physiological mechanisms of an individual (Plutchik, 1980); as stated by Jin (2009) that "felt emotions are determined by individual's physiological reactions to environmental information, and once an underlying physiological mechanism is induced, so is a specific, corresponding felt emotional state" (pg. 8). On the contrary, the social constructivists deliberate that emotions are socially defined and depend on individual's interpretations (Fineman, 1993), i.e. physiological arousal to environment information can relay to different felt and displayed emotions amongst the people involved.

Emotions may be unconditioned responses to the stimuli with intrinsic affective properties or may be conditioned responses based on emotional values learned from the society; in both conditions they involve several appraisal processes that evaluate the implication of stimuli to the current goals (Scherer *et al*., 2001). Scherer (1993) has defined emotions as "a sequence of

state changes in all of five − functionally defined - organismic subsystems i.e. the cognitive system (appraisal), the autonomic nervous system (arousal), the motor system (expression), the motivational system (action tendencies), and the monitor system (feeling), occurring in an interdependent and interrelated fashion in response to the evaluation of a stimulus, an event, or intra-organismic changes as being of central importance to the major needs and goals of the organism".

Emotions have been identified as 'central' to cognition which draws its attention towards the unattended goals through interruption (Simon, 1967). The studies have confirmed that emotions and cognition work together to process information and execute action (Gratch & Marsella, 2006; Gray, 2001; Cacioppo & Berntson, 1999), making emotions an essential component of normal, adaptive decision making and behavior in a variety of real-life contexts (Gray, 2004; Adolphs & Damasio, 2001; Bechara, Damasio, & Damasio, 2000). The functional accounts of emotions suggest that they are particularly helpful in decision making (Beer, Knight, Esposito, 2006). Damasio and colleagues confirmed that damage to ventromedial prefrontal cortex prevents emotional signals from guiding decision making in an advantageous direction, particularly for social decisions (Bechara, Damasio, AntonioDamasio, & Lee, 1999).

The study of role and effect of emotions at work became the topic of interest for organizational behavior researchers before World War II (Weiss and Brief, 2001). Emotions and managing emotions in the workplace remained implicitly at the core of management practice and development but its importance in

organizational life has long been underestimated by management theories (Brief and Weiss, 2002; Sturdy, 2003). For several years, the management literature emphasized the rationality of business and suggested organizational regulators to 'manage' emotions out of the organization (Cartwright and Pappas, 2008). They were treated as something marginal, idiosyncratic, non-routine and perceived as negative, causing interruption in rational approach, both by researchers as well as practitioners (Fineman, 2000); till the scholarly research of emotions within work settings published by Hochschild (1987, 2003) which identified that the expression of explicit emotions are extremely important as part of job performance for maximization of organizational productivity, titled 'emotional labour'. Later, the introduction of the concept of 'emotional intelligence' by Mayer and Salovey (1997) -defined as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth"- and its followed popularization by Goleman (1995), directed the interest of researchers towards the investigation of emotions within work settings exponentially.

Recent research into emotions within work settings has identified that positive and negative emotions are intrinsic part of our daily lives due to which they constitute a vital element of our social life in general and our behaviour in organizations in particular (Forgas, 1995, 2000). Work is the most frequent of our life's activities, but it is not an activity set apart from all others in terms of basic behavioral processes (Weiss, 2002). On the contrary, it is a place where

all of our basic processes perform daily e.g. cognitive processes, emotional processes, perceptual and behavioral processes and so on. People feel angry, anxious, happy, embarrassed, worried etc. while at work (Weiss, 2002).

Organizational research has increasingly recognized the emotional nature of organization and organizational life (Barsade and Gibson, 2007; Ashkanasy *et al*., 2002; Brief and Weiss, 2002; Fisher and Ashkanasy, 2000; Elsbach *et al*., 1998) resulting in the immense increase of these investigations since last decade (Von Glinow *et al*., 2004; Yukl, 2002; Fineman, 2003; Ashkanasy *et al*., 2000). There is an obvious development of an emotion-centric organizational research (Hochschild, 1979, 1983). The emerging research specific to the influence and role of affect has unfastened an exciting area of investigation (Ashkanasy, Hartel, and Zerbe, 2000). Rather, the studies of workplace emotions have taken a shape of the main area of development in management research and practices in twenty first century (Ashkanasy and Daus, 2002).

The research findings have well-documented the affiliation of emotions and work role (Rafaeli and Sutton, 1987; Gibson, 2006) influencing attitudes and behaviours of the employees (Ashforth and Humphrey, 1995; Fisher, 1998; Cote and Morgan, 2002; Baumiester, Vohs, and Dewall, 2007). Locke and Latham (1990, 230) state that "emotions pride the psychological fuel for action", making the emotions at work ubiquitous and important (Fisher, 1997). Several findings have identified the connection of emotions with leader-member relationships, change management, learning management, customer relationship management and so on (George, 1990; Fineman, 1993).

The impact of workforce emotional experiences on their attitudes and behaviours is imperative for individual as well as organizational performance. Research has confirmed that emotions direct the individual's performance. Several studies have solidified that individual's positive emotions contribute vividly to his/her creativity (Amabile *et al*., 2005), perceptions (Isen and Baron, 1991), attitudes (Judge *et al*., 1998), performance (Staw and Barsade, 1993), social behaviour (George and Brief, 1992) as well as decision making (Cyert and March, 1992) by involving psychological factors (Pettigrew, 1992), such as 'intuitions' (Barnard, 1938; Mintzberg and Westley, 2001) for gaining 'bounded rationality' (Simon, 1957).

The inquiry concerned with feelings and emotions of workers is broadly focused on two dimensions: 1) how organizations affect them, and 2) how they affect organization (Brief and Weiss, 2002). Organizational research on emotions has overemphasized the consequences of emotional states, at the expense of examining the causes. The imbalance created between the two has increased the need of deliberate investigation of the causal factors existing within the working environment (Weiss, 2002).

Recent researchers have identified several work and non-work related features as the antecedents to emotional experiences during work, e.g. organizational change, job characteristics, affective personality, role conflict, performance monitoring, organizational status are amongst the few (Weiss, 2002).

An individual entering into the organizational setting carries along with him his/her affective personality and a variety of affective components such as moods, emotions, emotional intelligence, sentiments, and skills (Kelly and

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Barsade, 2001) shaping his/her attitudes and behaviours while at work. He interacts with other employees within the same or other unit for the fulfilment of delegated tasks. This coordination and interaction amongst the organizational members is substantial as employees create emotional reactions to the behaviours of the other people.

Co-workers can influence each other's perception, feelings, emotions and behaviours at work. As Kahn (2007) suggests that close interpersonal relationships with co-workers have a positive impact on employees' job related perceptions (Ibarra and Andrews, 1993) and attitudinal and behavioral outcomes (Bommer *et al*., 2003; Mitra *et al*., 2008), meaning that co-workers actions can influence their peers work attitudes such as job satisfaction, organizational commitment, and intention to remain within the organization.

Employees also interact with people constituting management who regulate the working of the unit by providing directions and resources for goal attainment. The research studies have long-established that behaviours adopted by the managers can incite emotional reactions (Humphrey, 2002; Pescosolido, 2002). The communication network between workers and regulators creates the internal environment of the organization. To reduce uncertainty, information and cues leading to attitude formation are derived by employees not only from the intrinsic characteristics of the task but from the supervisor (Salancik and Pfeffer, 1978) and from the co-worker (Pollock *et al.*, 2000) as they are in frequent contact with the employee and therefore information provider on regular basis (Thomas and Griffin, 1983).

This interaction is not only confined to the internal members of the organization but it also extends to the people they interact with from the external environment i.e. customers, suppliers, agencies etc. These relations are a natural part of the work environment which might be pleasant or frustrated in nature (De Dreu *et al.*, 2003). Within organizations, emotions serve as the social glue that can potentially "make or break organizations" (Fineman, 1993, 15). Emotions play a pivotal role in developing and regulating the relationships developed within the organizational internal as well as the external members.

Beer (1979), the father managerial cybernetics, rightly said that the separate things increasingly become connected together, receiving complexifying interference from every other level too due to which complexity proliferates and becomes unmanageable. He further suggested that "the problem of complexity is bound into the world of interacting systems" which has to be understood at the "physiological level – the level at which the whole system is a whole – or not at all" (1979, 29 & 36).

The following sections (2.1.1 and 2.1.2) present the literature review of the personal and work related characteristics identified by the previous organizational behaviour research as crucial to emotional activation and experiences amongst the employees; to build-up a case for the utilization of systems approach for understanding wide-spread causes of emotional experiences within the work environment - as a whole.

2.1.1   Work Features and Emotional Experiences

The work features combined to make work environment are known to have significant relationship with employee's affective experiences. Several workplace endogenous factors have been found to produce moods and emotions (George, 1996; George and Brief, 1992; Weiss and Cropanzano, 1996) e.g. stressful events, leaders, workgroups characteristics, physical settings, organizational rewards and punishments etc. (Brief and Weiss, 2002). These work-features and issues related to them can result in emotional inducements which may impact on employee's job satisfaction, commitment, organizational citizenship and/or counterproductive behaviours (Belschak and Hartog, 2009).

The comprehensive literature review outlines the main features related to working environment having repercussions for employee's emotional states, categorized as: work context, management functions, interpersonal relations, and external environment. Each one of them has been discussed below:

2.1.1.1   Work Context

The job assigned to the employee leading towards the accomplishment of organizational goals holds significance not only for the organization but for the employee who is performing it. The work context characterized by job overloading, role conflict and ambiguity interfering with job activities and performance are the potential stressors (Spector and Fox, 2005) leading to aggressive behaviours to reduce unpleasant emotional experience (Penney and Spector, 2005).

Basch and Fisher (1998) reported that employees feel positive emotions due to successful task completion, involvement in challenging tasks and by having higher influence and control over their work. They further reported the negative emotions felt by the employees due to the lack of their influence or control over their work. Judge and Kammeyer-Mueller (2008) in their study found that amongst air-traffic controllers the higher level of workload was related to increased negative affect and decreased positive affect (Repetti, 1993). Similarly, Wegge *et al.* (2006) in their investigation on university employees found that high workload along with task problems have positive correlation with negative emotions. Also, Rafaeli and Sutton (1990) finding supported that store busyness was related negatively to cashier's displayed positive emotions.

On the other hand, several classical studies have well documented the relationship of job characteristics with affective response (Cummings and Burger, 1976; Dunham, 1979). Jonge *et al.* (2001) in their two-wave panel study of health care professionals found an empirical support for the influence of job characteristics on psychological well-beings of the workers. Saavedra and Kwun (2000) viewed through a four-factor measurement scheme that job characteristics including task significance, task autonomy and task feedback were positively and significantly related to positive emotions.

Along with the influence on affective experiences, job characteristics also hold direct as well as indirect impact on personal and work outcomes (Renn and Vandenberg, 1995). Sokoya (2000) reported that job characteristics regulate the level of job satisfaction. Adler (1991) supported that employees reported

higher levels of satisfaction when they had higher perceptions of skill variety, task significance, autonomy and feedback. James and Tetrick (1986) confirmed that job characteristics are the solid reason for job satisfaction. Judge, Erez, and Bono (1998) suggested the mediating relationship of job characteristics between core self-evaluation and job satisfaction.

The emotions felt by employees are not limited to the job undertaken by them. The management activities (discussed in next section) embarked for goals accomplishment play a significant role in triggering their emotions as well.

2.1.1.2 Management Functions

Managerial activities coordinate the efforts of employees to accomplish desired goals and objectives using available resources efficiently and effectively. Management comprises the interlocking functions of formulating policies, planning goals and objectives, organizing, coordinating, controlling and directing a firm's resources to achieve the objectives. Emotions are inherent to the managerial activities (Clarke, Hope-Hailey, and Kelliher, 2007). They play a substantial role in the production of employee's emotions during work.

The goals and the plans, together with policies and procedures which shape the behaviour of the individuals in organizations (Beer, 1979) have been found to elicit employees' emotions (e.g. Herzberg, Maunser, and Snyderman, 1959; Bash and Fisher, 1998). The studies conducted by Hartel, Hsu, and Boyle (2002) and Kelly and Barsade (2001) emphasized the close connections between organizational-level policies and emotional outcomes (Ashkanasy,

2003). Ashkanasy (2003) suggested that organizational policies can impact directly on employees in shape of affective events triggered by the managers (Weiss and Cropanzano, 1996).

Likewise, prior research confirmed that the process of resource allocation provokes strong emotions (Johansson, Eek, Caprali and Garling, 2010). Job resources including physical, social, psychological, or organizational aspects of the job- are functional in achieving work goals (Demerouti and Bakker, 2011). Abundance of job resources trigger affective experiences which in turn may associate positively with employee's (Demerouti and Bakker, 2011; Xanthopoulou *et al*., 2012) and organizational outcomes as they induce employees to meet their work goals (Meijman and Mulder, 1998).

Schaufeli and Van Rhenen (2006) identified in a cross-sectional study that employees working in resourceful working environments feel enthusiasm, pride and joy while working (Xanthopoulou *et al*., 2012). On the other hand, lack of resources restraining employees for completing their job is associated with negative emotions and counterproductive work behaviours (Fida *et al*., 2012). Also, the expectations of the employee from the employer specific to competitive wages, promotional opportunities, job trainings in lieu of his energy, time and skills can result in emotional and behavioral reactions if unfulfilled (Kickul, 2001).

Performance assessment is the most important managerial tool to assess the performance levels within the organization in order to sustain it or increase it to its optimum (Zhu and Dowling, 1994). Several studies have supported the relationship between organizational control mechanisms e.g. punishment and

rewards and emotional experiences (Brief and Weiss, 2002). When employees perceive that the managerial processes and decisions are unfair and unethical, it results in anger and frustration among the employees (Morrison and Robinson, 1997) and vice versa.

Saavedra and Kwun (2000) conducted a study on 360 managers and found that task feedback was positively and significantly associated with relaxation. Similarly, Grandey, Tam, and Brauberger (2002) found in their study of young workers with part time jobs that recognition from supervisors for work performance (Tenhiala and Lount Jr, 2012) was the main cause of pride whereas its absence caused negative emotions (Bash and Fisher, 1998).

On the other hand, Kiefer (2005) identified that the change adapted and implemented by the organizational management have the potential of eliciting negative emotions within the employees, due to their perceptions of an insecure future, inadequate working conditions and mistreatment by the organization.

Nevertheless, leadership practices facilitating positive emotional climate in an organization is conducive of positive organizational-level outcomes in terms of performance (Ozcelik, Langton, and Aldrich, 2008).

2.1.1.3 Interpersonal Relations

Interpersonal relations at work constitute the day to day interaction between co-workers, managers and employees. These interactions and relationships with their co-workers, managers, etc., both within and outside the workplace, are likely to be emotionally saturated as compared to typical task performance

(Judge and Kammeyer-Mueller, 2008) and influence the work outcomes (Grant, 2008; Pratt and Ashforth, 2003). As Kahn (1998) noted that "employees form emotional attachments in the context of their work relationships and beneath the layer of formal organizational structure, these relationships and emotions shape how they engage in their work environment". Friendships and helpful interactions at work, not only improve employee's attitudes like job satisfaction and job commitment (Morrison, 2009; Zagenczyk *et al.*, 2010) but also impact work outcomes by establishing supportive climate, increasing employees' participation, boosting organizational productivity and so on (Crabtree, 2004; Song and Olshfski, 2008).

On the contrary, the absence of helpful social interactions can create stress and tension (Steotzer, 2010). Interpersonal relationship problems at work lead to 'conflict'. Several scholars have reported negative and contradictory associations between dealing with conflicts and performance (Jehn and Mannix, 2001). Conflict has been suggested to interfere with organizational performance and reduce satisfaction due to the tension and bitterness created which further distracts the people from performing the task (De Dreu and Weingart, 2003). Carnevale and Probst (1998) explained it in terms of 'cognitive load' that as conflict intensifies it increases the load on cognition, which influences on the reasoning and creative thinking capacity of the individual, hampering the information processing and the resultant team performance (De Dreu and Weingart, 2003).

Positive interpersonal relationships at work foster a variety of beneficial outcomes for individuals as well as organizations as good interpersonal relationships at work helps to reduce depression (Stoetzer, 2010). The emotional quality of interpersonal relationships at work needs to be positive for making the organizational climate supportive.

Research findings suggested that employees experiencing anger due to their co-worker often indulge in aggressive behaviours e.g. screaming, assaulting or leaving the workplace to 'cool down' (Glomb, 2002). The literature review suggests the significant role of interpersonal relationships in provoking emotions at work which contribute enormously to the individual and/or organizational productivity.

2.1.1.4 Environment

An environment consists of the general and the specific agents with whom the organization interacts directly or indirectly.

The general environment includes economic, social, technological, legal and political aspects. The events pertaining to external environment like inter-organizational negotiation, economic transactions, legal, political and social changes, may impact on employee's moods and emotions (Ashton-James and Ashkanasy, 2004).

The operational environment of any organization includes the suppliers, buyers, competitors and the industry. The empirical investigations done by researchers identified that mistreatment from the client/customer elicited negative feelings of anger amongst the workers (Grandey, Tam, and

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Braubuger, 2002). Similarly, clients/customers also trigger the positive affect of the organizational members.

Likewise, the environment also includes the community-holding employee's families, friends, social groups and so on. Life events have important effects on people (Clark and Oswald, 2002). The person experiencing crisis in his/her personal life may react to the situations and occurrences in organizational settings more intensely as compared to the one who is contented and happy in his life. The research also supports that the relationship between job satisfaction and life satisfaction is reciprocal (Judge and Watanabe, 1994). If someone's job experience spillover into his life, in the same way it may go the other way as well i.e. a happy or unhappy life impacting on job's 'experience' or 'evaluation' (Saari and Judge, 2004).

In essence, the workplace aspects encompassing daily work, routine organizational functions, managerial activities, interpersonal relations with other members and external environment actors play a dominant role in triggering emotions amongst the employees. However, emotions elicitation amongst the workforce members is not restricted to working environment features but an individual's own personality plays an important role in this process.

The next section (2.1.2) details on the influence of personality on emotional experiences of the employees at work.

2.1.2 Personality and Emotional Experiences

Personality plays a crucial role with respect to emotional experiences and reactions in workplace contexts (Spector and Fox, 2005). People appraise work context and link specific patterns of appraisal to specific emotions and behavioral tendencies (Caprara and Cervone, 2000) on the basis of their personality characteristics. The prior research provides evidence that personality traits are related to the affective experiences or states (Judge and Kammeyer-Mueller, 2008; Mooradian and Olver, 1997).

Studies investigating long-term psychological distress associated neuroticism with being depressed, angry, embarrassed, worried etc. (Matzler and Renzl, 2007) and tend to show greater reactivity to negative events (Ormel and Wohlfarth, 1991). Henle and Gross (2013) reported that employees with lower emotional stability or conscientiousness experienced more negative emotions and perceived higher level of abusive supervision.

Researchers have stressed the importance of assessing individual differences specific to personality (Fida, *et al*., 2012) as personality characteristics intervene in the perceptions, emotional responsiveness and behavioral re-activities (Bolger and Schilling, 1991).

There is empirical work that postulates that affective personalities explain variation in attitudes and behaviour at work (e.g. Isen, 2000; LeDoux, 1998; Judge and Kammeyer-Mueller, 2008; Alarcon, Eschleman and Bowling, 2009). An investigation conducted by Judge, Erez and Bono (1998) -using a core self-evaluation (CSE) construct which represents an individual's

fundamental beliefs about his or her own competence and self-worth-confirmed that the people holding positive evaluation about themselves are more driven to execute their jobs. Joo, Jeung and Yoon (2010) in cross-sectional survey of a Korean company reported 37% variance in job performance due to core self-evaluation and intrinsic motivation.

Together with affective disposition, the work specific causes of emotions production within work settings contribute considerably to the attitudes and behaviours adopted by the workers while at work (discussed in next section.).

2.1.3 Employees Emotions and Work-Related Outcomes

In the previous sections, we identified the work features and the personality as the potential factors for eliciting the employee's emotions. This section of the study presents in detail the impact of employee's emotional experiences on their work related attitudes and behaviours.

Emotions (meaning '*to move*') have the capacity to move us to action (Callahan, 2004). Lazarus (1991) stated, when people are reacting to the emotions, coping with it becomes the priority which takes precedence over other behaviours (Weiss and Cropanzano, 1996). The role of emotions as important factors in understanding the workforce attitudes and behaviours is well-established (Zerbe, Ashkanasy, and Hartel, 2006) as their better understanding is not possible without taking into account the affective aspect related to it (Ashforth and Humphrey, 1995). The propensity to experience positive emotions has been associated with success in everyday life (Lyubomirsky, King, and Diener, 2005). Estrada *et al*. (1994) confirmed that

positive affect have been displayed to increase the level of intrinsic motivation; whereas negative affect lead to lower levels of expectation and valence for rewards, resulting in less-effective performance (Erez and Isen, 2002). On the other hand, negative emotions like sadness in response to work events are significantly predictive of intentions to leave the job and withdraw from the work environment (Grandey, Tam, and Brauberger, 2002).

Contemporary research suggests that affective traits (Judge and Larsen, 2001) and experiences (Weiss, Nicholas and Daus, 1999) lead to emotions exhaustion, resulting in poorer work performance (Cropanzano, Rupp and Byrne, 2003). The researchers have been increasingly exploring the role of emotions in the attitudes and the behaviours of the employees (e.g. Ashkanasy, 2004; Weiss, 2002). The prior research findings regarding attitudinal and behavioral outcomes have been highlighted in section 2.1.3.1 and 2.1.3.2.

2.1.3.1 Attitudinal Outcomes

The attitudes may be described as the viewpoints of the employees towards their job, organization and so on. Classical and contemporary researchers have insisted that attitudes and reasoning of employees cannot be fully understood without taking emotional aspect into the consideration (Simon, 1967; Frijda, 1993).

Job Satisfaction:

On the basis of previous research support it can be safely said that much of the variation in job satisfaction is may be due to the variation in mood and emotions (Weiss and Cropanzano, 1996; Fisher, 2002). Fisher (1998) stated

that both positive and negative emotions make unique contribution to job satisfaction. She further identified that the frequency (net) of positive emotions is a better predictor of satisfaction than its intensity. Cote and Morgan (2002) reported that the amplification of pleasant emotions increases the job satisfaction whereas the suppression of unpleasant emotions decreases the job satisfaction.

Likewise, a majority of affect-oriented research has established a strong link between personality characteristics and job satisfaction directly (e.g. Judge, Heller and Mount, 2002; Judge and Bono, 2001; Judge, Bono and Locke, 2000) as well as indirectly (e.g. Watson, 2000; McCrae and Costa, 1991). The meta-analytical study conducted by Judge and Bono (2001) identified the relationship between job satisfaction and personality traits - neuroticism, self-esteem, locus of control and generalized self-efficacy.

Organ and Ryan (1995) also suggest that job satisfaction is correlated with organizational citizenship behaviours. Similarly, a comprehensive review of 301 studies by Judge, Thoresen, Bono and Patton (2001) supported the correlation between job satisfaction and performance.

Organizational Commitment:

A large group of researchers accept that affective responses in organizations hold influence in linking organizational daily work experiences to organizational commitment (Klinger, 1977; Klinger, Barta, and Maxeiner, 1980). Organizational commitment (OC) has been defined by Mowday, Porter, and Steer (1982) as "an identification with the goals and values of the

organization, a desire to belong to the organization and a willingness to display effort on behalf of the organization" (Michael, 1998, 319). Different types of commitments have been proposed including identification, normative, affective, continuance, value, moral due to which an employee prefers to continue working in the same organization. Research has established that a committed employee exerts more effort in performing his/her job. The commitment of the employee has certain implications on the performance of the organization as lack of it increases the chances of turnover and search for other options (Mathieu and Zajac, 1990).

Rhoades *et al*. (2001) stated that organizational features like rewards, supervisor support and justice dispensed within organizational procedures play influential role in forming organizational commitment. A multi-level study conducted in China Mainland by Li, Ahlstrom, and Ashkanasy (2010) found positive relation of the feelings of guilt and determination with organizational commitment thus, supporting the relationship between commitment and emotions in the organizational setting.

2.1.3.2   Behavioral Outcomes

Organizational members' behaviour has been known for having a direct influence on the performance of the organization. Emotions being conscious, intense, specific have been claimed a strong predictor of the behaviour as they preoccupy the individual and direct his/her behaviour (Weiss and Cropanzano, 1996).

Organizational Citizenship Behaviour:

Organizational Citizenship Behaviour (OCB) is often described as extra-role behaviour that benefits organization and its members (Organ, 1988; Van Dyne *et al.*, 1995). Podsakoff *et al.* (2009, 124) stated, "OCBs may serve as behavioral cues of an employee's commitment to the success of the organization". Some research findings have supported its strong relationship with organizational performance and viability (Podsakoff and MacKenzie, 1997). William and Anderson (1991) testified the two dimensions of OCB: interpersonal (OCB-I) and organizational (OCB-O). OCB-I classification is directed at the individuals e.g. supporting workers in performing their tasks etc. whereas OCB-O is targeted towards the organization as a whole e.g. suggesting improvements to the organization.

Research supports that positive affect may impact the employees' performance of extra-role behaviours (George and Brief, 1992). George and Brief (1992) stated, "the positive mood can lead to OCBs as protecting organization, making constructive suggestions, developing oneself and spreading good will" (Lee and Allen, 2002, 132). Forgas (1999) reinforced that "positive moods generate a more optimistic, cooperative, and confident approach to interpersonal tasks, while negative moods promote a more pessimistic, competitive, and antagonistic approach". The research has confirmed that positive affect promotes helping attitude towards others (Carlson, Charlin, and Miller, 1988). Similarly, George (1991) in his study found that sales people in the retail organizations who experienced positive affect at work were more spontaneous and helpful toward their co-workers.

Counterproductive Work Behaviour:

On the other hand, Spector and his colleagues concluded in their study that negative emotions laid foundations for counterproductive work behaviour (CWB) (Spector and Fox, 2005). CWB refers to "volitional acts that harm or intends to harm organizations or people in organizations" (Yang and Diefendorff, 2009, 260). It is prevalent in workplace and one of the biggest challenges faced by the organizations (Chappell and Di Martino, 2006). Robinson and Bennett (1995) made a distinction between different aspects of CWB categorized as interpersonal or organizational. The interpersonal (CWB-I) aspect covers the behaviours directed towards the co-workers e.g. hurting a co-worker; whereas organizational (CWB-O) dimension included the behaviours towards the organization as a whole e.g. showing no respect to work timings.

The research evidence suggested that undesirable occurring within the organization resulted in negative emotional experiences hampering the interpersonal co-ordination required for performing job (Bagozzi, 2003). Likewise, Fox *et al.* (2001) found that the negative affectivity mediated the relationship between CWB and job stressors, fully as well as partially.

2.2   EXISTING EMOTIONS MEASUREMENT METHODS

In the previous section (2.1) we summarized what current research has identified as potential personal and work related causes of employee's emotional experiences and its subsequent influence on their attitudes and behaviours, which necessitates effective handling of workforce emotions.

Emotions-free workplace is unrealistic which puts an additional responsibility on management for adopting appropriate measures for better dealing with emotional situations. If the managers remain unsuccessful in reducing damaging emotions, the work environment may become hostile leading to low-morale, sub-standard performance and high turnover of the employees. The emotions management process starts well with the comprehension of the underlying causes which triggered the workforce emotions and emotional behaviors. Thus, in this part of the study we attempt to explore about the methodologies and tools available for recognizing and measuring emotions.

In recent years, several advances have been made specific to the measurement of individual level components e.g. physiological response patterns (Stemmler, 2003), brain processes (Davidson *et al*., 2003), evaluation of situations (Scherer *et al*., 2001), and expressed behaviour (Harrigan *et al*., 2005). However, the availability of methods for assessing the affective states or experiences of a person, while confronted with particular events, is rather marginal (Scherer, 2005).

The existing emotions measurement methods used for comprehending workforce emotions can be broadly categorized as: structure based methods and event based methods. The structure based methods focus on the structure of affect for conceptualizing and analyzing the affective experiences of the employees; whereas event based methods emphasis on the causes and consequences for comprehending and measuring workforce emotions within the organization.

The existing methods have their own pros and cons. There are a number of conceptual and methodological challenges associated with the measurement of emotions as a dynamic variable (Gee *et al.*, 2012). There is no single gold-standard method for measurement of emotions (Scherer, 2005).

Predominantly researchers have focused on the structure of affect for organizing, comprehending and measuring the affective experiences within the organization. The most prominent affect oriented methodologies or tools have been highlighted in section (2.2.1 and 2.2.2).

2.2.1   Structure Oriented Methodologies

Researchers long relied on dimensional models of affect to investigate emotions. Dimensional models assume that emotions such as anger, sadness, fear and so on, share a common set of more basic psychological properties that are defined by two dimensions. Various dimensional models of affect have been proposed (e.g. Watson and Tellegen, 1985; Thayer, 1986; Larsen and Diener, 1992). Most of the research focused on two: the valence/arousal dimensions associated with circumplex model of affect (Barrett and Russell, 1999) and negative activation (NA) and positive activation (PA) dimensions associated with a simple structure model of affect (Watson and Tellegen, 1985).

A large class of assessment instruments include: Nowlis and Green's (1957) 130 items **Moods Adjective Check List (MACL);** followed by Zuckerman and Lubin's (1965) 132 items **Multiple Affect Adjective Check List (MAACL),** developed by with three subscales: depression, anxiety and

hostility. The revised version named **MAACL-R** allowed for several pleasant emotion scores as well. In 1967 based on activation, arousal and affect theory, Thayer published **Activation-Deactivation Adjective Check List (A-D ACL)**. Later in 1977, Izard developed **Differential Emotions Scale (DES)** for evaluating various discrete emotions. In 1988, Watson, Clark, and Tellegen developed **Positive Affect Negative Affect Schedule (PANAS)** focused on positive affect (high-arousal pleasant) and negative affect (high-arousal unpleasant); grounded on affect circumplex model. Mattews *et al.* (1990) developed **Mood Adjective Checklist (UWIST)** representing affect along the two bipolar dimensions of Energetic Arousal, which ranges from pleasant-activation to un-pleasant-deactivation and Tense Arousal which ranges from unpleasant-activation to pleasant-deactivation (Gee *et al.*, 2012). It was not optimal for capturing momentary fluctuations in affect over short periods of time. To remove this discrepancy, Gee *et al.* (2012) developed **Momentary Affect Scale (MAS)** based on UWIST to measure variations in affect at the with-in person level over time. It is a two item scale that measures Energetic Arousal and Tense Arousal at a single moment in time. Furthermore, Warr (1990) presented a model of work-related affective well-being with anxiety-contentment and depression-enthusiasm as the key indicators. Also, **Geneva Emotion Wheel (GEW)** was developed based on 20 distinct emotion families, to obtain self-report of felt emotions elicited by events or objects; having its roots in Scherer's (2005) Component Process Model.

The above mentioned scales comprised of several words -describing feelings and emotions- to be numbered based on the Likert scale (with different point

formats) provided, indicating to what extent you are feeling like this at present moment or have felt over the past week (Watson *et al*., 1988; Larsen and Fredrickson, 1999).

Whilst some measures attempted to assess a range of emotions/moods, other concentrate on single emotion such as anger, envy, jealousy and so on. A technique is simply to ask research participants to rate how they are feeling on a specific emotion, e.g., **the State-Trait Anger Expression Inventory - STAXI** (Spielberger, 1996); **Dispositional Envy Scale – DES** (Smith, Parrott, Diener, Hoyle, and Kim, 1999); O-Conner et al. (1997) measure of interpersonal guilt, to measure anger, envy and interpersonal guilt among individuals respectively. Nevertheless, capturing the dynamic aspects of workforce emotions by keeping the focus limited to affect structure is inadequate.

The emerging research views the emotions as valenced response to external stimuli and/or internal mental representations involving changes across multiple response systems including experiential, behavioral and peripheral physiological (Gross, 1998, 1999; Caciopo *et al*., 2000). Depicting that emotion is actually a reaction to an event (Weiss and Cropanzano, 1996). This view is consistent with many schools of thoughts, such as the cognitive perspective of emotion (Lazarus, 1991), and the evolutionary view of emotion (Plutchik and Kellerman, 1980), as well as the social constructive approach of emotion (Thoits, 1989). Frijda (1993) argues that the experience of affect is intricately tied to the appraisal of the event. These appraisal result in experiencing different emotions (Smith and Ellsworth, 1985, 1987) e.g. if a

person identifies that he has not been willingly treated well by someone, he is likely to experience anger as a result to this appraisal. Theorists also support that an emotion includes action readiness to deal with environment through increased arousal and vigilance.

The understanding of emotional experiences without taking into account the causes behind their provocation and the subsequent reactions cannot illuminate their implications within organizational settings. Focusing merely on affect structure at the expense of their proximal causes and consequences may result in partial understanding of the emotional phenomena; as affective structure may capture something necessary but not sufficient enough related to the appraisal of events/objects or the causes and the consequent attitudes and/or behaviours in relation to these events (Barrett and Russell, 1999). Therefore, event based measurement of emotions can provide a better conceptualization of the emotions phenomenon in work settings and this understanding can be utilized further for increasing individual and/or organizational productivity.

2.2.2 Event Based Measurement

Emotions are object oriented (Frijda, 1993) and therefore it is imperative to understand the object/event i.e. cause of specific emotional experience for understanding and predicting responses (Weiss and Cropanzano, 1996). Therefore, based on appraisal model, the current organizational behavior research proposed that working environment predisposes the occurrence of work events, which are the proximal causes of affective states and reactions of employees (Weiss and Corpanzano, 1996; Ilies, Keeney, and Scott, 2011);

implying that one way to measure emotion is to measure cognitive appraisals of specific situations or events. As measuring person's appraisal may inform about his/her emotional experiences indirectly (Larsen and Fredrickson, 1999).

Work events have remained a significant method of measuring workforce emotions (e.g. Basch and Fisher, 1998; Fisher, 2000; Wegge *et al*., 2006; Grandery, Tam, and Brauburger, 2002). Researchers attempted to explore specific events that might arouse emotions at work. Studies on daily hassles and uplifts also gave an insight into event level phenomena, evaluated either positively or negatively (e.g. Kanner, Coyne, Schaefer and Lazarus, 1981). Several studies tried to explore which type of work events lead to the experiencing of particular set of negative and positive emotions e.g. anger, happiness etc. (Basch and Fisher, 1998).

Based on work events theory, Weiss and Cropanzano (1996) developed **Affective Events Theory** (AET; figure 2.1) which attempted to combine the investigation of the structure of the affective experience as well as the working environment behind this affective experience (affirming them equally important) and focused on work events as the main indicator of the causes of emotional experiences within work settings (Ashton-James and Ashkanasy, 2005).

AET is known to be the first attempt for developing a comprehensive framework capable of elucidating emotional experiences of employees with adequate focus on the causes as well as the consequences of these emotional experiences at work (Erol-Korkmaz, 2010; Briner, 1999). It offers a 'macrostructure' for better understanding of the emotions in the workplace

with adequate focus on its causes, structure and consequences (Weiss and Cropanzano, 1996; Wegge *et al*., 2006).
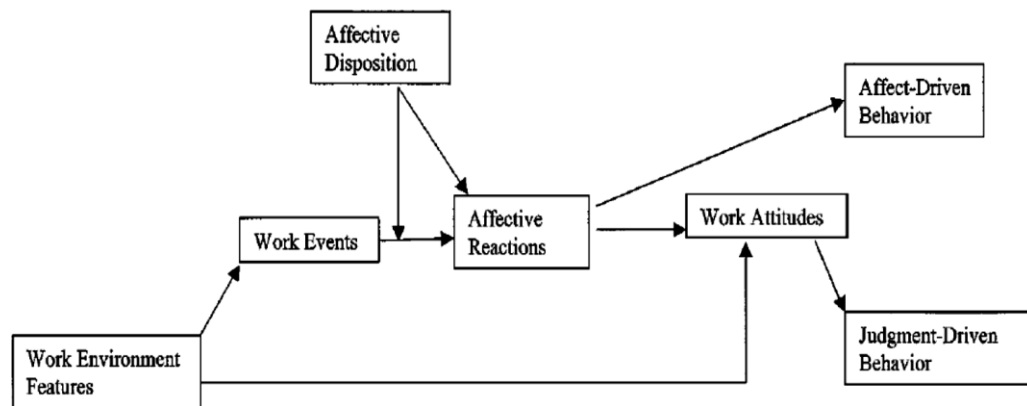
Figure 2.1: Affective Events Theory Framework
Source: Weiss & Cropanzano (1996, 12)

Central to the theory is that the causes behind the dynamic workforce emotions can be endogenous (i.e. affective personality) as well as exogenous (i.e. work environment) in nature (Weiss and Cropanzano, 1996). AET postulates that personality holds the potency to influence the experiencing of emotions along with work environment, which disposes certain events eliciting emotional states. Secondly, the work environment predisposes certain work events, which are the proximal causes of affective experiences and reactions of the organizational members (Weiss and Beal, 2005). The concept of 'event' has been defined by Weiss and Cropanzano (1996) as "something that occurs in a certain place during a particular period of time". Basch and Fisher (1998) defined work event as "an incident that stimulates appraisal of an emotional reaction to a transitory or ongoing job-related agent, object or event". For example if an employee is pleased on his promotion, it is an appraisal of this situation due to which he felt happiness or contentment.

The consequences of these emotional experiences can be attitudinal as well as behavioral (Weiss & Cropanzano, 1996). The consequent behaviors are grouped into two categories titled as affect-driven and judgment driven behaviors, where the former is driven directly from affective experiences while the latter is mediated by work attitudes. It is also suggested that few of the work features which dispose work events may have direct influence on employee's attitudes.

At the time of the development of this theory, the research related to influence of moods (i.e. diffused affective states) on organizational consequences was predominant as compared to discrete emotion (i.e. focused affective states); which didn't help much in clarifying more precisely which affective states are related to particular attitudes and behaviors. Therefore, Weiss & Cropanzano (1996) emphasized more on the discrete emotional states for investigating their causes and consequences on organizational settings (Weiss and Beal, 2005).

Since its publication, AET has come to be regarded as a seminal explanation of the role that affect plays in shaping the attitudes and behaviours of the employees in workplace (Ashton-James and Ashkanasy, 2005; Weiss and Beal, 2005). The AET framework has been used by several researchers for empirical investigation of the influence of emotions on attitudes and behaviours of employees (e.g. Wegge *et al*., 2006; Basch and Fisher, 1998; Grandey, Tam and Brauburger, 2002; Richards and Schat, 2007 etc.). The researchers have assessed the causes, affect and consequences structure of the model as per their requirements. Some of the studies have explicitly tested

aspects of the macro structure laid out in AET, while others have used AET as framework for guiding their research efforts.

Wegge *et al*. (2006) conducted research on a large data set of 2091 employees from UK call center industry to test the influence of specific work features (i.e. autonomy, participation, supervisor support, employee welfare and work overload) on arousal of emotions at work, further determining employees' job satisfaction. Job Affect Scale developed by Burke *et al*. (1989) was used for measuring negative (i.e. guilty, scared, nervous, jittery and afraid) and positive emotions/moods (i.e. strong, inspired, determined, attentive, and active). The findings supported the basic assumptions of AET and found it as a 'fruitful' framework for the study of affect at work.

Grandey, Tam, and Brauburger (2002) investigated the influence of positive/negative affectivity and related positive/negative emotional reactions at work associated with job satisfaction and leaving intentions of part-time employees, using AET framework. PANAS (Watson *et al*., 1988, 20 emotion terms) and JES (Fisher, 2000; 16 emotion terms) were used for measuring employee's emotional experiences in time-1 and time-2 survey respectively. The researcher concluded that AET does not provide the best way to aggregate emotional reactions across events for each individual which is important for predicting individual-level attitudes. However, AET predicted the relationships of dispositional negative and positive affectivity with negative emotional experiences and positive emotional reactions respectively.

Ashton-James and Ashkanasy (2008) used AET to incorporate the impact of the affective states on the cognitive processes in their conceptual model of

strategic decision making. The researchers extended the scope of AET analysis of affective work events (construed as intra-organization only) by including extra-organizational events i.e. organizational change, inter-organizational negotiations and economic, legal and political events, impacting on organization. The influence of these events was assessed on individual's emotions including anger, sadness, disgust, fear, anxiety and joy/happiness to determine how they may affect behavior, cognition and decision making process. The results determined the impact of one's emotions on his/her information processing style and valence of environmental evaluation influencing the cognitive decision making process. Walter and Bruch (2009) used the AET framework to represent the current state of knowledge on the individual and contextual antecedents of charismatic leadership behaviour.

Along with causes and consequences structure, the affect structure of the model has also been designed by investigators as per their requirements using circumplex structure (e.g. PANAS- Positive Affect Negative Affect Schedule scale; Watson *et al.*, 1988), affect emotion terms of particular relevance to job (e.g. JES-Job Events Scale; Fisher, 2000), discrete or specific emotions and so on.

These studies illuminate and support the significance of AET framework for comprehension of antecedents and possible consequences of the emotions experienced by the workforce. However, there are still critical pieces missing in the model (Lindsay, 2003). It is limited in explaining discretely the aspects of working environment generating the affective events (Brief and Weiss,

2002). The AETs explanation of the working environment is more general in nature. The connection drawn between work events and emotional reactions is more like a place-holder for better understanding of affect instigation (Brief and Weiss, 2002). Not much is offered by AET about the specific features of work environments that are likely to produce positive or negative emotions amongst the individuals. AET has also been reported, as theoretically as well as empirically, limited in conceiving the external antecedents of workforce emotions which gives the restricted view of the affective behaviours of employees within the organization (Ashkanasy and Ashton-James, 2005).

Weiss and Cropanzano (1996) developed the theory with the objective to integrate what was then known about basic research on emotions into an organizing framework to help identify key issues and directions for the study of emotions in the workplace. It encouraged researchers to think about event as proximal causes of emotions and other work phenomenon, focusing more on the way work is experienced by employees, rather than the features of the work environment (Weiss and Beal, 2005). The expectation was that the macrostructure would help guide research, so that micro structures would develop out of focused research filling in the macro arrangements (Brief and Weiss, 2002). However, not much of the explanation pertaining to work environment ascended till date.

Very few researchers have attempted to categorize the work-events for understanding the affective causes within the working environment. For example, Basch and Fisher (1998) attempted to develop an event-emotion matrix showing relationship between categories of job events and the

corresponding emotions experienced by the people. In this study, hotel employees of ten international hotels from Australia and Asia/Pacific region were asked to describe the recent work event or situation which caused them to experience any of the given emotions of *'affection, pleasure, happiness, pride, optimism, enthusiasm, frustration, anger, disgust, unhappiness, disappointment, embarrassment, worry, relief, fear, hurt, bitterness, annoyance, sadness and power'* (emotions scale comprised on 20 terms selected from the studies of Fisher (1997), Shaver *et al.* (1987) and Hunt (1998)). 736 events were reported by 101 respondents which were classified into meaningful sets of 27 categories, composed of 14 positive job events and 13 negative job events.

Fourteen categories of positive job events that emerged from the study were: *acts of colleagues*, *acts of management*, *acts of customers* (i.e. the appraised positive behaviours towards oneself or others), *goal achievement*, *receiving recognition* (i.e. positive feedback from manager); five categories of positive involvement -*involvement in challenging tasks, decision making, problem solving, planning, interaction with customers-*, *influence or control* (on work colleagues, managers, supervisors and work situations), *organizational reputation, goal progress* and *disconfirmation of negative expectations*.

Thirteen categories of negative job events included *acts of colleagues, acts of management, act of customers* (appraised negative behaviour towards oneself or others), *lack of goal achievement, lack of receiving recognition, task problems* (difficulties faced while performing tasks), *making mistakes, lack of influence or control* (on work colleagues, manager, supervisor or situations),

company policies (dictating actions), *external environment, physical situations* (appraised as threats towards individual while at work), *workload* and *personal problems* (reflections about personal issues at work).

Also based on existing literature, Brief and Weiss (2002) attempted to classify the affect producing workplace events producing emotions into five broad categories, namely, stressful events, leaders, workgroup characteristics, physical settings and organizational rewards and punishments.

Likewise, Erol-Korkmaz (2010) classified the work events into five categories i.e. 1) task-related, 2) relations with the supervisor, 3) relation with the co-workers, 4) relation with the subordinates, and 5) organizational policies. The impact of these work events was assessed on tripartite affect structure (pleasure, calmness & energy) and subsequently on attitudes and behaviors of the employees.

However, the categorization of work events, undertaken by the researchers in their respective studies for understanding the work environment features producing emotions, remained incapable of giving a comprehensive view of the work settings. The influence of workforce emotions cannot be comprehended well in either situation: by taking into consideration only few of the factors of internal working environment in place of all its inter-related aspects or by gauging only the internal working environment and excluding the external environment. As the inter-related aspects of the internal environment along with the external environment events and actors, tend to influence the people working within. The study based on either one of the above mentioned situations (i.e. assessing internal environment (completely or

partially) and excluding external environment or vice versa) would give the fragmented view of the role of workforce emotions in influencing organizational outcomes.

Few studies have attempted to explain or explore the work environment holistically (Basch and Fisher, 1998; Fisher, 2000; Erol-Korkmaz, 2010). Predominantly, studies have been found focused on few of the workplace features, which are thought to produce emotions (e.g. Wegge *et al*., 2006; Grandey *et al*., 2002; Ashton-James and Ashkanasy, 2008 etc.). As work-related events could be several in numbers and their inclusion in the investigation at one point in time, can be time consuming, cumbersome and costly. Nevertheless, this fragmented assessment of the emotions does not majorly contribute to the understanding of its impact on individual and work related outcomes as a whole.

The study of emotions in organizations is narrow in its research on the determinants of emotions related to work environment (Weiss and Brief, 2002). When it comes to understanding emotions from an organizational context, we need to understand affective causes relevant to individual functioning in work settings more holistically. The 'narrowness' -as stated by Brief and Weiss (2002)- in study of the causes of emotions at work, "might have been appropriate if it was the consequence of thoughtful examination of the breadth of basic research followed by the series of judgment about what is and is not relevant to understanding behaviour in organization". Therefore the investigation of causes of emotions elicitation needs to be broadened by encompassing the interrelated features of the working environment.

Brief and Weiss (2002) asserted that qualitatively rich theories or methodological approaches can guide us better in ascertaining the work conditions and events-physical, social or economic- associated with affective states.

Since 1960s, an approach has been evolving that is known for solving complex problems, engineering or human, in an objective and logical way called the 'Systems Approach' (Ramo and St.Clair, 1998) which is based on systems theory and cybernetics (Schwaninger, 2000). It provides a scientific way for studying the invariant features of complex systems as a whole (Schwaninger, 2000). Beer (1979, 7) states that "a system consists of a group of elements dynamically related in time according to some coherent pattern". Hence the 'systems approach' is being seen as a unifying and holistic scientific approach for application to social problems where every part contributes to the whole in a way that seems inevitable (Peters, 2005). Its principles and rules allow for an integrative, holistic effort to design the complexities of the organizations and social systems in general (Ulrich, 1987).

Senge (1990) suggested the escalating need of systemic thinking for today's managers to deal with intensifying complexity. Likewise, Jackson (2003) advised that organizations are complex in nature and the relationship between its parts is of utmost importance which requires a 'joined-up thinking' for addressing the real-world management problems. Accordingly, the systems approach yields an increasing ability to make better analysis of complex situations by incorporating the interrelated aspects of the environment leading to better comprehension and/or designing of the social systems. It starts by

defining the goals with the description of optimum ensemble of humans and infrastructure and the network of information and resources flow required for the system to operate well and solve the problems. Thus, it offers more reasoned and integrated, rather than a fragmentary, look at the problems (Ramo and St.Clair, 1998).

The next section explores the literature related to understanding of the holistic approach offered by systems theory for determining the interrelated aspects of work environment features and affect oriented events produced within an organization seen in a holistic way.

2.3   SYSTEMS APPROACH – FOR A HOLISTIC UNDERSTANDING OF THE WORK ENVIRONMENT

The current study attempts to use the systems approach to understand the workplace antecedents of emotions by focusing upon the 'whole picture' rather than one specific component. The concept of system can be understood "as a collection of interrelated parts with a purpose that work together to create a coherent whole" (Espinosa and Walker, 2011, 6). Leonard and Beer (1994, 1) define systems approach as "..the emphasis on the 'big picture' or the whole and considering the functions of a system's parts based on their relation with one another and within the system's larger context". The systems approach has drawn its roots from several traditional disciplines including Biology-*to understand the processes pertaining to survival, adaptation, growth*, Neurophysiology-*to comprehend brain processes and its patterns* and

Psychology-*for learning about the behaviours of people in their organizations and other social units* (Leonard and Beer, 1994).

Systems thinking hold the ability to produce a clear holistic account of organizational procedures (Ackoff, 1971). It views organization as a range of interdependent subsystems that must work efficiently together and share resources in order to maintain operational stability (Reynolds, 2002). The emphasis needs to be laid that the internal stability within any independent system relies upon its individual capacity to 'adapt, influence, reconfigure and contribute' to the whole system (Schwaninger, 2000). It further offers a systemic view of the problem or opportunity by viewing organization as a subset of the environmental system in which it operates. This approach helps to determine the interrelationships with the economic, political and social stakeholders within the environment.

One of the systems approaches - organizational cybernetics- offers a holistic view of the entire functioning and performance of the organization gaining insights into the present situation and future requirements of the organization (Espinosa and Walker, 2011). Leonard (2004, 14) defines cybernetics as the study of "the behaviour of wholes and part in interaction rather than of parts isolated and measured".

It was introduced by Norbert Wiener as the study of communication and control in animals and machines (Peppard, 2005). Within few years, several disciplines i.e. biology, engineering and mathematics started adopting the principles of communication and control from the science of cybernetics. However, the concepts of cybernetics didn't apply only to biological and

engineering systems but expanded to the social systems as well (Ja'bari, 1995). This science is dedicated to the domain of social systems exhibiting high degrees of complexity (Schwaninger, 2004).

Stafford Beer in his work 'Cybernetics and Management' (1959) introduced the concept of cybernetics in management and organizations which opened new horizons for the application of cybernetics in the managerial domain. Management cybernetics concentrated on the application of the natural laws of cybernetics in organizations, enterprises and institutions. Beer viewed cybernetics as 'a science of effective organization' (Beer, 1985) and used the principles of cybernetics for addressing the concern of designing the organizations capable of self-regulation and complexity management (Beer, 1959). Cybernetics aims to unify the role of individualism within interdependent systems, actively striving to accommodate individual autonomy within the organizational system.

Managerial Cybernetics began with the vital concept of complexity and perceived management in terms of its proficient handling (Schwaninger, 1989). This approach made progress towards the development of models and methods facilitating an integrated and holistic management of the organization (Schwaninger, 2004). Stafford Beer made advancement in the field by introducing a topological model, known as Viable System Model (VSM) - a universally valid approach to the modeling and design of human organization (Beer, 1979, 1981, 1985). He defined the structural fundamentals for the viability of organizations in the VSM (Beer, 1994). VSM was developed to

better understand and improve efficiency and viability of human organizations (Schwaninger, 2006).

The theoretical framework of the VSM offers a holistic view of the working of the organization as a whole, taking into consideration operations, meta-systemic management as well as environment and the interactions amongst them (Espinosa and Walker, 2011; Leonard, 2009). The structure of VSM organizes the five functions which are integral to the organization's viability despite of its size, its business type and environment in which it exists (Espejo and Schwaninger, 1993; Espejo *et al.*, 1996).

It has been extensively used by the researchers and professionals as a guiding framework to comprehend and revise the organizational structure (Schwaninger, 1989). They proposed VSM as a useful, innovative, and effective reference framework for diagnosing and designing the structure of an organization from a variety of perspectives, facilitating managers in coping with complexity more efficiently (Gmur *et al.*, 2010; Leonard, 2007). VSM accounts for the different interpretations of organizational problems from multiple observers by accessing the 'soft issues' contained within the system (Espejo and Gill, 1997).

The next sections present a detailed account on the VSM structure, its principles and applications.

2.3.1 Viable System Model

The Viable System Model (VSM) developed by Beer is the theory of viability that supports organizations in managing their complexity (Schwaninger,

2006). It attempts to recognize the crucial constituents of a social system that ensure the viability of the organization (Schwaninger, 2006). Based on the structure of the human nervous system (Umpleby, 2006) and examined from the view of autopoietic systems (term applied by Maturana and Varela, 1980 to living things), VSM specifies the set of functions which provide the 'necessary and sufficient conditions for the viability of any social organizations (Tsuchiya, 2007). Any function -missing or incompetent in performance- may impair the viability of an organization (Schwaninger, 2004).
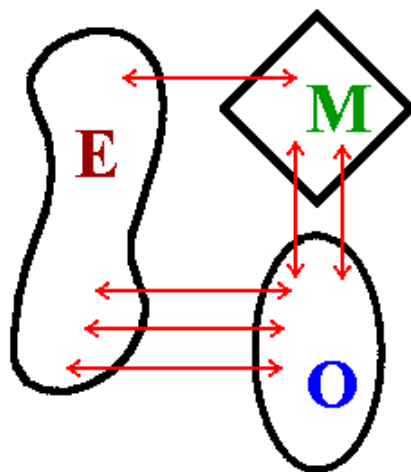
Figure 2.2: Basic Components of VSM
Source: Walker (2006)

Beer's model of organizational viability consists of a set of operations, the environment within which the organization exists, and a meta-systemic management, which provides services to the operations (figure 2.2).

The Operation 'O', which constitutes the 'System 1' of the VSM, includes the primary tasks of the system-in-focus. (i.e. those directly responsible for producing products or services that implement the organizations purposes). It might contain one or several operational units depending on the overall complexity of the organization.

Meta-systemic management 'M' includes Systems 2, 3, 4 and 5. System 2 avoids oscillation between System 1s, e.g. by dealing with information co-ordination and conflict management; System 3 deals with tasks of synergies between S1s, and their performance and accountability; System 3* performs the task of audit at sporadic basis; System 4 deals with the functions of environmental forecasting for keeping up with the change in the external environment; System 5 is entrusted with the task of policy making and giving closure to the entire organization. Meta-systemic management (M) has the task of providing services to System 1 for facilitating the accomplishment of system's purpose.

Environment 'E' consists of the general and the specific agents in the working environment with which the viable system interacts directly or indirectly. These three main parts of VSM -operations, meta-systemic management and environment- interacting with each another illustrate the organizational functioning in totality (Walker, 2006).

In VSM development, Beer focused on the effective organization of the system to facilitate the establishment, preservation and enhancement of its viability while coping with its internal and external complexity (Gmur *et al.*, 2010). It concentrates on the interconnectedness of the whole system without compromising the autonomy of its parts, along with the illumination of the boundaries between the parts of the system and between the system and its environment (Espejo and Kuropatwa, 2011).

Espinosa, Harnden, and Walker (2007) proposed Beer's model having 'unprecedented powers' for managing complexity in non-hierarchical

organizations and networks by laying down a self-governing standard of control. They further testified that VSM theoretical framework, based on complexity sciences, offers more holistic approach to the concept of sustainability (Espinosa, Harnden and Walker, 2008). It has been proposed and reaffirmed as a powerful tool for diagnosing organizations and identifying the existing strengths and weaknesses prevailing within them; also for (re)designing organizational structures on the basis of necessary and sufficient conditions for the viability of any complex system, to cope with the internal and external variety that the system must handle (Leonard, 2009). It has been extensively used by the researchers and professionals as a guiding framework to comprehend and revise the organizational structure (Schwaninger, 1989).

During 1950s, Stafford Beer was working in British Steel as Manager. He was discontented with the outdated approaches of organizational management; and in order, to form a generic framework to explain and analyze the organizational viability, he combined his proficiency in the field of Cybernetics (a science of communication and control) and Biological systems (Brocklesby and Cummings, 1996). He identified a source of effective organization in the natural process i.e. the brain, and carried his inspection on how the brain manages the functioning of the muscles and organs within a viable human system (Walker, 2006). The findings resulted in the development of structural model of organizational viability, i.e. Viable System Model, based on the techniques adopted by the central and the autonomic nervous systems for managing the functioning of organs and muscles (Walker, 2006). "Information flows and autonomous homeostatic control systems were supposed to mimic those within the human body, with all sorts of filters,

redundant flows and feedback loops leading to and from the board of directors, which Beer thought of as the 'brain of the firm' " (Pickering, 2002). VSM attempts to capture the vital functions that make up a viable system.

To summarize, the VSM was inspired by "the structures of neurophysiological control in higher organism" as Beer found that "management systems of a viable organization and the nervous system of viable human organisms exhibit – in a well-defined sense – identical basic structural patterns" (Schwaninger, 2006).

Beer and his followers have used the Viable System Model in many organizations over the years (Espejo and Harnden, 1992). Several organizations have used VSM criteria to design their formal organizational structure, and many consultants have used the VSM as a guide for diagnosing the way an organization is operating and where improvements are needed (Umpleby, 2006). VSM has been applied both in public and private sector (Schwaninger, 2006). The next section specifies various applications of the VSM at micro as well macro level.

2.3.1.1 VSM Applications

Several applications of VSM have been made by public authorities and private organizations to design and diagnose firms of all kinds and sizes. VSM has been applied and proved useful in improving ways of dealing with the soft aspects of the organization including, knowledge sharing, cultural and ethical issues, political behaviors and so on. However, no single application of the VSM is available pertaining to workforce emotions in prior literature.

Therefore, few of the applications specific to soft attributes of the organizational systems have been documented within this section; a comprehensive list of VSM applications have been given in appendix (5).

The key application of VSM by Stafford Beer was its implementation in Chile under the regime of Salvador Allende in year 1971–73 (Beer 1979, 1981; Umpleby, 2006). The project intended to create the network of real-time information between the factories within the national sector and the government of Chile. However, the project was not completed as the government was over thrown and the project was cut off by the Pinochet coup (Pickering, 2002; Medina, 2006).

The application of VSM framework, starting from national level projects and private businesses, has been extended providing solutions at community and ecological level. Espinosa and Walker (2006) presented an application of the VSM framework in Columbian environmental sector for diagnosing and dealing with environmental problems. Leonard (2008) explored three levels of recursion i.e. household, the neighborhood and the city using the VSM framework to design human communities that foster adaptation to conditions of sustainability in natural and social environment. Leonard (2007) suggested the significance of VSM framework, due to its biological roots, for the application of the symbiotic concepts from biological and environmental sciences to the social environment; it could find ways to help economically and socially challenged countries to make them viable in the global marketplace.

Espinosa *et al*. (2008) used the insights of Beer's VSM for explaining sustainability from the perspective of complexity management and second order cybernetics, in order to synthesize and re-design the social structures and institutions, in forms that are better prepared to foster sustainability. Subsequently, Espinosa and Walker (2013) adopted VSM in an action research community project as hermeneutical enabler of the Irish eco-community learning process concerning self-organization. The dynamics of self-organizing process over a period of three years depicted improved viability and sustainability of the community. Espinosa (2006) demonstrated examples of successful VSM application in designing and measuring socio-economic development programs in Columbia. Jones *et al*. (2007) proposed the use of VSM in simulating society using multi-agent system for solving the social problems faced by the region of Tijuana-San Diego due to its occupancy by multiple ethnics and cultures. Flood and Zambuni (1990) applied VSM for diagnosing and reorganizing a tourism service company in a developing country Zania. The reorganization helped in increasing the viability of business in unstable political environment by removing corruption and amplifying democracy and learning in the Fleet.

Davies (2002) demonstrated the significance of the holistic view offered by VSM for understanding and evaluating complex models of governance. He found VSM as a useful tool for conceptualizing the design of governance and inferring the common issues of role overload and role conflict ascending amongst the governing members.

The VSM framework has also been recognized for structuring information, managing knowledge and communication flows within the social systems. Yang and Yen (2007) proposed VSM as a basis for constructing a knowledge management framework for knowledge-based organizations. VSM facilitated in capturing the knowledge structure at different management hierarchies using systems view. Ramirez (2007) proposed a methodological outline encompassing the VSM and the constructivist approach to enhance learning capacity amongst groups and societies. Achterbergh and Vriens (2002) applied VSM to knowledge management by diagnosing, designing and implementing the knowledge processes to confirm the availability and repository of viable knowledge within organizations. Likewise, Yolles (2000) particularized VSM approach for structuring knowledge creation, within the organization, as a set of stages which are constantly verified and examined using feedback. Leonard (2000) supported the strength of VSM structure for managing knowledge by giving a holistic view of the organization. Herrera *et al*. (2011) modeled product-driven system based on VSM framework reinforcing its worth in modeling intelligent product systems in different industrial applications.

Cezarino and Beltran (2009) applied the VSM in the financial company in Peru for analyzing the soft problems relevant to identity, communication and autonomy. The findings suggested the redesigning of the organizational framework by reducing unnecessary hierarchical levels and balancing the sub and over optimized areas for reducing complexity. Espinosa, Harnden, and Walker (2007) suggested the unprecedented powers of the VSM for supporting non-hierarchical organizations and networks and its complementarities to complexity sciences. Likewsie, Rosenkranz and

Feddersen (2010) used VSM in exploratory case study of non-commercial virtual communities' management teams and proposed theoretical model for demonstrating information channels and communication amongst them. Assimakopoulos and Dimitriou (2006) used the VSM conceptual framework for diagnosing and designing virtual enterprises information and communication systems.

Also, VSM has been predominantly applied to the management of complexity in systems. For example, Devine (2005) delineated the use of VSM framework for managing the complexity of National system of Innovation by directing on the purpose and external variety on the system and aligning it better with the external environment. Shaw *et al*. (2004) used VSM to investigate the concept of Smart Business Networks in UK electricity market, highly complex in nature. Meuer (2009) used VSM for applying Smart Business Network (SBN) concepts in China's biopharmaceutical High Tech Park to improve its processes. The findings supported the value of VSM subsystems in reducing the complexity of the industry by constraining it into an integrated layout and also suggested its use in the study of integral industries and strategic business networks.

VSM has also been applied in conjunction to other frameworks or models (figure 2.3). Espinosa and Porter (2011) identified the internally consistent and complementary insights of the VSM and Complex Adaptive Systems (CAS) to address the issues of self-organization and adaptive management for sustainability improvement. Donaires *et al*. (2010) proposed VSM in conjunction with CSH (Critical Systems Heuristics by Ulrich, 1983) as a

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systemic model for diagnosing social group, public authorities and support entities pertaining to the micro and small companies of the region of Ribeirao Preto and Sertaozinho.

Vriens and Achterberg (2011) demonstrated the complementary use of the VSM and de Sitter's Design Theory in context to the diagnosis and design of viable organizations. Espejo (2008) adopted the VSM and the Viplan Method as observational instruments for increasing the ability to observe and diagnose shortcomings in the management for handling complexity.

Schwaninger (2000) proposed the combined use of VSM, Model for Systemic Control and Team Syntegrity Model for developing the framework to design intelligent organizations. He further suggested that combined use of three models enabled more effective response to complex situations as compared to pragmatic approaches to "integrative management".

Also, Yolles (2001) recommended that the functionality of Boundary Critique Theory (developed by Midgley *et al.*, 1998) used for resolving conflicts can be enhanced if paired with cybernetics theory of viable system i.e. VSM, for generating viable boundary critic analysis which shall enable better exploration of differentiable social multiplicities.

Kinloch *et al.* (2009) proposed a solution to information starvation in a UK Police Authority by developing a generic model, integrating Soft Systems Methodology (SSM), Viable System Model (VSM) and Geographical Information Systems (GIS), equipped with the functionality of crime detection and operational planning. Luckett *et al.* (2001) used the VSM along with Soft

System Methodology (SSM) in a participatory action research undertaken at community-based organization in South Africa, to address the design of an effective management system.
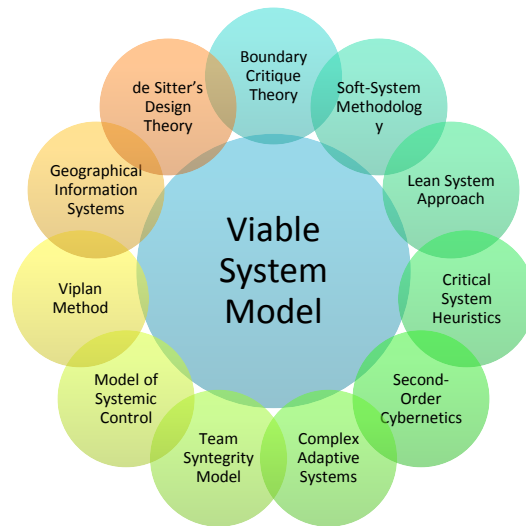
Figure 2.3: VSM used in Conjunction with other Methodologies

The briefing on the wide-ranging applications of VSM framework for diagnosing and re-structuring the public bodies, private firms, sustainable communities, environmental issues, etc. for solving existing problems, confirmed the VSM as a powerful tool for application to any collective or group of people, with focus on improving the performance and viability of the organization. The examples of VSM applications stated above confirm that the focus of VSM has not remained limited to diagnosing structural or functional problems but also the relational and related soft issues for organizational designing (e.g. Espejo, 2008); thus, providing a support for its selection and implementation in the current study with the purpose of dealing with the psychological and behavioral issues inherent to the social organizations. In essence, the VSM is a 'fractal' model of complexity management dealing with issues related to the structure of networked organizations (Espinosa *et al*.,

2007). It explains relationships between operations, environment and meta-systemic management, in a recursive model of organization, based on complexity management principles. The next section corroborates on the structural distinctions offered by the VSM.

2.3.1.2   Structural Lens of VSM

As mentioned earlier, VSM is composed of operations, a 'meta-systemic management system' and the environment in which the organization functions. The operational units working with the organization are referred as 'System 1' (S1) while the meta-system entrusted with the task of providing services to facilitate the objective accomplishment undertaken by the operational units include 'System 2' (S2), 'System 3 and 3*' (S3 and S3*), 'System 4' (S4) and 'System 5' (S5) encompassing different sets of management functions (Beer, 1979, 1981, 1985).

The functions referred as S1 through S5 are necessary and sufficient conditions for the viability of organization (Beer, 1981; Schwaninger, 2000). The viability of the organization is reduced if any one of the functions is either missing or not performing well (Schwaninger, 1989). The subsystems are connected via a network of communication channels, which carry and share information amongst them (figure 2.4).
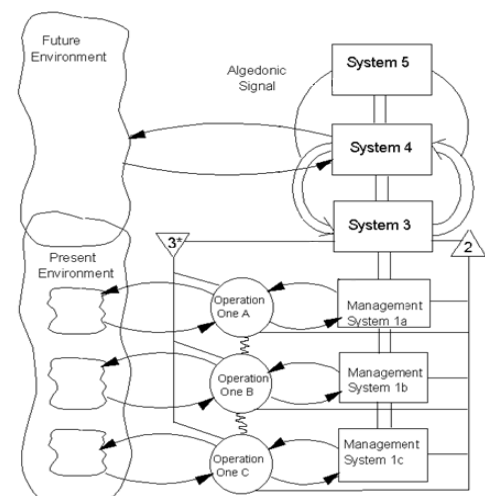
Figure 2.4: Viable System Model Structure

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The functions undertaken by each of the five VSM subsystems are discussed below:

a.   System 1 (S1)

Often referred as operations S1 carries the primary activities of the business (Peppard, 2005; Espinosa and Walker, 2011) i.e. the product or the service sold to the customer (Leonard, 2007). S1 might contain several operational units depending on the number of businesses undertaken by the organization (Walker, 2006). Each operational unit is a complete viable system at the next lower recursion level; therefore, it includes not only its working infrastructure but also its own management for providing regulatory services to its primary units (embedded S1s) for regulating the functioning of operational activities. S1 is connected to the present (Leonard, 2007) working environment and implements the purpose of the system.

b.   System 2 (S2)

The function of S2 is often described as coordination function (Peppard, 2005) or 'damping oscillations' (Espinosa and Walker, 2011). It manages the conflicts between the different operational units or the departments by coordinating their activities through the information sharing mechanism. Common standards, protocols, policies, procedures and guidelines facilitate the information sharing process amongst the working units allowing them to perform more synergistically (Beer, 1981).

c.   System 3 (S3)

S3 is referred as synergy optimization channel, which regulated the overall functioning of the operational units (S1). It is the channel through which the resources are negotiated and allocated to (S1) working units for performing tasks related to the accomplishment of organizational objectives. In turn, S1 performance is reported to the higher management on regular intervals to keep it informed about their performance (Espejo and Gill, 1997).

d.   System 3* (S3*)

S3* works together with S3 as an accountability channel (Espinosa and Walker, 2011). It monitors the activities of operational units (S1) directly at sporadic intervals instead of relying on the reports of the S1 units' management to audit the accuracy of the information provided by them (Espejo and Gill, 1997).

e.   System 4 (S4)

S4 is entrusted with the task of creating the double-sided link between the present activities of the organization and its external environment (Espejo and Gill, 1997) for performing the function of intelligence and future envisioning (Leonard, 2008). It undertakes the environmental scanning on regular intervals to provide the feedback on market conditions and suggest plans for adapting to the environmental changes.

f.   System 5 (S5)

S5 expresses the identity and purpose of the system through its policy making function. It gives closure to the whole organization (Leonard, 2007; Espinosa and Walker, 2011). It monitors the balance between the present activities of the organization and the future demands of the environment (Leonard, 2007).

Subsequent to the discussion on the VSM structural distinctions, the next subsections will illuminate the two fundamental principles inherent to the VSM framework for dealing with complexity.

2.3.1.3   Variety Principle of VSM

Beer's work incorporated the basic laws of variety management and recursive, fractal organization with a view to deal with ever increasing complexity in social organizations (Espinosa *et al*., 2007). Beer used Ashby's (1964) Law of Requisite Variety i.e. 'only variety can destroy variety', in order words 'only variety can absorb variety', as a cornerstone in his work (Espejo & Howard, 1982; Beer, 1981). The term 'variety', coined by Ashby (1964), explains the possible number of states in a situation used to measure complexity (Espejo, 1997; Beer, 1985). The LORV states if the complex system has to maintain viability within its environment and the management is to continue to steer the organization, then the variety of responses displayed by organization should at least equal that emerging from its environment and the variety of responses of management should at least equal that of the organization; as variety can absorb variety (Ashby, 1964; Espejo, 2003; figure 2.5).
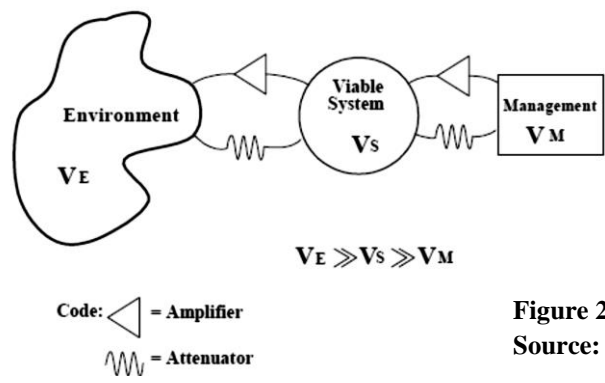
Figure 2.5: Managing Complexity
Source: Espejo (2003)

Beer used Ashby's law to point towards the management of complexity between the organization and its environment and the organization and its management, clarifying that the environmental complexity is always higher than the organizational complexity and the organization is always more complex than its management (Achterberg & Vriens, 2009). It described how complexity can work to overpower a system of management explaining the limited regulatory capacity of a system's regulator, e.g. the organisational manager (Ashby, 1964; Hayward, 2002).

The variety balance can be achieved between the organization and its environment and the organization and its management, at a desirable level of performance, by implementing the strategy of 'attenuation' and 'amplification' (Espejo, 1997). "Attenuation means the reduction of the variety of the possible disturbances" that the receiving entity can actually handle whereas "amplification means increasing the regulatory variety to a level needed to cope with the remaining disturbances" that the receiving entity needs if it is to remain regulated (Achterberg and Vriens, 2009, 181). Both, the amplification and the attenuation of variety will reduce the variety differences between environment and the organization as well as the organization and the

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environment. Hence, "managerial, operational and environmental varieties (...) tend to equate" (Beer, 1985, 35). An effective management is the one which achieves this balance at a minimum cost to organization and management (Espejo, 2003).

In essence, to deal with the complexity, a variety of regulatory strategies and actions need to be adopted by the organization and its management to regulate the variety flowing from the situation causing disturbances to the elements essential for the viability (Achterberg and Vriens, 2009).

2.3.1.4 Recursive Strength of VSM

VSM is based on a principle of 'structural recursion' i.e. viable system within a viable system at increasing levels of complexity, like a series of Russian dolls; where both sub-systems & super-systems have the same structural principles and each of the viable system maintains its autonomy vis-à-vis its environment and contribute to the production of larger viable system (Espejo, 2003).

The assertion of recursiveness is that the principle structuration of all the systems at different levels of recursion is fundamentally the same. Irrespective of the business type and the size, all the viable systems have the operational unit performing the primary activities, the management regulating and facilitating the operational units and the environment in which the organization exists and performs. The protocol of recursivity provides a way for looking at the system's complexity in manageable portions.

The amazing strength of the VSM lies in the basic comprehension of a system or organization as a series of nested systems. Each viable system is embedded in larger viable systems and contains smaller viable system in it (Walker, 2006; figure 2.6A), e.g. a large corporate organization having two business units, one of the business containing three production units, one of the production unit holding three departments and so on. These levels are called the levels of recursion.
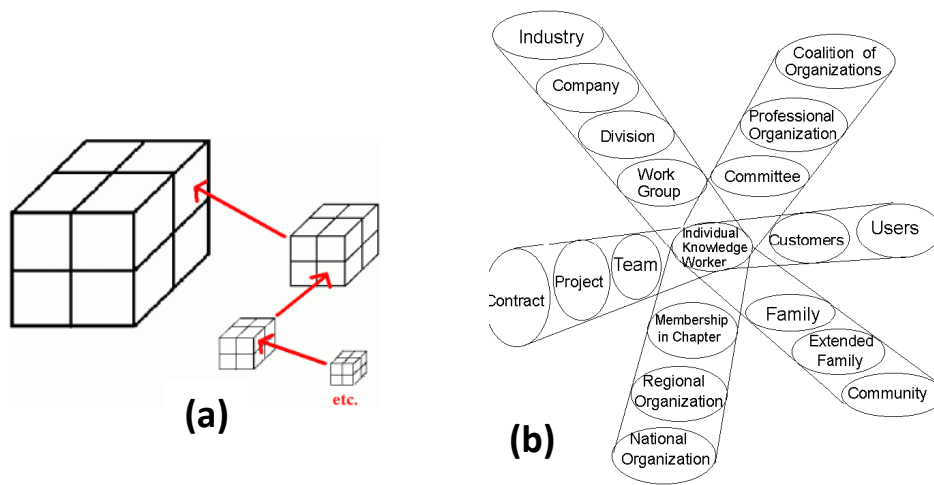
Figure 267: Level of Recursions
Source: (A) Corballis, M. (2011) ; (B) Leonard, A. (1999)

The recursion principle is multi-dimensional suggesting that same organization or its unit can function simultaneously both as sub-system as well as super-system within the framework of different recursive organizational configurations; not necessarily running from top to bottom but can also be circular (Schwaninger, 2000; figure 2.6B).

2.3.2 Workforce Emotions and VSM

Some critics considered the VSM a mechanistic approach more interested in technological than social aspects of organizations which is, according to

Espejo and Gill (1997) completely misleading. Prof. Beer was never unaware of the significance of human aspect attached to any viable system by declaring human beings as the 'heart of the enterprise' (Beer, 1979, 42). He reinforced the significance of workforce within organizational system by asserting that "management based on (...) profoundly scientific principles, and lacks 'heart', in the sense of human concern, will not succeed" (Beer, 1979, xii). The concepts of autonomy, self-regulation, self-awareness, cohesion, coordination, synergy, value, norms, identity and so on which makeup the Viable System Model give acumen to the recognition of soft attributes specific to people working within the organizations. Managing people and their soft issues within the organization for the achievement of viability is at the heart of VSM.

It is the people within the system interacting among themselves for creating policies and regulating them and producing goods and interacting with other bodies formal or informal (Espejo, 2003). They organize themselves as they wish, the VSM offers categories of functions to map the way people self-organize; thus, providing a holistic view of the collective behaviour within a social system (Espejo, 2003). Over the years, VSM researchers have gained insights into the strength of theory of dealing with humanistic aspects of the social organizations. However, the literature of viability theory does not offer detailed understanding of workforce emotions.

The VSM offers a holistic understanding of an organization and its management of complexity; and a meta-language that allows identifying different types of structural patterns of interaction, which may be very helpful to categorize current research findings on emotional management in the

workplace. The realm of emotions management can be enriched by the application of the various features of the VSM, e.g. its structural classification and the principles of law of requisite variety and recursivity for managing the complexity.

The categorization of emotions in the workplace following VSM distinctions for understanding emotional experiences and reactions will be discussed in detail in chapter 3 being the main focus of the study. However, the potential applications of the principles of law of requisite variety and recursivity for managing workforce emotions have been discussed, suggesting future research paths.

2.3.2.1   LORV–Balancing Inhibitors & Enablers

The theoretical discussion made in the initial sections of the chapter suggested that people experience a large variety of emotions and affects due to personal and work related factors (e.g. Fisher, 2000; Basch and Fisher, 1998). The emotions felt and expressed by people during work have far reaching repercussions on their behavioral response (Weiss and Cropanzano, 1996). As a result of 'unmanaged' behavioral responses and work behaviour management, the complexity increases.

The handling of affective behaviour adopted by employee is fundamental for managing organizational complexity. Beer's theory states that the existing complexity in the organization can overpower its regulator and make its management problematic (Beer, 1979). The comprehensive measure of affective experiences and behaviours is highly complex because of the

uncertainty inherent to it. The high variety of emotions disposed by people within the organization need to be well understood by the management as they are inseparable and have long enduring effects on the behaviours of the people.

Based on prior literature we may broadly classify emotions as enablers and inhibitors. Enablers may be understood as positive emotions (enthusiasm, pleasure, pride etc.) which increase the likeability of person's performance towards the target whereas inhibitors can be known as those emotions (hatred, anger, depression etc.) which obstruct the accomplishment of set target. On the basis of this approach, employees' performance can be increased by attenuating the performance-inhibiting emotions and amplifying the performance-enabling emotions in the working environment. The balance between the two sets of emotions (i.e. inhibitors and enablers) can be achieved amongst the main parts of the viable system i.e. operations, meta-systemic management and environment. For example, the balance inside operations (i.e. between an employee and the operational workers) can be achieved through the implicit and explicit norms of the organization –by informing its culture or climate, values, and policies; which may facilitate the amplification of enabling (positive) emotions and attenuation of inhibiting (negative) emotions
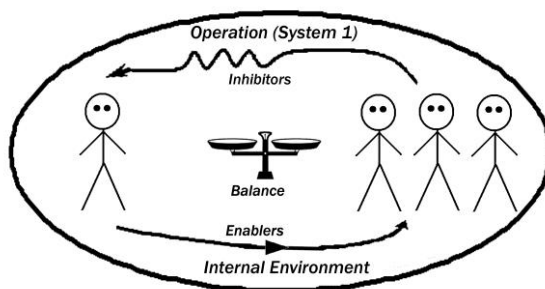
**Figure 2.7: Balancing Emotions -
Employee and Operations**

(figure 2.7).

Work environment features can play a key-enabling role in making the enablers' amplification and inhibitors' attenuation possible. Affective Events Theory proposed that stable work environment features such as job characteristics, job design etc. result in the occurrence of different types of affect-producing events e.g. enriched job might more often lead to events like performance feedback, optimal challenge, and task accomplishment which may result in experiencing positive emotions such as happiness, enthusiasm, or pride (Weiss and Cropanzano, 1996). Basch and Fisher (1998) stated that affective experiences at work may also contribute unique variance to the prediction of other important decisions by employees, such as how much effort to exert, or whether to be absent or quit a job. Their findings suggested how the work related factors are evaluated as positively or negatively by the employees. The existing knowledge may be used by the managers as a yardstick for reducing the incidence of events provoking frustration, anger, disgust, and disappointment, while increasing those that produce happiness, enjoyment, enthusiasm, contentment, and pleasure which might go some way toward positive work outcomes (Fisher, 2000).

The amplification of enablers (positive emotions) will increase the job satisfaction of an employee and motivate her/him towards achieving the goals rigorously. Similarly, the attenuation of inhibitors (negative emotions) by managing the work events and contents will prevent the employee from emotional exhaustion, which will help her/him further to utilize her/his creativity and energy towards increasing her/his work performance.

Organizations can be roughly divided into two sets of people, one who actually do the action to achieve goals, and others who provide services to make this goal achievement possible i.e. operation and meta-systemic management. The actual performers or employees interact with the management or regulators on regular basis with the purpose of seeking support, information, knowledge, or other resources for meeting the organizational purpose. The manager responsible for regulating the activities of the operational units should have the capacity to produce adaptive responses to all those disturbances produced due to the emotional setbacks amongst workforce (e.g. conflicts, stress and so on), likely to deviate the employees from the work targets. In other words, the negative emotions experienced by employees must be attenuated by the manager by amplifying his moral support (Ashkanasy and Daus, 2002; figure 2.8).
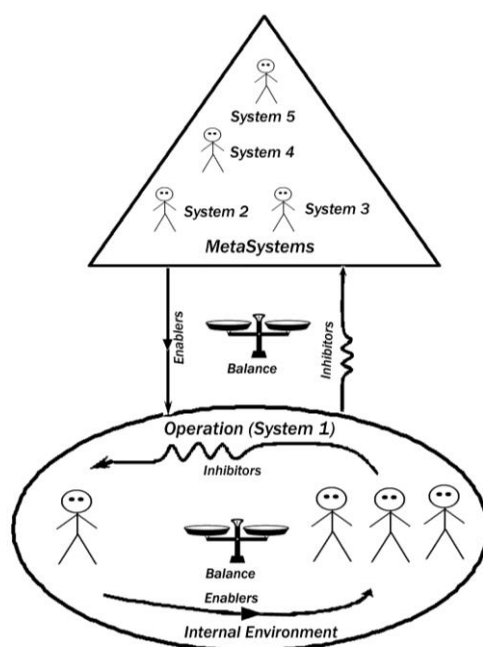
Figure 2.8: Balancing Emotions - Operation & Management

The work events responsible for generating positive emotions amongst the employees may include receiving recognition from the management,

involvement in decision making, involvement in planning and involvement in problem solving and so on (Erol-Korkmaz, 2010). The events at the managerial level responsible for producing negative emotions may include lack of receiving recognition, lack of influence or control, company policies, physical situations, or workload (Basch and Fisher, 1998).

The management needs to amplify the work events stimulating positive emotions amongst the workforce and needs to develop intervention strategies for minimizing and controlling the work events producing negative emotions, hampering the workforce performance.

Likewise, the people working within the viable system interact with the actors of external environment for the fulfilment of organizational purpose. With few of them the interaction is more on regular basis e.g. customers, suppliers - without whom the achievement of organizational goal is not possible.

The external environmental actors express emotions during their interaction with the organizational members, which directly or indirectly may impact on their emotions and subsequent reactions (Wegge *et al*., 2006). Fisher (1998) reported that the employees experienced positive as well as negative emotions due to their interaction with the customers and the acts of customers. Therefore, the emotions proliferating from the external environment must be balanced (figure 2.9).

Though organization exercises little or no control on the actors prevailing in the environment but despite of this deadlock, system needs to devise strategies
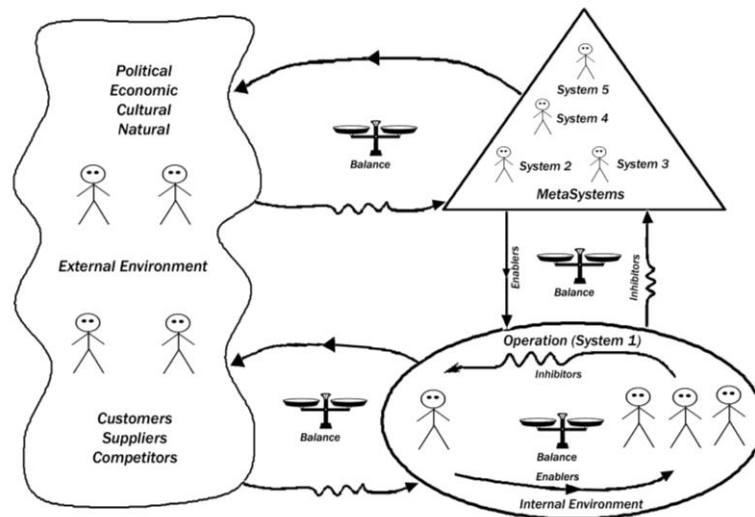
Figure 2.9: Balancing Emotions - System & Environment

for attenuating negative emotions transferred from the actors in the external environment; so that positive emotions could be amplified amongst the organizational workforce as the satisfaction of employees is having a positive co-correlation with customer satisfaction (Robbins, Judge, and Sanghi, 2009).

In essence, amplifiers and attenuators embedded to VSM can reduce the complexity within the system and help in making the organizational emotional climate positive and conducive of high performance. The next section provides a glimpse of the potential utilization of VSM recursive principle for future studies to provide an integrated analysis of emotional phenomenon at multiple levels within work settings.

2.3.2.2 Recursivity – Diagnosing Multi-Level Emotions

The emotions investigation in the organizational behaviour domain has not remained confined to the individual level of analysis but has gone up to the aggregate level e.g. dyadic (between two individuals), group (a set of individuals interacting directly with temporal continuity), and

system/organization (within large group sharing norms, values and culture) (Keltner and Haidt, 1999). Earlier studies mainly focused on intrapersonal aspect of emotions concerned with determinants and responses of emotions with respect to an individual. Nevertheless, since last decade a new wave of research and theory has been evolved in organizational behaviour discipline on the connections between emotions and the social environment (Mesquita and Frijda, 1992). This broadened field of investigation has resulted in the greater awareness on how emotions inform and are informed within organizational social settings.

Emotions can be linked and interrelated at different levels of analysis (Wilson, 1998). Meaning, the affect oriented information offered at different level of analysis (from individual to culture/system) can be put together to create a more complete understanding of the role of emotions while at work. This integrated view of organizational behaviour has been stressed by several researchers, e.g. Ashkanasy (2003), Barsade *et al*. (2003), Brief and Weiss (2002); suggesting that emotions investigation should be extended upward to organizational level and downward to intra-personal level. Ashkanasy (2003) suggested the further extension of the level of emotions investigation up to industry and region, to determine the difference in emotional climate between manufacturing and services industries and so on. Similarly, Barsade *et al*. (2003) suggested a further higher level of cross-national comprehension of the norms of emotional expressions i.e. how Eastern cultures hold different approach in expression of emotions as compared to Western cultures.

Viable System Model framework holds the capacity of integrating the multi-level investigation of emotions phenomenon within work settings. One of the core aspects of organizational cybernetics is its capacity to understand the recursive nature of nested viable systems, achieved through the principle that a viable system belongs to and consists of other viable systems (Beer, 1981). Hence, the principle of recursivity allows the analysis and the understanding of the people's emotions within the organization at multiple levels. The organization of the nested viable systems permits to investigate the emotions at the individual, dyadic, group, organizational and/or higher level based on the observes requirement.

Subsequent to an implicit appreciation of VSM for managing the workforce emotions-constituting the subtle softness of human systems (Ivanov, 1991; Wang and Ahmed, 2002); the next chapter (3) corroborates on the development of Holistic Emotions Measurement Model (HEMM) based on the conceptual basis of VSM and personality factors.

Summary

Based on literature, affective work events appear to be significant in assessing workforce emotions (Weiss and Cropanzano, 1996; Fisher, 1998 Ashkanasy and Daus, 2002; Ashkanasy and Ashton-James, 2005; Wegge *et al*., 2006; Weiss and Beal, 2005) promoting work related attitudes and behaviours (Fisher, 2000, 2002; Grandey *et al*., 2002; Mignonac and Herrbach, 2004; Erol-Korkmaz and Summer, 2012) like job satisfaction, commitment to organization, citizenship and deviant work place behaviours. The workplace aspects encompassing daily work, routine organizational functions, managerial activities, interpersonal relations with other members and external environment actors play a dominant role in triggering emotions amongst the employees. Nevertheless, emotions elicitation amongst the workforce members is not restricted to working environment features but an individual's own personality plays an important role in this process, as laid down by Affective Events Theory.

The consequences of this workforce emotional experiences are substantial in terms of work related attitudes and behaviours, regulating work performance; making it vital for managers to deal with them effectively. The process of managing workforce emotions starts with the assessment of the underlying factors which let the emotions trigger in the first hand. According to Weiss (2002) organizational research on workplace emotions assessment has overemphasized the consequences of emotional states, at the expense of examining the causes. The imbalance created between the two has increased the need of deliberate investigation of the causal factors existing within the

working environment. However, the comprehension of working environment pre-disposing the affective events is still unclear (Brief and Weiss, 2002) and there is no single gold-standard method for diagnosis of the wide-spread antecedents of emotions within the workplace.

Affective Event Theory (AET; Weiss and Cropanzano, 1996) is known to be the first attempt for developing a comprehensive framework capable of elucidating emotional experiences of employees with adequate focus on the causes as well as the consequences of these emotional experiences at work. However, it only offers a 'macrostructure' for better understanding of the emotions in the workplace. It is limited in explaining discretely the aspects of working environment generating the affective events. Rather, its explanation of the working environment is more general in nature. The connection drawn between work events and emotional reactions is more like a place-holder for better understanding of affect instigation.

Since AET's development, very few researchers have attempted to categorize the work-events for understanding the affective causes within the working environment. Predominantly, studies have been found focused on few of the workplace features, which are thought to produce emotions, while ignoring significant others. Nevertheless, this fragmented assessment of the emotions does not majorly contribute to the understanding of its impact on individual and work related outcomes as a whole.

Hence, the study aimed at the development of a reference model capable of giving a better and consolidated understanding of the work environment and the antecedents of emotional experiences relevant to individual functioning in

work settings; thus, filling the existing gap in organizational behaviour literature and practice. The qualitatively rich theory of viability i.e. Viable System Model (VSM) was proposed by the current study as a guiding framework for ascertaining the working environment and its predisposed events - social and economic- associated with workforce affective experiences. VSM provides the holistic view of the functionality of the organization as a whole, taking into consideration the operations, management as well as environment and the interactions amongst them.

Despite of the wide-ranging applications of VSM across the business sectors for diagnosing and designing the organizational structures, it has never been used for diagnosing affective work environment and causes of emotional experiences of employees within organizational settings. This contribution makes the study novel.
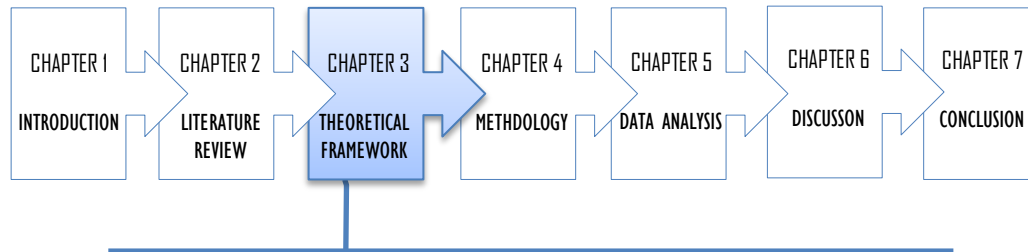
INTRODUCTION

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SUMMARY

Chapter 3

THEORETICAL FRAMEWORK:
HOLISTIC EMOTIONS MEASURMENT MODEL (HEMM)

Introduction

This chapter presents the development of a model suitable for gaining a comprehensive view of the core aspects of the work environment that influence emotional experiences at the individual level.

It demonstrates the utilization of the main distinctions offered by the Viable System Model for categorizing workplace events. This conceptual framework offers an integrated view of the crucial constituents of the social organization encompassing its internal and outside work environment. The proposed model will enhance and complement state-of-art theories on emotion management within the social work settings by illuminating the important aspects of the working environment triggering employees' emotions.

The chapter further provides an overview of the research model leading to structural model specification and the hypothesized relationships for empirically verifying the suggested model for diagnosing affective antecedents within the workplace. The affective antecedents, organizational as well as personal, will be tested by examining their influence on employees' emotional experiences and subsequent reactions; in order to synthesize the ability of the VSM in encompassing the wide-ranging workplace events substantially shaping the work related outcomes. VSM has been used as a meta-language for organizational viability. All the work events and the consequent emotional reactions may

contribute to organizational viability, but this hasn't been addressed in the literature so far.

To accomplish the above stated objectives, the current chapter is divided into two stages: Stage 1, presenting the development of emotions measurement model capable of comprehending wide-ranging work environment aspects causing workforce emotions (Section 3.1);

Stage 2, outlining the study research model for field-testing of the developed model for workforce emotions measurement to confirm its proposed utilization (Section 3.2).

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3.1 HOLISTIC EMOTIONS MEASUREMENT MODEL

In order to resolve the concern of 'narrowness' existing in the research on the determinants of emotions existing within work environment; this section attempts to develop the reference model, based on the structural fundamentals of VSM framework, capable of capturing the interrelated aspects of the work environment features triggering workforce emotions. The aim is to develop an emotions measurement model capable of diagnosing the wide-ranging affective workplace and personal antecedents of emotional experiences; the researcher has named it a 'holistic emotions measurement model (HEMM)'. This framework would be capable of assessing affective causes relevant to individual functioning in work

settings more holistically, thus filling the existing gap in organizational behaviour literature and practice.

Emotional reactions within organizations seem to be unpredictable and the obvious reason is that the interactions among different aspects of the organizational system do not add up in a simple manner. These aspects are well observable and understood when taken as a whole instead of studied in isolation. As acknowledged by complexity theory "the conjunction of small events can produce a big effect if their impacts multiply rather than add… (and the) current events can dramatically change the probabilities of many future events" (Axelrod and Cohen, 2000, 14).

The attempts made so far by the researchers for understanding the work environment features producing emotions (e.g. Bash and Fisher, 1998; Weiss and Brief, 2002; Erol-Korkmaz, 2010) remained incapable of giving the comprehensive view of the work settings. Taking into consideration only the internal working environment factors and excluding the external environment actors or work based social relations at the expense of work operations and its management provides a fragmented view of the role of affect in organizational outcomes. Likewise, an individual's personality is proposed to have a direct influence on his/her affective states and work behaviours (e.g. AET). Research supports that individual's personality has stable traits that effect his/her affective and behavioral reactions within the workplace (Judge *et al*., 1998; Davis-Blake

and Pfeffer, 1989) making its inclusion substantial to the better understanding of workforce emotions and subsequent attitudes and behaviours.

Therefore, the investigation of the causes of emotions needs to be broadened; encompassing the interrelated view of the organizational functioning, its social connectedness, and individual traits for better understanding of the cohesive antecedents of employees' emotional experiences.

The qualitatively rich theory of viability i.e. Viable System Model (VSM) has been proposed by the current study as a guiding framework for ascertaining the working environment and its predisposed events -social and economic- associated with workforce affective experiences. As the systems approach allows us to explore existing situations by linking the events in time, helping to see the big picture of the patterns of relationships and processes existing within organizational system (Espejo and Reyes, 2011). It helps to avoid unnecessary fragmentation and discuss the parts or components of the system organized together, constituting a network of relations and organizational processes (Espejo and Reyes, 2011).

Accordingly, the VSM offers a holistic view of the functionality of the organization as a whole, taking into consideration the operations, management as well as environment and the interactions amongst them (Espinosa and Walker, 2011; Leonard, 2009), which has been used as a guiding framework for comprehending the interrelated organizational aspects (i.e. work, management

functions, external environment and social relations) and categorizing the related work events accordingly. The dimension of core-self-evaluation has also been included in the model for gauging affective personality attributes along with w*orkplace events*, assessing affective working environment (following the recommendations of Judge, 2009 and Erol-Korkmaz, 2010).

The following sections (3.1.1 and 3.1.2) explain the development of an emotions measurement model suitable for gaining a comprehensive view of the emotional experiences at the individual level. The resultant framework should be capable of diagnosing workplace emotions more holistically, corroborating both the organizational as well as personal dimension of the employee's emotions, capable of influencing their attitudes and behaviours towards the workplace.

3.1.1   Workplace Events (WE) – *Organizational Dimension*

The prior research suggests that the emotional impacts on workforce may incur from several work events produced due to features of the working environment (Weiss and Cropanzano, 1996; Gray and Watson, 2001); and "events that satisfy the individual's goals, or promise to do so, yield positive emotions whereas events that harm or threaten the individual's concerns lead to negative emotions" (Frijda, 1988, 349). Work events have remained a significant method of measuring workforce emotions (e.g. Basch and Fisher, 1998; Fisher, 2000; Wegge *et al.*, 2006; Grandery, Tam, and Brauburger, 2002). Based on which the study proposes the inclusion of work events in the holistic emotions measurement model for

measuring people's emotional states based on their cognitive appraisal of specific events and/or situations occurring within the organization.

Previously, several studies have tried to determine the work events leading to positive and negative emotional experiences (e.g. Kanner, Coyne, Schaefer and Lazarus, 1981; Basch and Fisher, 1998) with Affective Events Theory (Weiss and Cropanzano, 1996) the most prominent amongst all. It focused on work events as the main indicator of the causes and consequences of affective experiences at work but the connection drawn between work events and emotional reactions is more like a place holder for better understanding of affect instigation (Brief and Weiss, 2002). It does not provide with the theoretical basis upon which to predict which organizational functions and features impact on work employees affective states and their subsequent responses.

Hence, a great variety is found in the operationalization of work events and its measurement for understanding the workforce emotions in all the studies undertaken. The studies have remained focused merely on few of the work aspects, which have been thought or found relevant to emotions elicitation. This fragmented understanding of the emotional phenomena has remained limited in giving an integrated view of the interrelated aspects of the work environment causing production of emotions while at work. Also, the internal working environment has remained the main focus of researchers in isolation of external environment of the organization, whereas external events like inter-organizational

negotiation, economic transactions, legal, political and social changes, the relationship of employees with the customers, suppliers, stakeholders etc. may impact on employee's emotions and consequently their attitudes and behaviours.

Similarly, the social aspect of the organization- including the relations amongst co-workers, managers and other organizational members- are the vital parts of the organizational settings. Everyday working with them creates the work events, which may be affective in nature and hold the capacity to trigger emotional reactions.

A holistic view of emotional underpinnings within the organization cannot be achieved unless both the external as well as the internal environment of the organization, both from operational and social-relational perspectives, are taken into consideration (figure 3.1). Focusing on one aspect of the organization, while understanding the factors influencing workforce emotions, provides a limited view of the phenomena. An inadequate comprehension of emotion's eliciting work environment factors can result in its poor management.
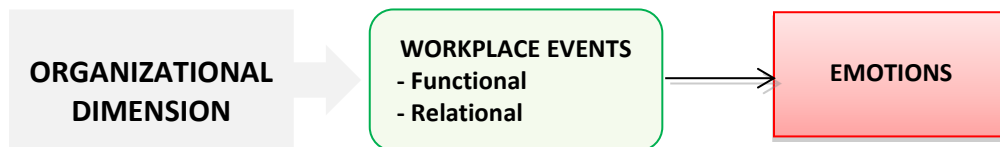
Figure 3.1: Theoretical Conception of Workplace-Events (WE)

The present study proposes the utilization of a sound theoretical model of organizational viability (the Viable System Model -VSM) as a framework for

designing an analytical tool to categorize workplace events, specific to its functional as well as relational aspect (internal and external to the organization) for better understanding of working environment. VSM -operations, meta-systemic management and environment- interacting with each another illustrate the organizational functioning in totality, encompassing the necessary and sufficient conditions for organizational viability (Beer, 1979, 1981, 1985). This holistic view of the organization's working environment under VSM lens would facilitate in exploring its main features specific to the functions performed and the social relations embedded within the organization, contributing to the development of holistic emotions measurement model for delineating the wide-spread account of affective experiences (figure 3.8).

We may use the criteria of operational & management activities (giving a functional account) or social relationships developed amongst the organizational members (giving the relational account) to classify the work events eliciting the emotional experiences of the employees at the individual. Also, we may use both the accounts conflated in a single explanation of the emotions phenomenon, which would not be contradictory but complementary to each another.

The following sections (3.1.1.1 and 3.1.1.2) give an account on the classification of affective work events under VSM framework from the perspectives of operational processes (giving functional view) and social interactions (giving relational view) within the organizational settings.

3.1.1.1 Functional View

During the VSM development, Beer focused on studying patterns of effective organization to improve its viability, while coping with its internal and external complexity (Gmur *et al*., 2010). The core organizational functions described by VSM as System 1 (S1) through System 5 (S5): are the necessary conditions for achieving and maintaining organizational viability (Beer, 1981, 1985; Schwaninger and Rios, 2008). The viability of the organization is reduced if any one of the functions is either missing or not performing well (Espinosa and Walker, 2011; Schwaninger, 1989). It concentrates on the interconnectedness of the whole system without compromising on the autonomy of its parts along with the illumination of the boundaries between the parts of the system and between the system and its environment (Espejo and Kuropatwa, 2011).

VSM has been adopted by several researchers and practitioners for diagnosing organizational performance, and/or for (re)structuring social organizations based on the factors essential and adequate for its long-term viability (Rios, 2012; Espinosa and Walker, 2011; Leonard, 2009; Schwaninger, 2009; Espejo, 2003). Therefore, this study attempts to utilize the diagnostic capabilities of the model for categorizing the work events based on the operational description provided by VSM. As Espejo and Reyes (2011) suggest that operational description are required for assessing the autonomous systems well in comparison to linear

predictions; as the systems behaviour can be determined better by its internal capabilities and coherence as a whole.

The VSM sub-systems (S1-S5) will facilitate the categorization of affective work events specific to the organizational functions and its operations necessary for maintaining viability. This categorization would provide an insight into the events occurring due to everyday functions taking place within the work environment, causing affective experiences and reactions.

Beer didn't like labelling the sub-systems (1-5) arranged within VSM as naming could possibly attenuate the interpretation of the functions performed by them individually (as well as whole) and thus always preferred to keep them generic. Therefore, the research decided not to label them as well. However, labels have been used for the discussion, with the purpose of making research findings easily comprehendible to other organizational behaviour scholars.

a. System 1 (S1) WE

System 1 (S1) depicts the primary activities of the organization, oriented towards the accomplishment of organizational goals and implementation of its purpose. For example in a university, S1 delivers education services and research projects. S1 might include one or several operating units depending on the number of businesses undertaken core tasks, the variety of tasks undertaken, the geographical scope and the size of the organization.

Typical S1 day-to-day activities include questions, like what needs to be done, who will do it, how it would be done and so on (Espinosa and Walker, 2011). The answers to these questions result in the organizational member's progress towards the workplace goals. This advancement towards the goal accomplishment embraces the generation of different work events depicting the tasks scope and/or characteristics, e.g. task autonomy, task completion, work over load, flexible timings, challenging task and so on. These work events, in turn, provoke emotional states at work resulting in affective reactions (Weiss and Beal, 2005) based on its appraisal (Bash and Fisher, 1998), e.g. an employee 'A' might take work load as positive by appraising them as a chance of showing their capabilities while employee 'B' may perceive it as unjust. In same situation, the emotional reactions of two people might be different based on the appraisal of situation.

The quality, context and characteristics of work have been known well for triggering workforce emotions within the organizational psychology research. The empirical findings reported that events pertaining to work context like successfully completing the task, given undesired work, high workload and so on, provoked the emotional experiences of the employees (Mignonac and Herrbach, 2004; Wegge *et al*., 2006). Likewise, research has also documented that characteristics of the jobs assigned to the employees have direct as well as indirect influences on their affective reactions (Saavedra and Kwun, 2000; Sokoya, 2000; Renn and Vandenberg, 1995; Dunham, 1979; Cummings and Burger, 1976).

These work contextual aspects, generating affective events, can be categorized under S1 of the VSM for comprehending work-specific causes of emotions experienced at the individual level.

The day-to-day tasks undertaken while performing these primary activities include the regular interaction of S1 actors (i.e. employees, management, operational environment) for work performance, developing relationship networks amongst them. These networks provide the view of the social relationships inherent to any system (discussed in detail in section 3.1.1.2).

Each operational unit (under S1) is in itself a complete viable system, as autonomous as possible regarding day-to-day work, and capable of self-regulation (Espinosa and Walker, 2011). Meaning, that it has its own meta-systemic management (S2-S5) supporting the local interactions, fostering self-regulation and connecting it to the above and lower recursive system; and in this way, significantly reducing the complexity of the control at higher level management (Espinosa and Walker, 2011). The operational units work autonomously, making its own decisions based on the level of discretion provided by the organizational governance, until it keeps on delivering goods and services as agreed upon.

b. System 2 (S2) WE

In order to maintain stability in S1 units and their primary activities, System 2 ensures that there are ways to deal with the arising conflicts amongst them during their everyday functioning and interactions; thus damping oscillations developed

within dynamic settings (Espinosa and Walker, 2011). S2 attempts to keep everything running smoothly by sharing the information (Espejo and Reyes, 2011; Schwaninger and Rios, 2008) with operational units gained from senior management. The variety of tools used are operational policies & procedures, commons standards and protocols, information manuals, and so on, creating the shared 'language' (Espinosa and Walker, 2011) to ease communication between the people performing in different operational units (Hoverstadt and Bowling, 2002). This information expedites the collaborative work and real-time feedback in case of any instability in any unit. It plays a significant role in preserving organizational solidarity without compromising the autonomy of S1 (Morlidge, 2010).

The lack of S2 activities result in process bottlenecks, failed production planning, wars among departments, and so on leading to competition and conflict amongst the work units and the people within (Espinosa and Maimani, 2010). The aroused conflict comprises of the affective or emotional responses, usually in the shape of disliking established for one another (Hammer, 2001). Conflict has been suggested to initiate the spiral of negative emotionality jeopardizing the organizational performance and reduce the employee's satisfaction (Jehn and Mannix, 2001). The tension and bitterness created, in turn, distract the people from performing the task (De Dreu and Weingart, 2003). Therefore, the conflict created within autonomous units or departments or teams need to be resolved for managing effective performance. The more the teams hold mutual principles,

methodologies and standards, the likelihood for unprompted communication is higher, leading to more chances of co-operation (Espejo and Gill, 1997) among the workers thus increasing the performance.

Thus, the anti-oscillating function of S2 accommodates the work events related to information sharing and co-ordination activities within work settings e.g. availability of common policies and procedures, availability of common information and so on, as they have been established to elicit employees' emotions (Bash and Fisher, 1998; Herzberg, Maunser and Snyderman, 1959).

c.   System 3 (S3) WE

System 3 (S3) is entrusted with the role of performance optimization by creating synergy amongst the operational units (S1) working as a whole. It influences the performance of working units (S1) through its three channels of resource bargain, accountability and command (Espinosa and Walker, 2011)

As a resource allocation channel, it negotiates and provides the resources (financial, physical, technological and human) required to operating units (S1) for accomplishing the tasks entrusted to them. S3 ensures that the operational plans and decisions at operational level are in alignment to the strategic standards set by the senior management (Espinosa and Walker, 2011).

It also performs as an accountability channel; monitoring the performance of the operating units (S1) and its compliance with the conditions of resource bargain.

These performance reports are forwarded to the higher level management (Espejo, 2003; Morlidge, 2010) and also used as the basis for fresh negotiations on resource bargaining and subsequent allocation (Espinosa and Walker, 2011).

Also, as a command channel S3 assures the compliance of operating units (S1) functions and activities with the corporate norms and policies agreed at the normative level management (Peppard, 2005).

The most common work events related to S3 synergy optimization functions are performance reporting, appraisals and feedbacks along with resources allocation. The work events specific to synergy optimization functions taking place within the organization can be classified under S3 for comprehending the influence of these performance controls on employee's emotions as they have been reported influential in workplace affect production by the literature review (Xanthopoulou *et al*., 2012; Demerouti and Bakker, 2011; Johansson, Eek, Caprali and Garling, 2010; Kickul, 2001; Zhu and Dowling, 1994).

d. System 3* (S3*) WE

Several events happening within operational units might remain unreported to senior management due to the reporting standards of the assessment systems (Espinosa and Walker, 2011), which can be lethal to organizational viability. Therefore, another important channel -S3*- works adjunct to control channel as an alternate approach to collect the information directly from the operational units whenever required. S3* fills the gap for S3 by gathering the information missed

out in the reporting done by operational units (S1) to higher management (S3) (Schwaninger, 2000). The role of S3* is sporadic in nature and not regular (Espejo and Harnden, 1992) triggered as required by S3.

The most common work events related to S3* include the direct intervention of senior management for collecting information at irregular intervals or in case of emergency. These sporadic events can be classified under system 3* for comprehending their influence on employee's emotions.

e. System 4 (S4) WE

In order to survive and progress, an organization should be able to adapt itself to the changes taking place in the environment in which it operates. These changes are related to the products, business processes, environment, identity and so on (Hoverstadt and Bowling, 2002). In VSM, this job of gathering external information for ensuring long-term viability is performed by System 4 (S4).

The external environmental scanning (Espinosa and Walker, 2011) function conducted by System 4 includes the different macro-environmental factors like social, technological, political, economic, ecological, legal and any other detrimental or beneficial to the organizational viability. These external events produced by the general environment can directly affect organizational outcomes by inhibiting or facilitating the organizational goals (Ashkanasy and Ashton-James, 2005).

It monitors the existing and upcoming trends within the environment along with the potential threats and opportunities prevailing. On the basis of information gained, S4 devise the plans and recommend the changes to higher level, required in the current setting of the organization to enhance its capabilities for future competition (Clemens, 2009). However, these plans cannot be made appropriately unless S4 is not completely aware of the internal capacity of the organization. Therefore, S3 and S4 continuously exchange the information regarding the system's internal capacities and external situations respectively. Therefore S4's interest in the future of the organization balances S3's interest in the present situation of the organization.

Typical S4 roles are strategic planning, product development, market research and research and development (Espinosa and Walker, 2011). The work events occurring under this subsystem are launching a new product, entry to new markets, introducing change in business strategy, involving people while introducing change and related activities. These situations and events related to change and adaptation within the work settings are known to have the capacity for triggering emotional states amongst the employees having repercussions for work attitudes and behaviours (Kiefer, 2005; Goldsmith and Cyboran, 2012). According to Hammer and Champy (2009), 60-75% of all restructuring fails not because of strategy but due to the lack of appreciation of human dimensionality of the organization. Therefore, the events specific to change and adaptation can be classified under system 4 to assess their influence on employees' emotions.

f.   System 5 (S5) WE

System 5 is responsible for the policy making and giving the organization: closure, identity and ethos (Espinosa and Walker, 2011), steering it towards one direction.

It exercises the overall control and gives the direction to the entire system by making policies and setting goals respectively (Devine, 2005). It provides a normative framework for organization activities and accredits the purpose to the organization (Schwaninger, 2000). It also defines the mission, values and the ethical stance and gives closure to the system (Morlidge, 2010).

It makes sure that the balance is maintained between 'present' (S3) and 'future' (S4) while making decisions regarding core strategies and policies. It provides an ultimate authority along with the views of the stakeholders involved. The work events under S5 functioning pertain to goal setting and policy making activities, determining the identity, values, norms and culture of the organization. The literature has identified that the policies made by the higher management holds the potential to arouse employee's positive/negative emotions (Patterson, Warr and West, 2004; Herzberg, Maunser and Snyderman, 1959). Hence, in order to assess their affective influence on workforce, they can be classified under system 5 function of VSM.

To sum up, the subsystems (S1-S5), well-connected with outside environment, demonstrate the functional view of the social organization offered by VSM distinctions depicting the interrelated workplace aspects as a whole (figure 3.2).
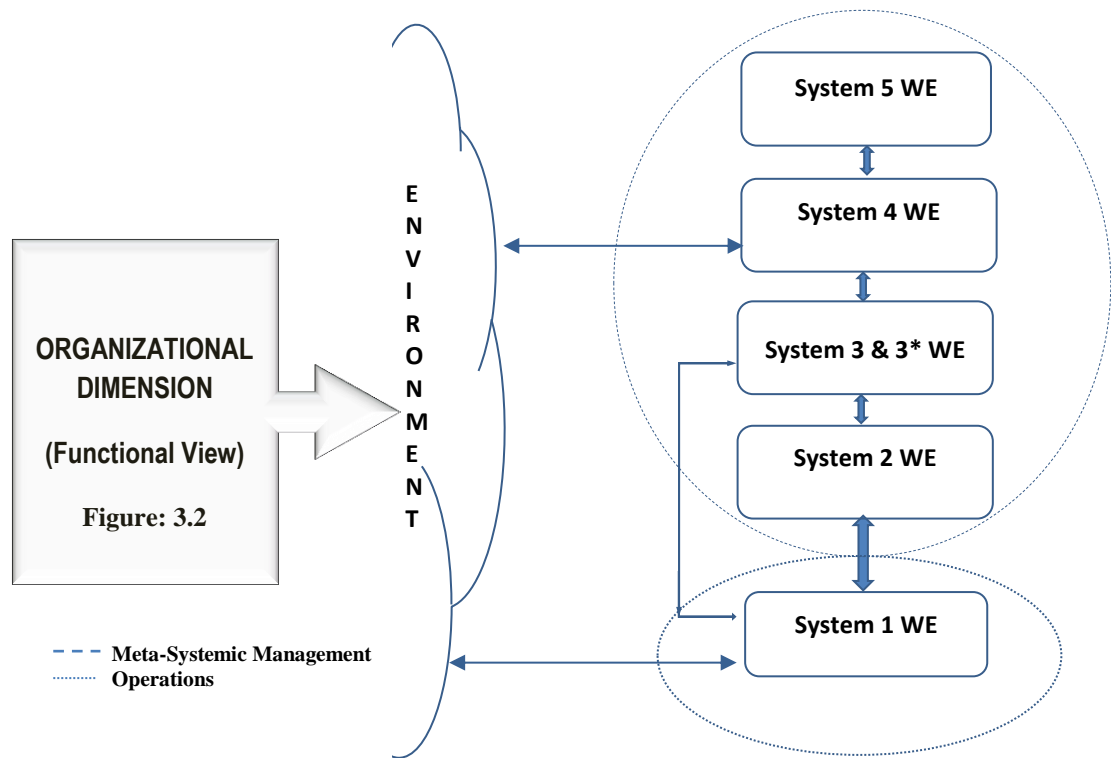
The workplace events classified under the functional components (S1-S5) of VSM, allow viewing how (a) primary activities, (b) damping oscillations, (c) synergy optimization, (d) audit, (e) environmental scanning, and (f) policy making activities contribute in the production of workforce emotions in totality. This holistic account of the emotions generation within organization with respect to its functional processes will help to determine the collective subsequent influence of the employee's emotional experiences on their work attitudes and behaviours.

3.1.1.2 Relational View

Social systems hold a network of recurrent interactions and relations produced by people working together (Espejo and Reyes, 2011). An effective work organization supports the 'relational co-ordination' – characterized by frequent, timely problem solving communication and helping, and mutual respect among workers (Gittell, 2000). This network of communication and relationship ties among the workers is a form of organizational social capital having the potential to enhance organizational performance (Leana and Van Buren, 1999). They also hold the potency of hampering the organizational working. Similarly, the relations with the external actors (customers, suppliers, competitors etc.) can have severe implications on employees as well as organizational performance.

During the stages of VSM development, Prof. Beer was well aware of the significance of human beings working within the viable system and declared them as 'the heart of enterprise' and also acknowledged the 'high variety' held by human beings (Beer, 1979, 42). In his reflections on dealing with the complexity related to the management of people working within the enterprise, he perceived system to be "richly interconnected" and recognized "the complexity (..) bound into the world of interacting systems" (Beer, 1979, 38 & 36 respectively). Moreover, the concepts of autonomy, self-regulation, self-awareness, cohesion, coordination, synergy, value, norms, identity etc. which makeup Viable System Model, give acumen to the recognition of soft attributes specific to people

working within the organizations. The applications pertaining to VSM might have dealt with human − soft - elements implicitly; but the VSM theory itself deals with human beings explicitly by designing of self-regulation, autonomy, coordination, communication, conflict management and so on as vital principles of the theory of viability (Beer, 1979, 1981). It reveals that VSM does not hold mechanistic approach and the management of people and the related soft issues are at the heart of the VSM.

The theoretical framework of VSM based on its three components (O, M, E) and five systems (S1-S5) actually organize the people under different organizational functions. It is the people within the organizational system interacting among themselves for creating policies and regulating them and producing goods and interacting with other bodies formal or informal (Espejo, 2003). Likewise, the system corresponds with its external environment constituted of suppliers, customers, competitors, regulating bodies and other stake holders. These interactions result in the formation of emotional bonds amongst them. This perspective solidifies the power of VSM of giving a holistic view of the collective behaviour within the social systems (Espejo, 2003). The main components of VSM i.e. operations, management and environment enable perceiving the interactions and relations (a) amongst co-workers inside operations, (b) amongst workers and management, and (c) amongst the organizational members and the external environment actors, respectively. These interactions and relationships with co-workers, managers and customers/clients are likely to be more

emotionally loaded than typical task performance (Judge and Kammeyer-Mueller, 2008) and influence the work outcomes (Grant, 2008; Pratt and Ashforth, 2003). As Kahn (1998) noted that people working together form emotional bonds and underneath the cover of formal organizational structure, these emotional relationships shape their engagement in the working environment. The potential provision of VSM for organizing these social relations under its framework has been discussed below:

a. Inside Operations (In O) WE

The 'operations' element of the VSM are the primary activities performed by employees together for the fulfillment of organizations purpose. The work undertaken by the employees is often highly interdependent and requires reciprocal, iterative interactions amongst the co-workers rather than the sequential hand-offs performed (Gittell, 2000).
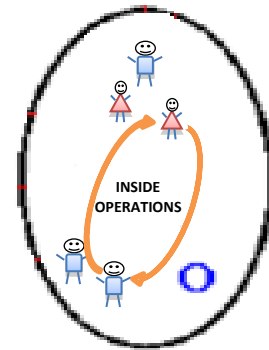
Figure 3.3: Relationships inside operations

Employees modify their work related and other discretionary behaviours in response to their co-workers behavioral exhibits (Bommer *et al*., 2003; Robinson and O'Leary-Kelly, 1998). The helpful interactions at work, not only improve employee's attitudes like job satisfaction and job commitment (Morrison, 2009; Zagenczyk *et al*., 2010) but also influence organizational outcomes by establishing supportive and innovative climate and increasing organizational

productivity and indirectly (Crabtree, 2004; Ellingwood, 2001; Song and Olshfski, 2008). On the contrary, problems in interpersonal relationships amongst co-workers at work lead to conflict, interfering with organizational performance by reducing job satisfaction and increasing the intent of turnover (De Dreu and Weingart, 2003).

Therefore, the relationships amongst the co-workers can be organized under VSM framework for assessing the workforce emotional experiences due to these interpersonal relations existing 'inside operations' (figure 3.3).

b.   Operations & Management (O-M) WE

The 'management' component of VSM indicates the services provided by meta-systemic management for the successful running of 'operations' (Espinosa and Walker, 2011); thus, ensuring their coherence and goal accomplishment.

Figure 3.4: Relation Between Workers & Managers

The managers (from meta-systemic management) interact with the employees (working inside operations) frequently to provide directions and resources for attaining the assigned goals. The communication network between workers and regulators/managers creates the internal environment of the organization.   The quality of relationship between workers and managers hold a significant place in

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improving employees' productivity (Carter *et al*., 2012; Rastgar *et al*., 2012; Chapman and Goodwin, 2001).

Hence, the 'operations and management' interactive components of VSM determine the relations between the employees and the managers (figure 3.4), working towards organizational goals.

c.   Operations & Environment (O-E) WE

The 'environment' component of VSM indicates the parts of the outside world, relevant to the system-in-focus, better known as external environment of the organization. It includes the diverse range of the people from the external environment with whom the organizational members interact. These environmental actors may hold explicit and/or implicit influence on the organization and its members. Along with operations and its management, the environment also constitutes a significant part of the VSM focus of study.
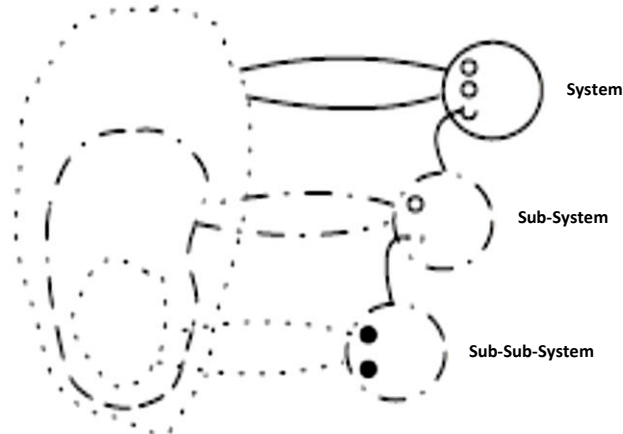
Figure 3.5: Environment Arrangement in VSM
Source: Espejo (2003)

The operational unit (S1) workers interact with the external actors, e.g. customers, suppliers, competitors, regulating agencies, industry and so on, while performing their purpose. The events specific to general and operational environment actors hold the potency of triggering emotions of the workplace members. The reviewed literature supports that the acts of customers have been recognized to trigger the positive emotions amongst the organizational members whereas mistreatment from the customers may elicit negative feelings of anger amongst the workers (Bash and Fisher, 1998; Grandey, Tam and Braubuger, 2002). Therefore, the relations and/or interactions between the organizational members and the customers/clients can be categorized under the 'operations and environment' interactive account offered by the VSM.

It is important to remember, that each viable system has its own uniquely defined environment. Therefore, while defining the environment "any feasible combination is acceptable", as stated by Beer (1985, 60). Meaning, that it may include the diverse range of the environment with which the system-in-focus has to deal or interact, extended upward to global level and downward to the employees family unit (figure 3.5).

An employee working within the organization is regarded as the smallest unit prevailing within the system through the recursive principle of the VSM; and the activities undertaken by him/her at the workplace are directly linked to his performance, contributing to the achievement of the organizational goals

(D'Amato and Zijlstra, 2008). Research on work-life balance suggests that problems at home can affect performance of the employee while at work (Forthofer et al., 1996). Life events have important effects on people (Clark and Oswald, 2002). The person experiencing crisis in his or her personal life may comprehend the situations and occurrences in organizational settings more intensely as compared to the one who is contented and happy in his life. The employees' personal concerns and the resultant stress cost employers a huge amount every year in lost productivity (Jacobson *et al*., 1996). An estimation by employee assistance professionals suggest that around 20% of any workforce is affected by the personal problems that affects their performance (Bagwell, 2000). The attention paid to the employee's personal live can increase in corporate productivity (Bagwell, 2000). The VSM facilitates the inclusion of life events in its environmental explanation for assessing the external causes behind employee's emotions production and subsequent affective reactions. However, the current study keeps the external environment limited to work related aspects, leaving the VSM's explanation of the role of affective life events in influencing employees' emotions and work outcomes for future research.

Hence, the environmental component of the VSM explains external environment events at the organizational level facilitating the relational view of outside people with organizational members. The work relations or interactions between the organizational members and the outside people hold the potency of influencing the workforce emotions and affective reactions.

The interactive components of VSM, i.e. (a) inside operations, (b) operations and management, and (c) operations and environment - give a consolidated account of the relations inherent to the collaborative functioning of the social organizations (figure 3.6), useful for comprehending the influence of organizational relations on employee's emotions.

ORGANIZATIONAL DIMENSION

(Relational View)

Figure 3.6
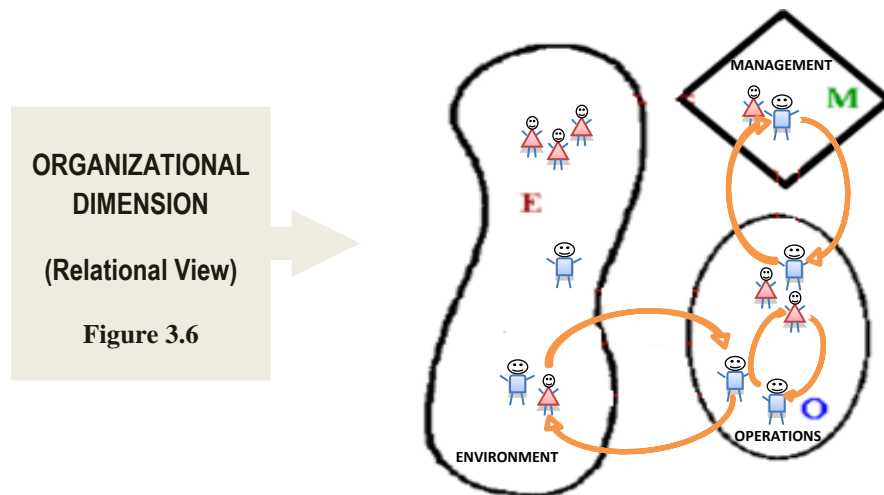
3.1.2   Core Self Evaluation – *Personal Dimension*

As discussed in literature review chapter, the research suggests that personality plays a crucial role in appraising situations and subsequent emotional and behavioral reactions of the people (Spector and Fox, 2005; Caprara and Cervone, 2000; Weiss and Cropanzano, 1996). The empirical investigations postulate that affective personalities explain variation in attitudes and behaviour at work (Judge and Kammeyer-Mueller, 2008; Isen, 2000; LeDoux, 1998). Researchers have stressed the importance of assessing individual differences specific to personality for understanding the affective behaviours of the employees (Fida *et al*., 2012).

Therefore, the distinct personalities held by the employees need to be taken well into consideration for understanding their substantial role in employee's assessment of workplace events and situations, provoking emotions and subsequent reactions.

Judge and colleagues (2003) suggest that 'core self-evaluation'-a broad personality trait- is capable of capturing the fundamental aspect of the self in the realm of human performance (Nikolaou *et al*., 2007; Judge, Van Vianen, and Pater, 2004). Core self-evaluation can be described as "fundamental appraisal of one's worthiness, effectiveness, and capability as a person" (Judge *et al*., 2003). These are "fundamental premises that individuals hold about themselves and their functioning in the environment" (Judge, Erez, and Bono, 1998, 161); suggesting it as imperative in people's appraisals of themselves, the world and the others (Bono and Judge, 2003; Judge, Vianen and Pater, 2004; Judge, Locke and Durham, 1998). Hence, situation specific appraisals are affected by these deeper and more fundamental self-appraisals and most of the time people are not even aware of the influence of their self-evaluation on their perceptions and behaviours (Bono and Judge, 2003).

The concept of core self-evaluation was introduced by Judge *et al*. (1998) as a broad, latent, higher-order trait constituted of four personality traits i.e. self-esteem, generalized self-efficacy, neuroticism and locus of control. Judge and colleagues (2003, 305) illuminated each one of the personality traits as:

(1) self-esteem, "the overall value that one places on oneself as a person" (James, 1892; Harter, 1990);

(2) generalized self-efficacy, "an evaluation of how well one can perform across a variety of situations" (Bandura, 1977; Barlow, 2013; Locke, McClear, and Knight, 1996);

(3) neuroticism, "the tendency to have a negativistic cognitive/explanatory style and to focus on negative aspects of the self" (Eysenck, 1967; Fetterman and Robinson, 2012; Watson, 2000); and

(4) locus of control, "beliefs about the causes of events in one's life. Locus is internal when individuals see events as being contingent on their own behaviour" (Rotter, 1966; Barlow, 2013).

Judge (2009) suggests that core self-evaluation predicts many work and other applied outcomes better than the individual traits. It has been found correlated to organizational psychology's fundamental measures i.e. affective states (Erol-Korkmaz and Sumer, 2012), job satisfaction (Bono and Judge, 2003), organizational commitment (Judge *et al*., 1999) and job performance (Bowling, Wang, Tang and Kennedy, 2010).

Judge *et al*. (2002) reported the relationships between the core self-evaluation traits and happiness, stress (self-reported stress on the job) and strain. The weighted average correlations across all four traits and samples were 0.56 for happiness; 0.23 for stress, and 0.24 for strain (Bono and Judge, 2003).

Research findings also established the relationship between core self-evaluation and the level of job satisfaction. Judge *et al*. (1998) found in their study of three diverse samples a correlation of 0.48 (both self-reported) and 0.36 (reported by significant others) between job satisfaction and core self-evaluations. Likewise, Judge and Bono (2001) conducted a meta-analysis of 169 correlations and found that the correlations of the core traits with job satisfaction ranged from 0.24 to 0.45.

Previous research findings also support the correlation between core self-evaluation and job performance. Judge, Erez, and Bono (1998) stated that individuals with high core self-evaluations and positive self-views tend to perform better, due to higher level of motivation towards job and increased confidence in self and ones abilities (Bono and Judge, 2003). Similarly, Judge and Bono (2001) examined the link between core self-evaluation traits and job performance in a meta-analysis of 105 correlations. The average correlation across the four traits was 0.23.

| PERSONAL DIMENSION | → | CORE SELF-EVALUATION | → | EMOTIONS |
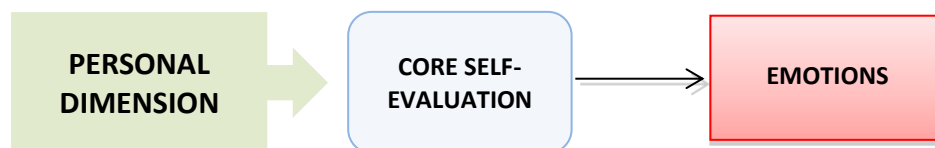
Figure 3.7: Theoretical Conception of Core Self-Evaluation

Based on prior literature, core self-evaluation appears to hold significant relationship with employee's emotional experiences and affective reactions

(figure 3.7), due to which it has been included in the holistic emotions measurement model (figure 3.8) for explaining the impact of personality on emotional states and work related outcomes.
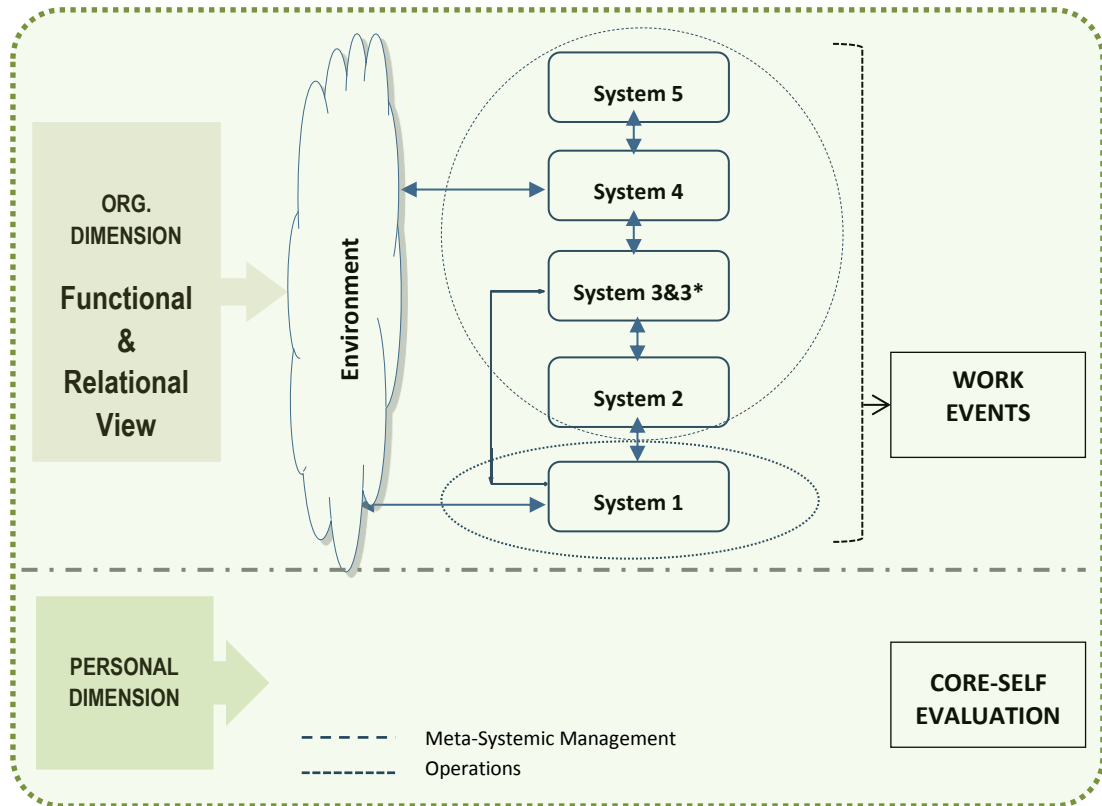
Figure 3.8: Holistic Emotions Measurement Model

3.2 RESEARCH MODEL FOR VALIDATING HEMM

Subsequent to the development Holistic Emotions Measurement Model (HEMM; figure 3.8), the current study determines to assess the explanatory power of the reference model by its field testing, in order to identify its potential benefits in comprehending wide-ranging affective antecedents of emotional experiences.

The Affective Events Theory (AET) has been adopted for the ground testing of the holistic emotions measurement model as it provides an appropriate theoretical framework for investigating the individual differences in the manifestation and consequences of emotions in the work place. The current study is not the test of AET. However, it has been adopted to test the significance of reference model (HEMM) developed in the study, that how well does it diagnose the wide-spread causes of affective experiences at the workplace. To do so, the impact of affective personality and work events produced in working environment (categorized by HEMM using VSM distinctions) has been evaluated on workforce emotional states and their subsequent work attitudes and behaviors, using the macro-structures of AET. Several researchers have reported the usefulness of the framework for the investigation of moods and emotions in work settings (Wegge *et al.*, 2006; Ashton-James and Ashkanasy, 2005). It offers a 'macrostructure' for understanding of the workforce emotions experiences by identifying the antecedents and consequences of the emotional experiences encountered by the employees while performing jobs (Wegge *et al.*, 2006). The macro-structure of the affective antecedents in AET has been operationalized by the reference model developed by researcher HEMM, including workplace functional and relational events (referring to organizational causes of emotions production) and core self-evaluation (referring to personal causes of emotions production). Their influence is gauged on employee's emotional experiences. The current study measured

emotions because unlike moods, emotions are more intense and more attributable to an event than moods (Wegge *et al*., 2006; George, 1996).

The consequences of these emotional experiences are assessed on work related attitudes and behaviours of the employees, i.e. job satisfaction and organizational commitment (measuring the work attitudes); organizational citizenship and counterproductive work behaviour (assessing the work behaviours of the employees).

The researcher selected job satisfaction and organizational commitment as work attitudes in the study framework because emotional experiences are reported to have direct influence on job satisfaction (Weiss and Cropanzano, 1996). Also, both of them have been reported as significantly influencing the employee's performance (Saari and Judge, 2004; Judge *et al*., 2001; Schappe, 1998) and desirable behaviours (Bolon, 1997; Bateman and Organ, 1983; Mangoine and Quinn, 1975).

On the other hand, organizational citizenship behaviour has been found to be directly influenced by employee's emotions as well, due to which it has been included in the study framework for determining the influence of emotional experiences on work behaviours. McNeely and Meglino (1994) suggested that OCBs oriented towards individuals (OCB-I) and those directed towards organization (OCB-O) should be distinguished. Therefore, the study adopted the high-order construct of OCB and included the distinct sub-dimensions of OCB-I

(towards individuals) and OCB-O (towards organization). Dalal (2005) suggested that extra-role behaviours (OCB) and counterproductive work behaviours (CWB) exhibit distinct patterns of relationships with antecedents. Therefore, counterproductive work behaviour variable was also included in the study framework for assessing the deviant workplace behaviours as suggested by the researchers (Miles *et al.*, 2002; Dalal, 2005) specific to individuals (CWB-I) and organization (CWB-O).

The high-level research model (figure 3.9) has been proposed by the study for field testing the diagnostic capabilities of holistic emotions measurement model, to determine the significance of personal attributes and workplace related events on employees' emotional experiences, influencing their work attitudes and behaviours. Based on affective work events of functional (FWE) and relational (RWE) types and core self-evaluation (CSE), the proposed model contends that workplace events (specific to organizational functions and embedded social relations) and core self-evaluation impacts on employees emotions (Emo), which further influences their work attitudes and behaviours i.e. job satisfaction (JS), organizational commitment (OC), organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB).
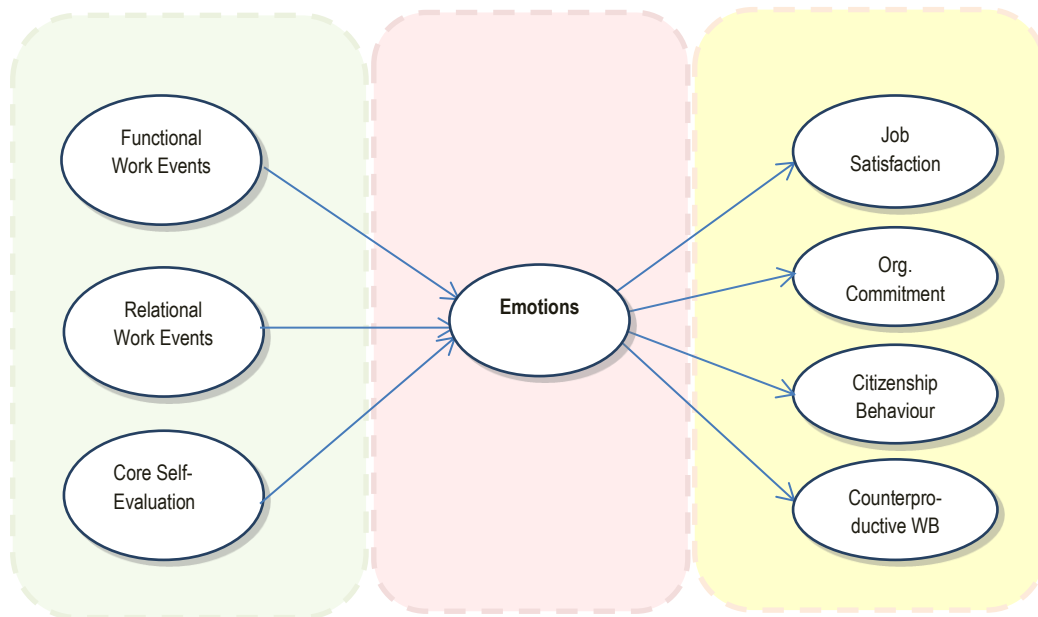
Figure 3.9: Study Research Model (Overview)

The hypothesized causal relationships amongst the exogenous and endogenous latent variables are discussed in subsequent section.

3.2.1 Structural Model Specification

The structural model depicts the testable relationships between the latent variables (Hair *et al*., 2013). As discussed earlier, the goal of the study is to examine the impact of functional (FWE) and relational (RWE) workplace events and core self-evaluation (CSE) on workforce emotions experiences (Emo) and the subsequent impact of emotions experiences (Emo) on employee's job satisfaction (JS), organizational commitment (OC), organizational citizenship (OCB) and counterproductive work behaviours (CWB).

The theoretical components of the model comprised of:

1. Exogenous Latent Constructs: Functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE), representing key determinants of target constructs.

2. Endogenous Latent Constructs (target constructs): Emotions experience (Emo), job satisfaction (JS), organizational commitment (OC), organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB).

3.2.1.1 Exogenous Latent Constructs

In order to assess the affective influence of work environment, two exogenous latent constructs of: (1) functional work events (FWE)-representing organizational functioning and (2) relational work events (RWE)-representing social relations embedded within organizational settings- have been used. The affective personality aspect has been assessed through the exogenous latent construct of core self-evaluation (CSE).

Based on theory, the above stated exogenous latent variables have been operationalized as high-order constructs involving second-order structures (figure 3.10), thus containing two layers (Ringle *et al*., 2012) leading to more theoretical parsimony and reduced complexity (Hair *et al*., 2013).

On the basis of literature, the study identified six sub-dimensions of functional work events: (a) the primary work activities undertaken by system1-S1, (b) the

coordination and conflict management functions performed by system 2-S2, (c) synergy optimization function performed by system3-S3, (d) audit function performed by system 3*-S3*, (e) change / adaptation function performed by system 4-S4 and, (f) policy making function performed by system5-S5. Therefore functional work events (FWE) construct has been modeled as high-order construct formed by six low-order constructs (LOC) based on VSM functional distinctions (S1-S5) (Beer, 1981, 1985). Each LOC captures a specific attributes of organizational functioning, together forming a single multi-dimensional high-order construct (HOC) of functional work events (FWE).

Likewise, based on VSM components, three sub-dimensions of relational work events were identified: (a) relationship between co-workers (InO), (b) relationship of workforce with managers (O-M) and, (c) relationship of workforce with external environment actors (O-E). Hence relational work events (RWE) construct has also been modeled as high-order construct formed by three low-order constructs based on VSM parts (InO, O-M, O-E) (Walker, 2006; Espinosa and Walker, 2011). The LOCs capture the specific aspects of social relationships inherent to social organizations, together forming a single multi-dimensional high-order construct of relational work events (RWE).

Similarly, core self-evaluation (CSE) has been defined as high-order construct formed by four low-order constructs (i.e. neuroticism-Ne, self-esteem-SE, generalized self-efficacy-GS and locus of control-LC) as suggested by Judge and

colleagues (2003).

3.2.1.2　　　Endogenous Latent Constructs

The above stated exogenous latent constructs i.e. FWE, RWE and CSE served as predictors of emotions experience (Emo) endogenous construct. An emotions experience construct further predicted job satisfaction (JS), organizational commitment (OC), citizenship behaviour (OCB) and counterproductive behaviour (CWB) endogenous variables.
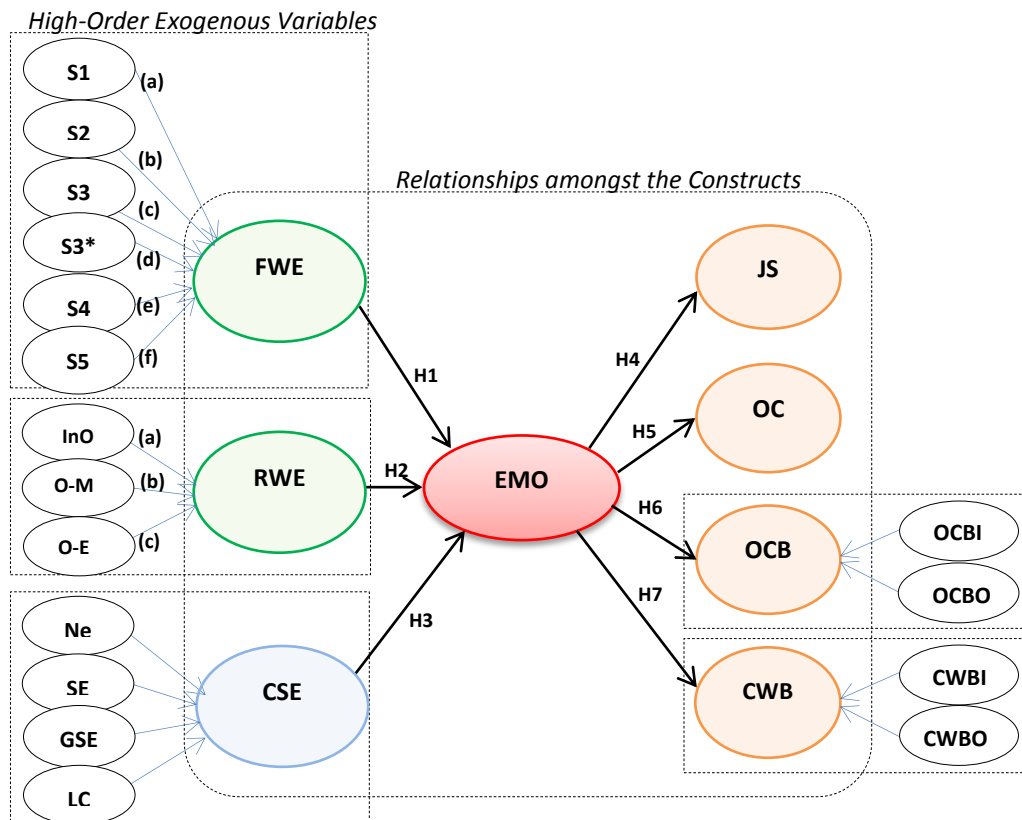
Figure 3.10: Proposed Structural/Relationship Model (Research Model)

Thus, emotions experience construct held dual relationship in the model as both dependent and independent variable (figure 3.10), where it served as dependent while being predicted by core self-evaluation, functional and relational work events and independent while predicting the job satisfaction, organizational commitment, citizenship and counterproductive behaviours.

Hypothesis 1: Functional work-events (a-f) have significant impact on the employee's emotions experience; (a) system1, (b) system 2, (c) system 3, (d) system 3*, (e) system 4, (f) system 5.

Hypothesis 2: Relational work-events (a-c) have significant impact on the employee's emotions experience; (a) inside operations, (b) operations and management, (c) operations and environment.

Hypothesis 3: Core self-evaluation has a significant impact on the employee's emotions experience.

Hypothesis 4: Employee's emotional experiences have a significant impact on job satisfaction.

Hypothesis 5: Employee's emotional experiences have a significant impact on organizational commitment.

Hypothesis 6: Employee's emotional experiences have a significant impact on organizational citizenship behaviour.

Hypothesis 7: Employee's emotional experiences have a significant impact on counterproductive work behaviour.

The demographic variables i.e. gender, age, education, marital status, work experience, current position and industry type, have been taken well into consideration to determine their influence on endogenous constructs.

Summary

The chapter demonstrated the theoretical development of holistic emotions measurement model (HEMM) using system principles of VSM for diagnosing the wide-ranging causes of employees' emotions elicitation within the work settings. The VSM has been adopted by several researchers and practitioners for diagnosing organizational performance, and/or for (re)structuring organizations based on the factors essential and adequate for its long-term viability. Therefore, this study attempts to utilize the diagnostic capabilities of the model for categorizing the work events based on operational and relational views of the systems provided by the VSM. The chapter provided an in-depth view of the basic functional components of VSM framework used as a base for diagnosing the functions and social-relations inherent to the viable social systems.

Functional view: The subsystems (S1-S5), well-connected with recursive environmental layout, demonstrated the functional view of the social organization offered by VSM distinctions depicting the interrelated workplace aspects as a whole. The workplace events classified under the functional components (S1-S5) of VSM, allow viewing how (a) primary activities, (b) damping oscillations, (c) synergy optimization, (d) audit, (e) environmental scanning, and (f) policy making activities contribute in the production of workforce emotions in totality.

Relational view: The basic components of VSM i.e. operations, management and environment enabled perceiving the interactions and relations (a) amongst co-

workers inside operations, (b) amongst workers and management, and (c) amongst the organizational members and the external environment actors, respectively. The interactive relationships between the components, i.e. (a) inside operations, (b) operations to management, and (c) operations to environment - gave a consolidated account of the relations inherent to the collaborative functioning of the social organizations, useful for comprehending the influence of organizational relations on employee's emotions. Along with functional and relational aspects of the work environment, the aspect of employees' affective personality (core self-evaluation) was also included in the emotions measurement model for understanding their substantial role in employee's assessment of workplace events and situations, provoking emotions and subsequent reactions.

The holistic account of the affective personality and workplace events provided by HEMM, have been proposed to provide a better understanding of the causes of emotions within the workplace environment. Therefore, in order to empirically validate HEMM, the chapter further demonstrated the overview of research model leading to structural model specification for empirically testing the benefits of utilizing the reference model for diagnosing the wide-ranging causes behind the workforce emotional experiences. To do so, the influence of personality and work events (categorized as functional-FWE and relational-RWE in HEMM using VSM distinctions) was assessed on workforce emotional experiences and their subsequent work attitudes (i.e. job satisfaction & organizational commitment) and behaviours (citizenship behavior and counter-productive work behavior); where

emotions experience construct had dual role in the model i.e. target variable being predicted by functional WE, relational WE and core self-evaluation constructs and predictor variable for target variables of job satisfaction, organizational commitment, citizenship and counterproductive work behaviours.

INTRODUCTION

Chapter 4

METHODOLOGY

Introduction

The methodology chapter describes the proposed research design adopted for addressing the research objectives. The logical flow of the chapter starts with the discussion of research design adopted for conducting the study (4.1) highlighting the research philosophy (section 4.1.1) and approach (section 4.1.2) adopted for the research, heading towards the research strategy and time horizon (section 4.1.3 and 4.1.4) and the data collection methods (section 4.1.5). The chapter further proceeds with the questionnaire development process used for collecting primary data (section 4.1.6). It delineates the study sample design and the steps undertaken to select the study sample (section 4.1.7) and the data analysis methods applied to examine the data collected for achieving the research objectives (section 4.2).

Subsequently, the chapter demonstrates the measurement model specification (section 4.3) and presents the pilot testing (section 4.4) conducted to validate the scales and indicators for further use in the main survey.

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RESEARCH OBJECTIVES REVISITED

As discussed earlier in Chapter 1, the following objectives are planned to be achieved through this study:

OBJECTIVE 1: To improve the current understanding of the work environment and related workforce emotional experiences by reinterpreting them from a systems perspective.

OBJECTIVE 2: To develop the model for diagnosing the causes of workforce emotional experiences based on the systems principles of the VSM - used as a conceptual device for producing a holistic understanding of the work environment producing workforce emotions; such a model would enhance and complement state-of-art theories on emotions management.

OBJECTIVE 3: To test the explanatory power of the suggested emotions measurement model to determine the potential benefits for its use in understanding the affective work environment and its related features.

4.1   RESEARCH DESIGN

Research methodology holds a significant role in linking the theory and argument enlightening the research (Nachmias and Nachmias, 2008) and serving as a 'blue print' facilitating researchers in achieving the research objectives (Saunders *et al*., 2007). Research design outlines the set of guiding activities for collecting and analyzing data (Churchill, 1999) leading to valid and reliable research findings. A well-defined research design ensures the relevancy of the investigation undertaken to the problem identified and the usage of economic procedures for doing so (Churchill, 1999).

In this chapter, the discussion of the research methodology follows the 'onion model' suggested by Saunders *et al*. (2003; figure 4.1) for describing the research framework design. Beginning with the choice of philosophy informing research approach and strategies, the discussion moves forward towards the data collection methods and sampling techniques.
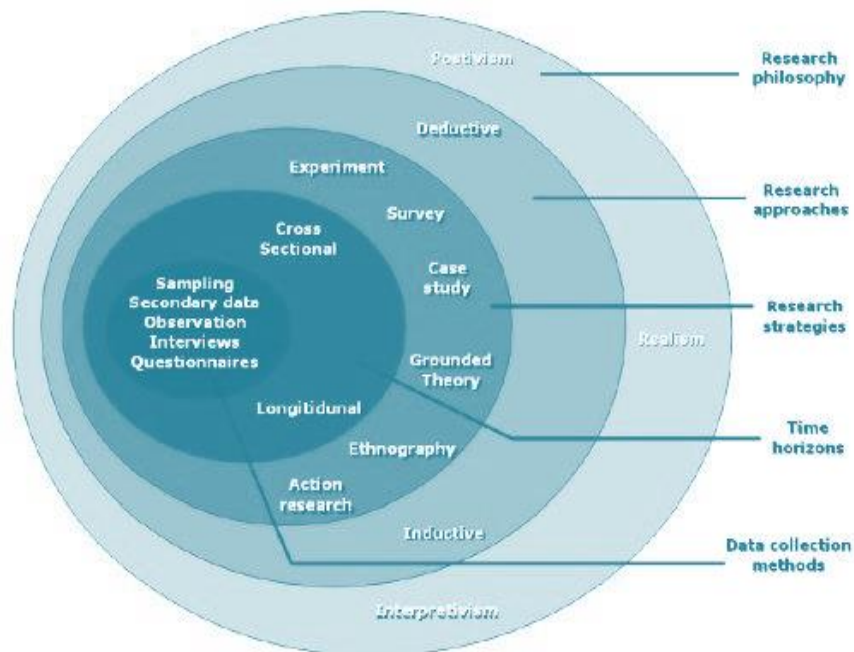
Figure 4.1: The Research Onion
Source: Saunders et al. (2003)

Each one of them has been discussed below, highlighting the research design adopted by the author for answering the research questions and accomplishing the objective outlined in the beginning of the current chapter.

4.1.1 Research Philosophy

The research philosophy determines the way we think about the development of knowledge affecting the way we go about doing research (Levin, 1988). As Limpanitgul (2009) states, "to interpret and comprehend the world we are living, we certainly need 'ways of viewing' and 'ways of interpreting', to grasp the surrounding facts, ideas and events". The major ways of thinking about research philosophy include ontology and epistemology.

Ontology, understood as "the science or study of being" (Blaikie, 1993; 200) describes our views on the nature of reality and being (Lincoln and Guba, 2000), whether 'objective' (really existing) or 'subjective' (created in our minds). As stated by Hatch and Cunliffe (2006), individuals determine the existence of realities as: *does the reality exist only through experience of it* (i.e. subjectivism), or *does it exists independently of those who live it* (i.e. objectivism) (Flowers, 2009). These deeply embedded ontological assumptions affect our view of reality and if not identified properly, may blind the researcher to certain aspects of inquiry.

While considering the different views pertaining to the reality, it leads to another important question of how that reality can be measured i.e. the epistemology – *constituting the knowledge of that reality*. It denotes "the nature of human knowledge and understanding that can possibly be acquired through different types of inquiry and alternative methods of investigation" (Hirschheim *et al.*,

1995; 20). As suggested by Saunders *et al*. (2009), it deals with what establishes adequate knowledge in a field of study, by being "concerned with its origin, nature, limits, methods, and justification" (Hofer, 2000; 40)

The current study adopted a constructivist approach for comprehending the phenomenon of workforce affective experiences within the organizational settings which helped further in the development of reference model for diagnosing the underlying causes of those affective experiences wide-spread within the working environment; while the developed reference model (HEMM) was field tested to assess its strength in gauging the wide-ranging antecedents (categorized using VSM language) of emotional experiences and reactions while at work, by implementing the positivist methodology.

The discussion on the reasons behind the selection of above mentioned ontological/epistemological stances by the researcher have been given under:

Positivism refers to "working with an observable social reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientist" (Remenyi *et al*., 1998; 32), concerned with facts rather than impressions. Based on this position, the current study undertook the development of theoretical model to explain human behavior by illuminating causal relationships and predicting generalizable outcomes (Williams and May, 1996). The study followed the path of other researchers who use this approach to use existing theory for developing hypotheses and collect data for providing basis

for hypotheses testing. The hypotheses tested can either be confirmed, or refused altogether. If refused, it would lead to the further development of theory testable by further research (Saunders *et al*., 2009). As suggested by Easterby-Smith and colleagues (2008) this position is purely focused on facts, gathered using quantitative methods, e.g. observation, experiment or survey techniques, which are measured quantitatively and analyzed statistically for producing results (Eriksson and Kovalainen, 2008; Schiffman and Kanuk, 1997).

A positivist approach helped the researcher in undertaking research in a value-free way, as researcher is external to the process of data collection and thus, is less open to biasness (Saunders *et al*., 2007). The postulation underlying the philosophy is that "the researcher is independent of and neither affects nor is affected by the subject of research" (Remenyi *et al*., 1998). The end product of research is quantifiable and available for statistical analysis, which can be generalized easily. However, complete freedom is not possible as researcher used her choice in selecting objectives and the data to be collected (Saunders *et al*., 2009). Nevertheless, a structured research approach was used so that its replication can be enabled (Gill and Johnson, 2002).

An alternative position, commonly available to social scientists is known as i**nterpretivism,** contending that social settings of business and management are far too complex and understanding it as generalized laws of physical sciences can result in loss of rich insights into the complex world (Saunders *et al*., 2009).

Saunders *et al*. (2007) suggests that this approach of comprehending the world from the social actor's viewpoint is contextual in nature and therefore cannot be widely generalized. One might argue that the interpretivist approach is the most appropriate in complex social settings research related to organizational behaviour or human capital management. The social setups are specific and unique with respect to the circumstances and the individuals involved. The immediate question raised here is that of the generalizability of research (Saunders, *et al*., 2009), which was the main concern of the current study. Generalisability may not be crucial, in case, if today's situations seem not applicable in next three months and if all organizations are significantly unique; rendering the less value to generalisability (Saunders *et al*., 2009).

If we evaluate the literature on emotions research from physiological, psychological as well as behavioral science, all have strongly put together that human beings feel and react to the emotions. Barrett (2006) stated that the basic emotions are assumed to be universally present in human beings and constitute the fundamental elements of emotional life (Ortony and Turner, 1990). The literature depicts the common believes of researchers about the natural-kind of emotions; suggesting that "emotions are categories with firm boundaries observable in nature (i.e. in the brain and body) and are therefore recognized, not constructed by the human mind" (Barrett, 2006; 32). On the contrary, appraisal model posits that emotions are triggered by the objects or situations leading to emotional responses (Frijda, 1988; Ellsworth and Scherer, 2003). As discussed in

literature, the dissimilarity might exist at the surface level, but together basic-emotions and appraisal models of emotions approve the opinion that some emotions incur physiological changes, further organizing into behavioral patterns for dealing with emotion-eliciting events (Ekman and Davidson, 1994). As Barrett (2006, 32) explains that "when a stimulus triggers an instance of anger, either directly or via cognitive appraisals, people produce a suite of facial movements, vocal changes, patterned physiological reactions and voluntary actions" characterizing anger. Emotions serve regulatory functions that provide information for individual and social functioning (Cole *et al*., 2004). Hence, emotions have regulatory and motivational characteristics which are universal and can be generalized to the human beings (Izard, 2007).

Secondly, organizations can be unique with respect to the culture, identity, hierarchical structures and working process, however, all the viable systems have same structural requirements even if they perform different functions (Espejo, 2003). During the process of identifying the natural sources of effective organization (i.e. brain), Beer revealed that all the living organisms exhibiting viability had five basic properties in common (Beer, 1981; Walker, 2006). This finding resulted in the development of structural model of organizational viability, i.e. Viable System Model. The structure of VSM organizes the five functions which are integral to the organization's viability despite of its size, its business type and environment in which it exists (Espejo and Schwaninger, 1993; Espejo *et al*., 1996). Therefore, the workplace functional and relational views based on

VSM basic functional components, for diagnosing the wide-ranging emotional antecedents can be generalized across the industry or business types.

Saunders *et al*. (2007) supported the need for presenting the social investigations in statistical rather narrative form, so that other researchers can put the research findings into trial. Also, Blaikie (1993) argued that researcher's values and preferences make it challenging to achieve the true objectivity in the investigation undertaken. Though, complete freedom from the inclusion of researcher's own values is not possible even with positivism (Saunders *et al*., 2007; Phillips, 1990) as post-positivism's 'modified objectivist' perspective claims that complete objectivity is nearly impossible to achieve (Miller, 2000; Guba, 1990). Still, positivist research seems to be freer of biasness as compared to interpretivist research, where researcher is involved in the data collection, including his/her personal involvement while framing questions and interpreting answers while taking interviews. It seems impossible that researcher would be able to ask the same questions in precisely the same way from each respondent and interpret the responses accurately. On the contrary, positivist position would provide researcher with the opportunity of asking every respondent exactly the same question in exactly the same way (by gauging the responses on Likert scale or at most straight forward Yes/No) which helps in interpreting every response in the same way; not possible in an interpretivist approach (Saunders *et al*., 2003). Therefore, the researcher maintained the position of positivist for testing the plausible explanation of the developed reference model for measuring workforce

emotions and subsequent work attitudes and behaviours.

On the other hand, the study acknowledged the constructivist perspective in its first phase of holistic emotions measurement model (HEMM) development, amenable to empirical investigation by adopting positivist method in the second phase of the study.

The thesis has been based on the assumption that VSM (based on the systems perspective) is capable of providing valuable insights into the social work settings (i.e. second objective of the study), due to which it has been used as a theoretical framework for comprehending affective working environment (e.g. Craig, 1999; Miller, 2000). Hence, the study has footprints of the perspective of 'constructivist' philosophy due to its emphasis on socially constructed nature of reality; which doesn't fit neatly into either the positivist or interpretivist philosophy (Morlidge, 2010). Though, constructivism is closely related to interpretivism (Mackenzie and Knipe, 2006) as interpretivism is oriented towards the features of shared meaning whereas constructivism is focused on knowledge as produced and interpreted (Gregor, 2004). Guba and Lincoln (1994) state that constructions exist in the mind of individuals; which confirms that the world is not totally independent of an observer, nor is it a purely social phenomenon i.e. based on an individual's perception or interpretation (Morlidge, 2010). Thus, the constructivist philosophy accepts that a real material world exists but individuals perceive reality as socially constructed (Saunders *et al*., 2003).

The constructivist epistemological discourse of system's scientists starts with the identification of a system- i.e. making distinction between 'entity' and 'environment'- which is an act of selection made by the observer or researcher (Ashby, 1957). Seemingly, theory and observation are inseparable, where latter is driven by purpose (Gogun and Varela, 1979). Defining a system encompasses selecting a set of variables which are capable of empirical testing, unlike conventional science – where variables may need to be 'created' in order to explain the behaviour of phenomena (Ashby, 1957). The theory can be operationalized by converting in the form that 'fit' with existing empirical knowledge and tested/validated for designing 'viable systems' (Bunge, 1977). In current study, the researcher adopted the systems scientists' standpoint of constructivist approach for developing the holistic emotions measurement model based on VSM which was empirically validated by positivist approach.

4.1.2 Research Approach

Since the current research determines to develop the holistic emotions measurement model for diagnosing the work-environment based on VSM theory and develop hypotheses for testing the plausibility of the developed model, it adopted the deductive approach, with emphasis on explanatory research to check the validity of developed model. Hussey and Hussey (1997, 19) defined deductive research as "a study in which a conceptual and theoretical structure is developed which is then tested by empirical observation; thus particular instances are

deducted from general influences". The route taken with deductive approach is from general to particular.

Both qualitative and quantitative methods are utilized by the current study for achieving the study purposes using a 'triangulation approach' or 'mixed methods' strategy. As research methodology writers urge the researchers to use both quantitative and qualitative approaches to triangulate the results (Mingers and Gill, 1997; Brannick and Roche, 1997; Patton, 1990). The rich and reliable insights are gained when different research methods from different paradigms are combined together (Mingers, 2001) giving more detailed and balanced picture of the situation (Altrichter *et al*., 2002; Altrichter *et al*., 2008).

Denzin (1978, 291) defines triangulation as "the application and combination of several research methodologies in the study of the same phenomena" (Cheng, 2005). The four basic types of triangulation processes as acknowledged by Denzin (1978) are specific to data, investigator, theory and methodology; where *data triangulation* refers to data from different time, space and persons, *investigator triangulation* refers to the involvement of several researchers in the study, *theory triangulation* depicts the adoption of multiple theories in the interpretation of phenomena, and *methodological triangulation* determines the utilization of multiple methods for gathering data e.g. observations, interviews, survey, secondary data and so on.

The study embraced combination of methods embodying different paradigms for

meeting the research objectives (Mingers, 2001). The qualitative approach has been adopted to accomplish its first and second objective of developing the reference model: first, by undertaking the critical analysis of the fragmented understanding of the work environment (1st obj.); and second, by developing the reference model for illuminating the different aspects of the work environment using the language offered by the theory of viability i.e. VSM, for measuring workforce emotions (2nd obj.). The study at this stage will take into account the document analysis based on the previous work of VSM (e.g. Beer, 1979, 1985; Espinosa and Walker, 2011; Espejo, 2003). This prior knowledge gained through the secondary data - would be used to classify the dimensions of affective work environment and events specifically.

Next, to advance with the purpose of validating to what extent the reference model offers a plausible explanation of work environment in the real world for measuring workforce emotions (3rd Obj.), a quantitative approach has been chosen. Affective Events Theory framework has been utilized for testing the reference model and the hypothesized relationships amongst the affective causes and emotional states of employees and their subsequent impact on work related outcomes.

In essence, triangulation method has been adopted to check the anomalies in research data by cross-checking it from more than one source (O'Donoghue and Punch, 2003) to increase the credibility and validity of the study results (Gorard,

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2004).

4.1.3 Research Strategy

Several research strategies (figure 4.2) are available to be selected on the basis of research objectives including survey, experiment, action research, case study, grounded theory, ethnography and archival research (Saunders *et al*., 2009; Leedy and Ormrod, 2001; Mingers, 2001; Darke *et al*., 1998).

Figure 4.2: Types of Research Strategies
Source: Based on Saunders et al. (2009)

Instead of using one strategy for proceeding with data collection, mixed methodologies have been adopted by the current study, i.e. archival search and survey, for developing and validating the reference model for measuring workforce emotions respectively. A multi-method strategy including secondary data (literature search) and primary data (survey findings) provided the advantage of clarifying and supporting the findings (Saunders *et al.,* 2007).

Archival research has been used for gaining qualitative data specific to the

domains of systems thinking, neurophysiology and organizational psychology for developing the holistic emotions measurement model (HEMM). This method helped to analyze the data which was formerly gathered by other school of thoughts. The purpose, with which it was compiled previously, is usually different from the present researcher's intention of its use. The investigation of the influence of emotional states of people on their attitudes and behaviours from organizational behaviour/psychology domain and the insights of theory of viability gained from systems studies and neurophysiology domain helped the researcher to learn the implications of human emotions generated due to the functional and social aspect of the organizational systems.

On the other hand, a survey has been used for conducting an empirical investigation and testing the relationship amongst the work environment features, emotions experiences and work outcomes, for assessing the potential benefit of using the reference model for emotions management. It is a systematic research method used for collecting information from the subset of the targeted population of Pakistan corporate workforce. The reference model has been used in conjunction to AET framework to test the study hypotheses and identify how personal and work related aspects (categorized using VSM distinctions) trigger workforce emotions influencing work outcomes. The survey strategy has been adopted to gather data from a sizeable sample of corporate sector employees and gaining the answering to the research question easily generalizable.

To sum up, strategies of archival research and survey have been used for qualitative and quantitative data collection respectively and meeting the research objectives.

4.1.4 Time Horizon

The two basic types of surveys are longitudinal and cross-sectional. The major difference between the types is that a longitudinal survey gathers data over a period of time whereas a cross-sectional survey gathers data from the individuals at one point in time.

The survey type used in the study is cross-sectional which will be collecting the information from the targeted population pertaining to the emotional work experiences at a single point in time. The respondents are instructed to fill the questionnaire keeping in view the events occurred in the last three weeks. The period (3 weeks) selected was to overcome the potential remembrance problem when using longer time frames (Mignonac and Herrbach, 2004). Furthermore, Payne (2001) suggested that the evaluation of emotional experiences based on larger periods can result in strong correlation with constructs of temperament or personality traits.

4.1.5 Data Collection Methods

The researcher had an option of selecting primary or secondary data for conducting the study. Primary data is observed or collected from new study

whereas secondary data is the one which has already been published or collected in the past by other researchers. The methods available to researchers for collecting primary data are interviews (structured, semi-structured and unstructured types), questionnaires (self or interviewer administered) and observation (Saunders *et al*., 2007); whereas the most common sources of secondary data include reports, organizational records, peer reviewed journals, magazines, textbooks and so on.

As per research design, two different methods were adopted for collecting data: literature review and questionnaire. Both of them have been discussed as follows:

A qualitative research approach was adopted in the first phase of the study to review the development of workforce emotions phenomena in organizational behaviour field, used further to gain an understanding of VSM principles. For this purpose literature was systematically reviewed from several sources including: text books, articles in journals and magazines, articles on internet, thesis/dissertations, conference proceedings and so on.

Data from highly refereed journals, books and thesis pertaining to emotions-from physiology, psychology, behaviour perspectives was investigated to understand the role of emotions in human systems. Secondly, data pertaining to the role of emotions-from organizational perspective regarding attitudes and behaviours, was extracted and analyzed to comprehend the impact of employee's emotions on their behaviour and perception within social settings. Next, data pertaining to

cybernetic approaches and its implication and application was explored to gain insights pertaining to its utilization in organizational systems.

The literature was systematically reviewed using the excel sheet for recording the information pertaining to the year of study, author, research objective and findings. Ample of time and effort was invested in this phase of the study to confirm that the required data was gathered and reviewed properly. The findings extracted from the previous literature remained extremely helpful in comprehending the subject knowledge and using it for developing the reference model (i.e. HEMM) for measuring emotions in work settings.

Subsequently, quantitative approach was implemented in the second phase of the study to empirically investigate the strength of the reference model in measuring the workforce emotions within organizational settings. For this purpose the researcher used questionnaire to collect the primary data from study sample, representing the population. It is the most widely used survey data collection technique used for quantitative research. A questionnaire facilitated the collection of data from each person on the same questions in a preset sequence (DeVaus, 2002). It also enabled prompt and accurate data recording along with flexible and diverse range of data processing (Malhotra, 1996). It provided an economic way of collecting responses from the study sample pertaining to the causes and consequences of the emotions experiences within the organizations. The questionnaire designing process and administration techniques are discussed in

next section.

4.1.6 Questionnaire Designing

The questionnaire development process followed the nine-step based approach suggested by Churchill and Iacobucci (2002). Figure 4.3 illustrates the steps adopted as a guide for developing the study questionnaire (appendix 1).
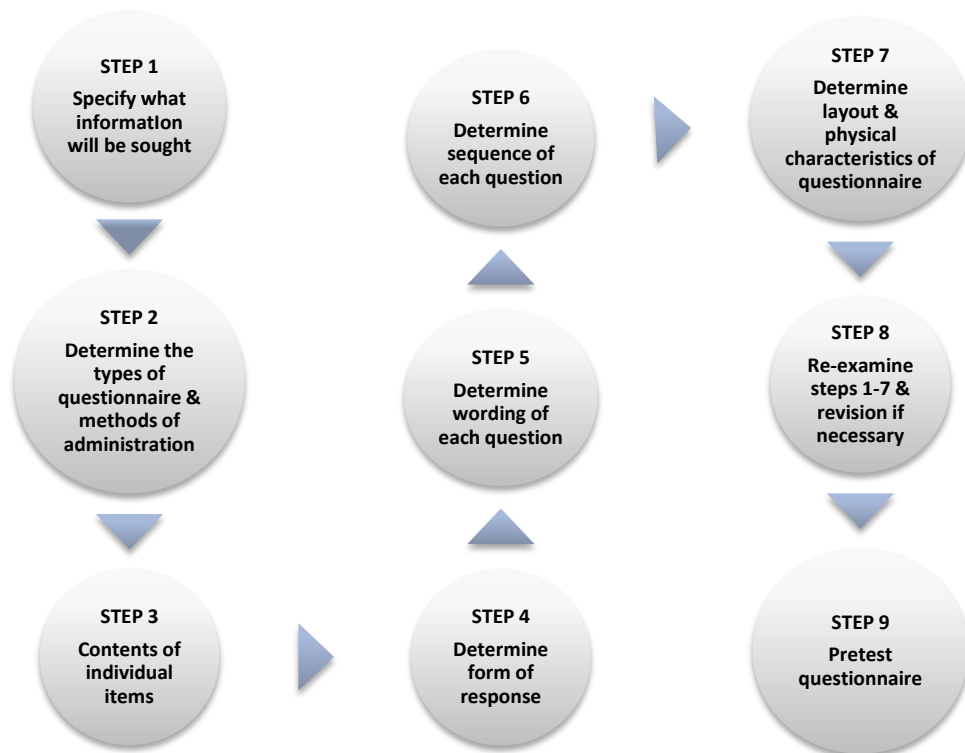
Figure 4.3: Questionnaire Development Process
Source: Based on Churchill & Iacobucci (2002)

Step 1: Information to be sought

An intensive literature review was done to comprehend the objective of the study which clarified further the type of information required for achieving answers to

the research questions. Since, the study determined to assess the influence of interrelated features of the working environment (from functional and relational dimensions) on workforce emotions and its subsequent impact on their attitudes and behaviours, a small part of the instrument had to be developed from scratch whereas the rest had been borrowed from the existing literature. The literature was analytically reviewed to identify the relevant studies on workforce emotions, attitudes and behaviours specific to job satisfaction, organizational commitment, organizational citizenship behaviour and counterproductive work behaviours.

Step 2: Types of questionnaire and Methods of administration

After specifying the basic information, the researcher needs to determine the structure and administration methods of the questionnaire for gathering the data (Churchill and Iacobucci, 2009). The questionnaire can be structured or unstructured (Malhotra, 1996). Structured questionnaire consists of closed questions with predefined answers whereas unstructured questionnaires elicit free responses. Structured questionnaire has been utilized in the study for conducting the survey and collecting the data from a large number of respondents.

The structured questionnaires can be self-administered or interviewer-administered. The difference between the two is that self-administered type is completed by the respondents themselves and returned (Saunders *et al*., 2003). The type of questionnaire employed within the study is self-administered. It had been found to be the most appropriate for the current survey due to the

geographically dispersed population of the corporate workforce selected for the study.

Several ways are available to the researcher for dispensing the self-administered questionnaires amongst the probable respondent: by hand, by post or electronically using Internet or email (online-questionnaire). Lately, the use of online survey has become prominent amongst the researchers for reaching the respondents (Wright, 2005) due to the increased use of internet as a medium of communication. According to International Communication Union, the usage of internet in Pakistan has gone up to 17.6% of the total population (in comparison to 0.1% in year 2000), with maximum users from companies, government departments, educational institutions and so on. Therefore, online method was adopted along with by hand distribution of questionnaire. Online administration of survey helped in reaching the respondents based in distant locations and commuting to them in person would have added the additional cost to the researcher. Also, in person questionnaires were handed to the respondents working in the nearby vicinity of Islamabad, which provided a chance of meeting the respondent face-to-face and sharing the purpose of the research.

Step 3: Contents of individual items

The contents included within the questionnaire encompassed all the constructs incorporated in the study framework. The adoption (or adaption) and the development of questions was based on the clear understanding of the research

objectives. The study framework gauged three sets of measures categorized as the antecedents of emotions, consequents of emotions and emotions experience. The high-order constructs for measuring the antecedents of emotions included: work-events (functional and relational) and core self-evaluation. The emotion experienced was gauged as negative, positive or neutral. And, consequents of emotional experiences were measured in terms of job satisfaction, organizational outcome, citizenship behaviour and counterproductive work behaviour.

The work-events specific to functional and relational aspect of the work environment were adapted from the previous studies as well as developed by researcher for measuring the occurrence of event within the workplace and the emotion generated in response to them. The measures for core self-evaluation, job satisfaction, organizational commitment, organizational citizenship behaviour and counter-productive work behaviour were adapted from the previous studies.

The following table (4.1) provides the summary of the study variables and their measures:

Table 4.1: Study Variables and Measures

Variables	Items	Authors
Work-Events	**31**	Basch and Fisher (1998); Hackman and Oldham, 1975); Erol-Korkmaz (2010); Self-Developed
Core Self-Evaluation	**08**	Judge *et al*. (2003)

Organizational Commitment	**02**	Meyer and Allen (1991)
Job Satisfaction	**03**	Judge *et al*. (1998)
Org. Citizenship Behaviour	**07**	Lee and Allen (2002)
Counter-Productive WB	**06**	Spector *et al*. (2006)

Step 4: Forms of response

In this stage, the researcher needs to decide if the question would be open-ended or close-ended. The closed ended questions provide the answer categories from which respondent makes selection whereas the open ended questions provide no choices and allows the respondent to answer based on his/her own perception (Lewis-Beck, Bryman, and Liao, 2004). The study has adopted close-ended questions as they can be answered quickly and processed easily (Oppenheim, 2000). The response on close-ended questions can be received from the respondent by deploying categorical, ranking, rating or dichotomous scales. In order, to gather the information on the majority of the constructs including work-events, personality evaluation, attitudes and behaviours, 5 points Likert scale has been utilized. As Aaker *et al*. (1997) suggested that five to seven categories scale can best capture the range of opinion.

Step 5: Wording of questions

Poor wording of the questions can increase the complexity of questionnaire for the respondent resulting in the misunderstanding and higher chances of response

error (Churchill, 1999). Therefore, in order to avoid this situation, it is imperative to use the suggestions given by Churchill and Iacobucci (2009) i.e. use simple, specific and short questions; avoid ambiguous or leading or double-barreled questions; avoid implicit assumptions and generalizations or estimations along with compounded sentences by using simple sentences instead. The pre-testing of the questionnaire helped the researcher in removing the errors and the chances of biasness prevailing in the questionnaire.

Step 6 and 7: Sequencing of questions and the layout and physical characteristics of questionnaire

The physical appearance and the sequential layout of the questionnaire can influence the response rate. The questionnaire was designed to maintain the professional look. It included the cover letter (Dillman, 2000) which explained the purpose of survey, along with the importance of respondents reply. It promised to maintain the confidentiality and anonymity of the participants. It was also supplemented with the contact address in case of any queries. The methods for returning the filled questionnaire were clearly demonstrated in it.

The layout of the questionnaire depicted three sections. Section 1 of the questionnaire was been designed to collect descriptive information regarding gender, age, marital status, education, work experience, current position and industry type. Section 2 of the questionnaire included the questions assessing the frequency and the emotional experience specific to work events occurring in a

viable system. Section 3 was divided into two parts; the first one dealt with the questions pertaining to core self-evaluation, job satisfaction and organizational commitment and the second part comprised of scales to gauge citizenship and counterproductive work behaviours of the respondent.

The questionnaire opened with simple questions regarding the descriptive details and then move on to the study variables measures. Questions pertaining to one construct were finished before moving on to the other (Churchill and Iacobucci, 2009).

Step 8: Re-examining steps 1-7 and revising if necessary

After development and re-checking, the questionnaire draft was submitted to cybernetics specialist Dr. Angela, in the Center of System Studies to gain the competent review on the work done. The corrections suggested were appended within and the questionnaire was finalized for pre-testing by getting the response from the people having characteristics similar to the study sample (Churchill and Iacobucci, 2009).

Step 9: Pretest Questionnaire

Pilot survey was conducted for pre-testing the questionnaire to discover the problems (if any) existing within the instrument before used for the main survey (details given in section 4.4). The comments obtained were used to resolve the issues pertaining to the questionnaire comprehension and administration.

4.1.7 Sample Design

Sampling has been stated as "a fraction of the total number of units of interest" used with the purpose of drawing general conclusion "about the entire body of units" (Parasuraman *et al*. 2004, 356). The sample design for conducting the qualitative aspect of the study i.e. testing the reference model has been discussed in detail in the current section. It followed the five-step procedure identified by Churchill and Iacobucci (2002) and Wilson (2006) for designing the study sample (illustrated in figure 4.4).

Figure 4.4.: Five-Step Procedure for Sample Design
Source: Based on Churchill & Iacobucci's (2002) and Wilson's (2006)

Step1: Target Population

The population selected for the current study comprised of the workforce from the corporate sector in Pakistan. The most important reason for selecting Pakistani corporate workforce was that the researcher is from Pakistan which, together being employed in a higher education institution made the data collection much easier and saved the researcher from undue wastage of time in accessing the right target. Secondly, the study of emotions in Pakistan corporate sector has remained

limited. Therefore, the current study bridged the existing gap in the knowledge pertaining to emotional influences and their outcomes in Pakistan corporate sector.

The targeted population comprised of workforce from the corporate sector of Pakistan. This elite business sector was laid as a result of the policy measure - conceived, envisioned and implemented by President Zia-ul-Haq under the Companies Ordinance no. 1984 with the vision to support business activities development in Pakistan. It allowed the variety of formations in the mixed economy of Pakistan. In 2004, Prime Minister-Shaukat Aziz further enhanced and matured the corporate sector by making it strong and sizeable sector amongst the financial hubs of the country. Many of the mega public corporations along with private companies are registered in the Securities and Exchange Commission of Pakistan, with most number of companies from Lahore, Karachi and Islamabad cities. In essence, Pakistan corporate sector encompasses organized and well-structured business units, with easily accessible information pertaining to their profiles and services due to which it was selected as study population.

Step 2: Sampling Frame

Including the whole population in the study might be impossible due to its size, accessibility and cost issues. Therefore, a manageable subset of the population referred as *sample* was used instead and a conclusion about the population was made on its basis, for achieving the research findings (Saunders *et al.*, 2007). The

study sample comprised of the public and private companies, both from the services and the manufacturing sector, in Pakistan.

Ministry of Finance (2012) reported that Pakistan has witnessed a major transition in the economic structure with the increase of the share of services sector up to 57.7% in year 2012-2013. It remained a significant contributor to Pakistan's economic growth over the past 5 years with an average growth of 6.6% annually since 2003. Services sector contributed 59.61% to overall economic growth in comparison to 12.81% by the manufacturing sector. It holds a great potential to grow at a rapid pace in comparison to manufacturing sector, which has been hard hit by unstable law and order situation along with acute energy shortage preventing industry from operating at their capacity level. The reason for including both the services and manufacturing specific organizations was to confirm the balanced view of the workforce from both the categories, as the former is reported to be involved in the complex challenge of customer service involving emotional labor (Hochschild, 1983).

The sample included the public and private companies belonging to following business types: banks, hotel, hospitals, electronic and print media, telecomm and educational institutions from services sector; textile, pharmaceuticals, automobile and consumer goods producers from manufacturing sector. The selection of the respondents from these companies was done keeping in view the inclusion of employees working at the various organizational positions and levels –

operational, supervision, managerial, senior management and so on. As Wilderom *et al*. (2000) suggested that it is imperative for the researchers to investigate organizational members who are representative of all the levels of the organization.

The ideal sampling frame for the sample selection is the list of public and private limited companies which could be used as a guide to ensure random sampling and thus preventing potential random error or biasness. The study used Islamabad Stock Exchange website, Lahore Stock Exchange website and business directory as a basis of reference for defining the sampling frame.

The information repository provided by Islamabad Stock Exchange Limited website and Lahore Stock Exchange Limited website was used for gaining the information regarding the public companies. These websites listed all public limited companies from Islamabad and Lahore region and held the address book maintaining the information regarding their management and the contact addresses. Details of public companies with the purpose of drawing the sample were downloaded from http://www.ise.com.pk and http://www.lahorestock.com/.

The information regarding the private companies was gained from online business directory. It provided the information on all the registered firms of all sizes in the main cities of Pakistan. The information regarding the private companies of Islamabad and their contact addresses were gained from the http://www.businessdirectory.pk/.

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Step 3: Sampling Method

The methods available for creating a study sample can be broadly classified as: probability or non-probability techniques.

Probability sampling is most commonly associated with quantitative research, achieving representativeness to the degree of accuracy in representing entire population (Teddlie and Yu, 2007). According to Tashakkori and Teddlie (2003, 713), it encompasses "selecting a relatively large number of units from a population, or from specific subgroups of the population, in a random manner where the probability of inclusion for every member of the population is determinable". The main techniques available for selecting probability sample are: simple random, stratified random, systematic, cluster and multi-stage.

On the other side, non-representative sampling techniques that does not give all the individuals in the population equal chances of being selected, are most practical for qualitative or exploratory research. The techniques available for non-probability sampling are: purposive, quota, snowball, self-selection and convenience sampling.

The technique used to create a study sample from the corporate workforce of Pakistan is multi-stage sampling method. The multi-stage sampling technique has been used to include workforce both from manufacturing and services organizations. It allowed the division of corporate sector into manufacturing and

services groups and selecting some of the different business types from both the groups. Next, workforce from each of the business type was selected using the social network group on the basis of their willingness to participate.

The advantage of using this sampling method is that it is not necessary to employ all units in the selected group which reduces the sample size considerably. Thus, in view of the constraints faced to the researcher related to the cost, time and field mobility, multi-stage sampling technique involving convenient sampling was adopted. The sample representing workforce from the wide range of business types (figure 4.5) including banks, telecom, hotels, hospital, education, media (from services); and textiles manufacturers, automobile manufacturers, consumer goods manufacturers, pharmaceuticals (from manufacturing) ensured the high representation and quality of data collected.
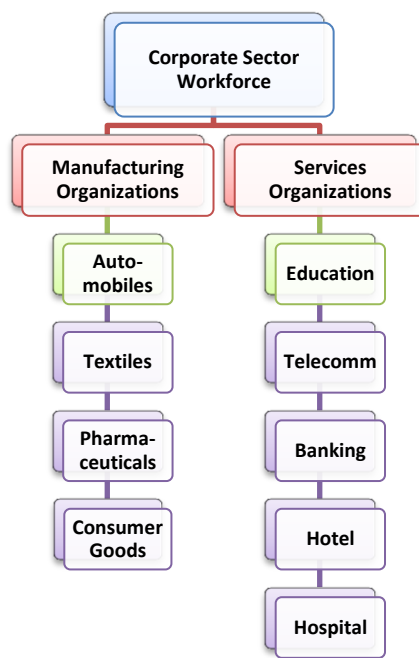
Figure 4.5: Sampling Procedure

The employees working in the above mentioned business types were identified on social networking website (i.e. LinkedIn) used for professional networking which reports more than 225 million users in more than 200 countries and regions (Jessi, 2013). According to Alexa's[1] latest website traffic ranks, with 700,000 members LinkedIn is amongst the top ten most visited websites in Pakistan. It helps in connecting with professionals and networks and also provides an access to their profiles. A private message on the LinkedIn accounts was sent to the people selected, asking for participation in survey. The message briefed them about the research purpose and inquired if they were willing to participate or could provide the detail of the potential respondents from their organization, willing to participate in the survey. Replies were received from most of them willing to participate and few of them forwarded the request to their counterparts as well. Most of the people willing to participate were from mid-career levels. Telephonic calls were also made to improve the response for survey participation.

Step 4: Sample Size

Sample size is significant in an empirical investigation as it makes the inferences about the population. The size of the sample is based on the features of study population, the information required and the cost involved in acquiring information from them (Chisnall, 1986).

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1 Web information company http://www.alexa.com/topsites/countries/PK

On the basis of the Raosoft[2] sample size calculator, the sample size was calculated with total population as 20,000 and confidence interval of 95%. The reason for using 20,000 population size is that there is no reliable source of information regarding the size of Pakistan corporate workforce. The sample size of 500 was taken which was higher than the recommended size of 377 by the calculator as there were less likely chances of getting responses from all of the sample units i.e. workforce.

Step 4: Data Collection

Several ethical considerations were taken into account while data collection process, in order, to confirm the protection of the respondents from any physical, social or psychological harm and to ensure their privacy and data security.

The utmost precautions were taken to avoid indirect, private, personal or emotional questions. The participants were allowed to exercise their free will in answering the questions without any intervention. They were also provided with adequate information regarding the research and the purpose of research along with their role in it.

The privacy of the respondents was taken care of by keeping their personal information confidential. No unauthorized person was given access to the information pertaining to participant's profile. Likewise, data was well-secured

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2 http://www.raosoft.com/samplesize.html

against tampering.

4.1.8 Overall Research Design Adopted

On the basis of the discussion made in previous sections pertaining to different aspects of research methodology, the following illustration (figure 4.6) depicts the research design implemented to achieve the research objectives.
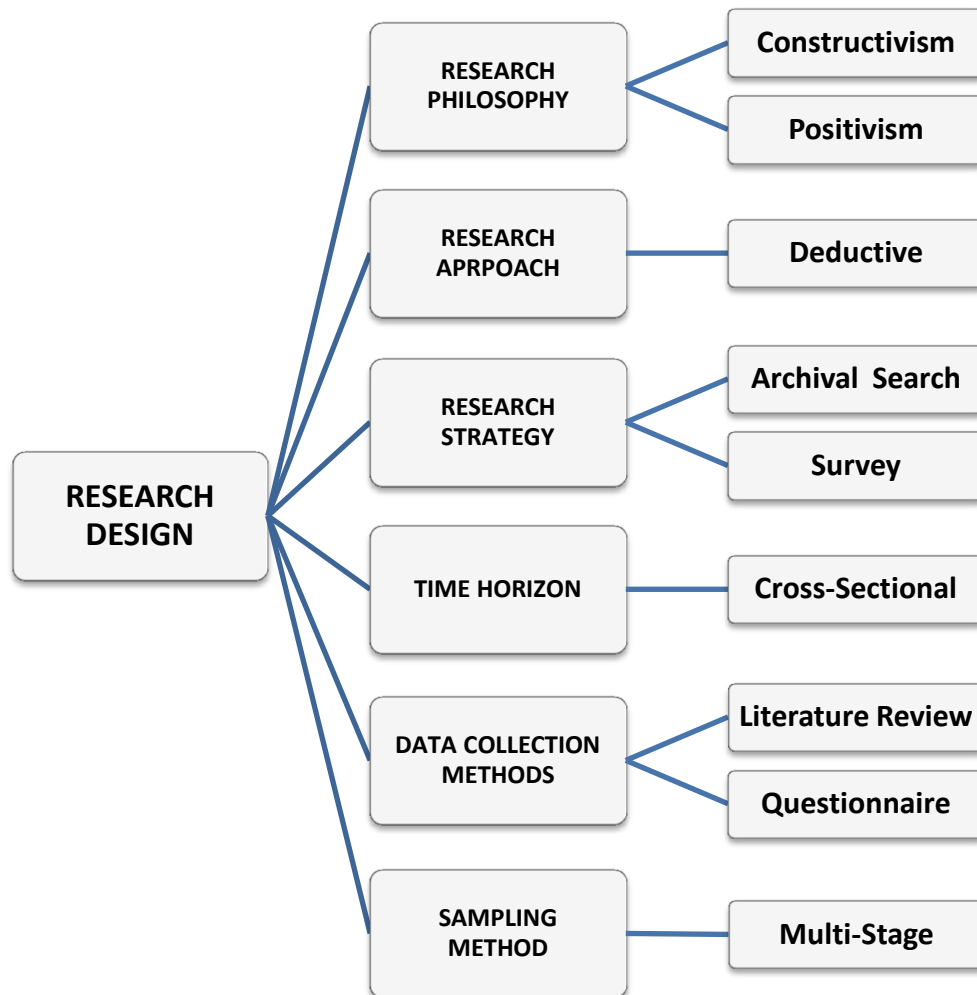
Figure 4.6: Research Design Adopted in the Study

4.2   DATA ANALYSIS METHODS

Statistical analysis is the most commonly used tool for data analysis by social scientists (Nachmias and Nachmias, 2008). In order to test the suggested model and explore the relationships amongst the exogenous (independent) and endogenous (target) variables proposed in the study, the popular multivariate data analysis i.e. partial least square structure equation modeling (PLS-SEM) has been selected. SmartPLS software (Ringle, 2005) was used for the same. However, the pilot testing and the initial descriptive evaluation of the main survey data (i.e. assessment of missing data, outliers and data distribution) was conducted using the popular software named IBM SPSS. Also, IBM SPSS was used for the collinearity assessment of formatively measured constructs of the study, as current version of SmartPLS (Ringle, 2005) software doesn't support this calculation (Hair *et al*., 2013).

The second-generation statistical tool - PLS-SEM is a variance based approach for exploring the pre-specified network of relationships between the constructs as well as between the constructs and their measures (Mateos-Aparicio, 2011). It is suitable for less developed theory with the prime objective of theory development and explanation of variance. Hair and his colleagues (2011) suggested the use partial least square structural equation modeling in the following situations (Hair *et al*., 2013) which supported the selection of PLS-SEM for the current study:

1.   when the goal of the research is to identify the key 'driver constructs',

2. when formatively measured constructs are part of the model; when structural model is complex with several constructs involved,

3. when the sample size is small and data is not normally distributed and

4. when the target variable scores is planned to be used in subsequent analyses.

PLS-SEM provides a visual display of the hypotheses and variable relationships with the help of its path model diagrams feature (Hair, Ringle, and Sarstedt, 2011). PLS path model consists of two elements: structural model-representing the relationship between the constructs (also called inner model) and measurement model—representing the relationship between the constructs and the indicator variables (outer model) (Hair *et al*., 2013).
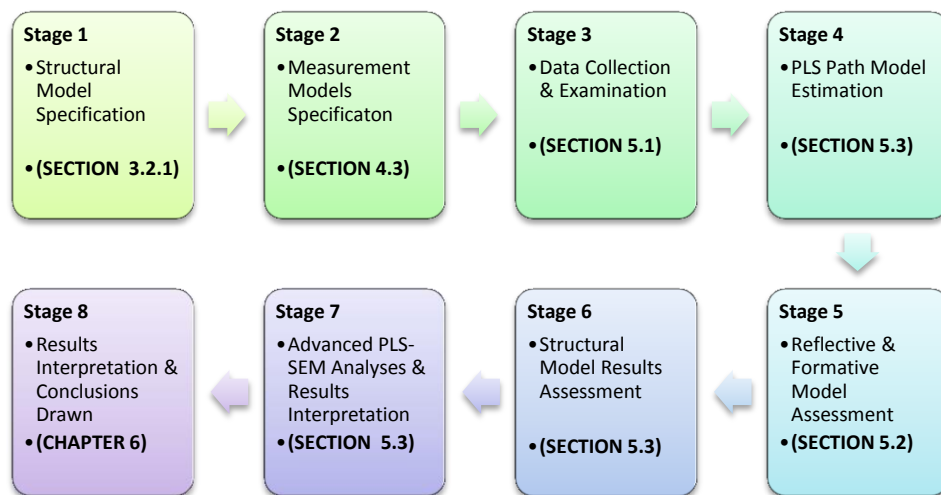
Figure 4.7: PLS-SEM Analyses Procedure
Source: Hair et al. (2013)

Hair and colleagues (2013) specified the systematic multi-stage procedure (figure 4.7) which has been adopted as a blue-print for conducting PLS-SEM analyses.

It started with structural and measurement model specification leading to data collection and examination. The evaluation process started with PLS path model estimation along with the assessments of results of measurement models (reflective and formative; section 4.2.1) and structural model (section 4.2.2). Finally on the basis of PLS-SEM analyses, the result is interpreted and conclusions of the study findings are drawn.

4.2.1   Measurement Model Evaluations

The measurement or outer model in PLS-SEM postulates the measurement approaches adopted for measuring latent constructs - both endogenous [3] and exogenous[4]. In general, there are two different approaches available for modeling the construct, namely, formative and reflective measures. The evaluation process starts with the quality assessment of reflective and formative measurement models. The criteria adopted for both the measurement types (figure 4.8 and 4.9) are distinct from each another. The rules of thumb for quality criteria have been specified in the subsequent subsections.

4.2.1.1   Reflective Measurement Models Assessment

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3 Endogenous latent variables are the target constructs which are explained in the model

4 Exogenous latent variables are predicting constructs that explain other constructs in the model

The reflective measurement models quality is assessed by reliability and validity checks (figure 4.8) based on the tests of internal consistency reliability, indicator reliability, convergent validity and discriminant validity. All the suggested reflective measurement model's quality checks (by Hair *et al.*, 2013; Ringle *et al.*, 2012) have been undertaken by the current study. The purpose and the suggested threshold values of all the tests are discussed below:
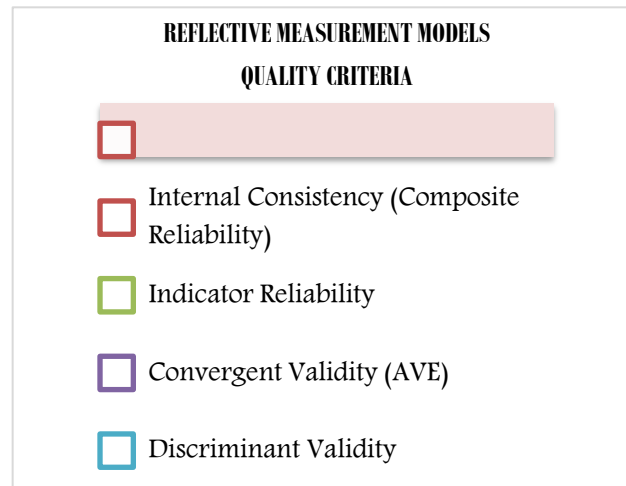
Figure 4.8: Reflective Measurement Models Quality Criteria
Source: Hair et al. (2013)

Internal Consistency Reliability provides an estimate of the reliability based on inter-correlations of the observed indicator variables. Composite reliability ($\textbf{P}_c$) is an appropriate measure of internal consistency as unlike Cronbach's alpha it does not under estimate the reliability on the basis of the number of items in the scale (Hair *et al.*, 2013). The values of composite reliability lie between 0 and 1; where the high value indicates the higher level of reliability. Specifically, the reliability

values of 0.60 to 0.70 are acceptable, whereas value below 0.60 indicate lack of internal consistency. Likewise, values above 0.90 are not desirable as it indicates that all the indicator variables are measuring the same phenomenon and thus not valid measure of construct (Hair *et al.*, 2013).

Indicator Reliability refers to the outer loadings of the indicators measuring the construct. Higher outer loadings depict the commonality amongst the measuring indicators. A common rule of thumb is that the outer loadings of the indicators should be or higher than 0.70. Indicators with values between 0.40 and 0.70 are sometime retained on the basis of their contribution to content validity (Hair *et al.*, 2013). However, indicators with outer loadings below 0.40 must not be used and therefore eliminated from scale (Hair, Ringle, and Sarstedt, 2011).

Convergent Validity depicts the extent to which a measure correlates positively with alternative measures of the same construct. Average Variance Extraction (AVE) is a common measure to establish the convergent validity of each reflectively measured construct. AVE value of 0.50 or higher is required to confirm that the construct explains more than half of the variance of its indicators; whereas AVE of less than 0.50 indicates the presence of more error in items than the variance explained by construct (Hair *et al.*, 2013).

Discriminant Validity establishes the distinction amongst the construct and determines their uniqueness in capturing the phenomena in the model. The two approaches available for measuring discriminant validity are: cross loadings

examination and Fornell-Larcker criterion (Hair *et al.*, 2013). For cross loading evaluation, the indicators outer loadings on the associated construct should be greater than all of its loading on other constructs. For Fornell-Larcker criterion, the square root of each constructs AVE should be greater than its highest correlation with any other construct. Failing these assessments indicate discriminant validity problem amongst two or more constructs.

Subject to successful quality checks of reflective measurement model, the study further undertakes the assessment of the formative measurement models used for measuring the latent constructs. The quality criteria laid down by Hair and colleagues (2013) is discussed in the subsequent section.

4.2.1.2   Formative Measurement Models Assessment

The empirical evaluation of formative measurement model's quality is based on three significant steps (figure 4.9): (1) assessment of convergent validity, (2) assessment of collinearity issues and (3) assessment of the significance and relevance of outer weights of formative indicators.

Researchers suggest that the content validity of the formative measures must be established before conducting their empirical evaluation. Content validity confirms that formative indicators capture major facets of the construct. In this regard, an intensive literature review must be undertaken to ensure reasonable theoretical grounding while measures development (Jarvis *et al*, 2003) followed

by an expert's opinion to confirm that important parts of the constructs have been included in the formative indicators.
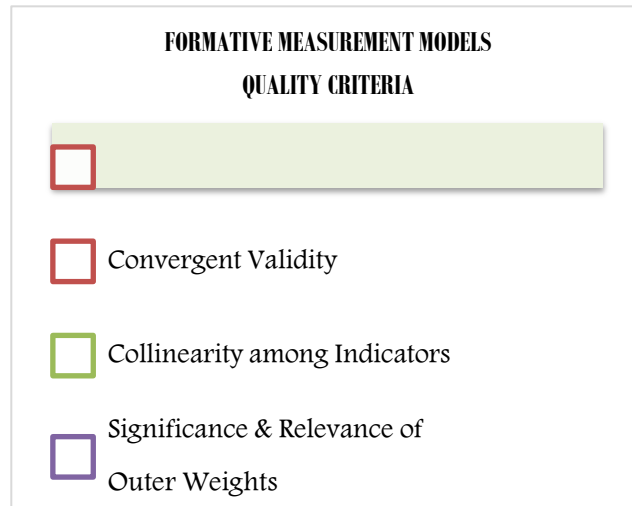
Figure 4.9: Formative Measurement Models Quality Criteria
Source: Hair et al. (2013)

In the study, the formative measurement models were empirically evaluated on the basis of collinearity assessment and significance and relevance of indicators weights assessment. The convergent validity was not established as formative constructs were not measured simultaneously by the reflective (or single item) measures due to the length issue of the questionnaire. The other set of assessments undertaken are discussed under:

Multi-Collinearity refers to high correlations between two formative indicators which can be problematic for the estimation of weights and their statistical significance (Hair *et al*., 2013). The levels of collinearity are assessed by tolerance and variance inflation factor (VIF) values, provided by regression

analysis output. Software package of IBM SPSS has been used for the same. A tolerance value of 0.20 or lower and VIF value of 5 and higher indicate a potential collinearity problem (Hair, Ringle, and Sarstedt, 2011).

Significance & Relevance of outer weights determine the contribution and the relevance of formative indicators. If the weights of formative indicators appear to be non-significant, they should not be interpreted as indicative of poor measurement model quality; instead loading of the formative construct should be assessed. If the indicator's outer loading is equal to or higher than 0.50, it should be retained. In case of lower value, its elimination should be subjected to content validity of the measurement model.

After the confirmation of reliability and validity of measurement models, the study proceeds with the next step of structural model evaluation. The steps undertaken to empirically determine the models predictive capabilities and the relationships between the latent constructs are detailed in section 4.2.2.

4.2.2   Structural Model Evaluations

The structural model determines the relationship amongst the predicting and target latent variables. The assessment of the structural model starts with the evaluation of collinearity followed by the assessment of path coefficient significance and the analyses of the predictive power of the model (figure 4.10). In the following section, each of the criteria implemented by the study for assessing the structural model and its thresholds are highlighted.

STRUCTURAL MODEL EVALUATION

☐

☐ Coefficient oF Determination(R^2)

☐ Significance of Path Coefficients

☐ f^2 Effect Sizes

☐ q^2 Effect Sizes
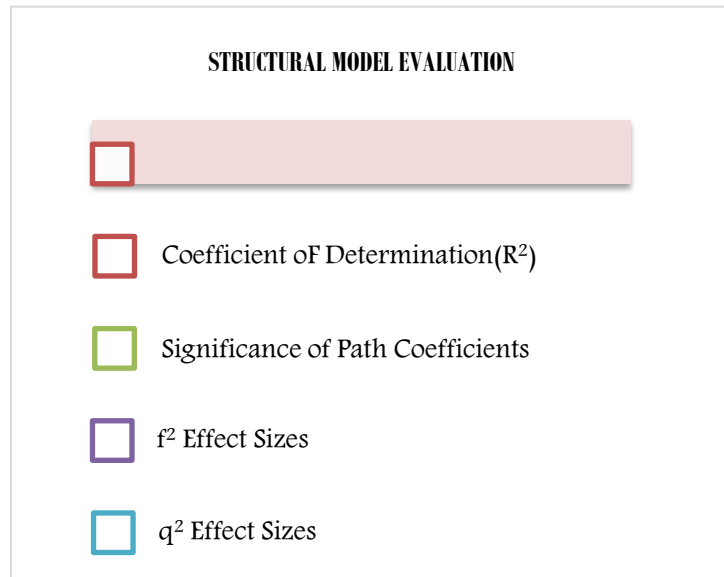
Figure 4.10: Structural Model Evaluation Techniques

→ Each set of predictors in the structural model are examined for collinearity. The tolerance level of each predicting construct should be higher than 0.20 and VIF lower than 0.50.

→ Path coefficients significance is tested using bootstrapping with minimum number of 5000 bootstrap samples. For two tailed test, the critical values are 1.65, 1.96 and 2.57 for significance levels of 10%, 5% and 1% respectively.

→ R^2 values of the endogenous variables are observed. R^2 values range from 0 to 1 with higher levels indicating higher level of predictive accuracy. It is difficult to provide rule of thumb for R^2 values as that depends on model complexity and research discipline. As Hair and colleagues (2013) suggest that R^2 values of 0.20 may be considered higher in behavioral studies exploring satisfaction or loyalty. To determine the significance R^2 values.

→ f^2 effect size is assessed to determine the exogenous construct's contribution to an endogenous latent variables R^2 value. The f^2 values of 0.02, 0.15 and 0.35 indicate small, medium and large (respectively) effect of exogenous construct on endogenous construct.

On the basis of above discussed measurement (4.2.1) and structural model (4.2.2) analyses, interpretations and results are drawn and reported in Chapter 5 and 6.

4.3   MEASUREMENT MODELS SPECIFICATION

In this section, the study proceeded with the measurement models (outer models) specification for each of the latent constructs specified in the structural model (refer to section 3.2.1). The measurement models depict the relationships between the constructs and their corresponding indicator variables (Hair *et al*., 2013). The structural model (developed for field testing of HEMM) included three exogenous constructs – functional work events, relational work events and core self-evaluation – and five endogenous constructs – emotions experience, job satisfaction, organizational commitment, citizenship and counterproductive work behaviours.

These constructs involved the measurement specification of reflective as well as formative type; where reflective measurement model (mode A) indicators represent the manifestations of underlying construct and formative measurement model (mode B) indicators cause the construct (Hair *et al*., 2013). An essential

distinction between formative and reflective measures is that former are not interchangeable and omitting an indicator can alter the nature of construct whereas reflective measures can be used interchangeably and can be omitted as long as construct has sufficient reliability (Hair *et al*., 2013).

Following the recommendations given by scholars (Ringle *et al*., 2012; Hair *et al*., 2012; Diamantopolous and Winklhoer, 2001; Petter *et al*., 2007) on formative measurement models development, an intensive literature review was conducted to gain deep comprehension pertaining to the personal and work related elements with potential of triggering moods or emotions subsequently influencing the perception and behaviour of the organizational members at the work place. This archival review facilitated with the information pertaining to the scales used for measuring the emotions experience along with their causes and consequences measurement indicators. The measurement models (figure 4.11) developed for operationalizing the exogenous and endogenous latent constructs on the basis of insights gained from the previous organizational behaviour research have been discussed in detail in sub-sections (4.3.1-4.3.7).

Figure 4.11: Measurement Models of Study Constructs

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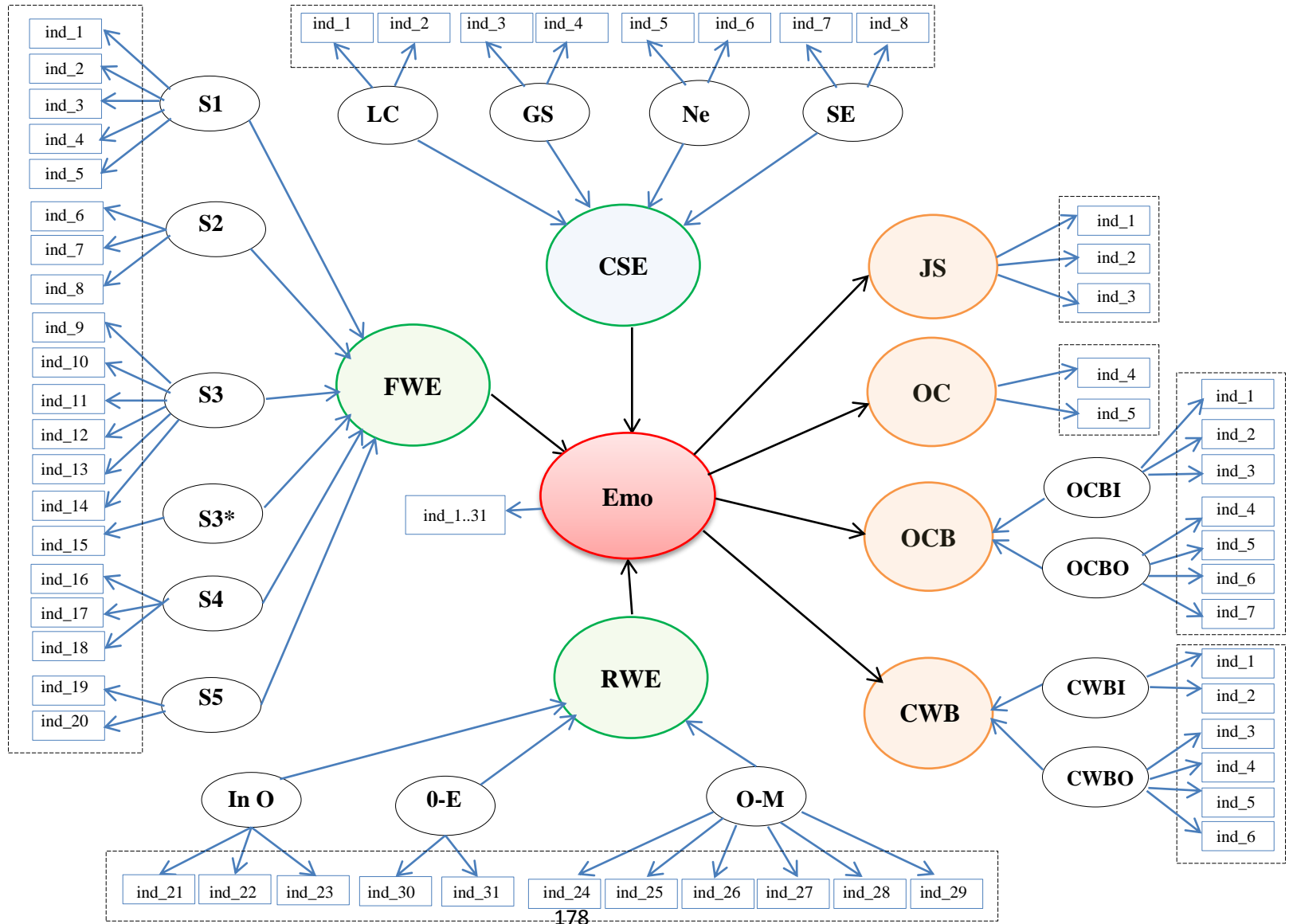
4.3.1 Functional & Relational WE Measurement Models

The functional and relational work events constructs in the proposed holistic emotions measurement model organized the work events occurring within the working environment on the basis of VSM framework. The findings would help in validating the usefulness of VSM framework for comprehending and organizing the work environment adequately and use is as a reference for diagnosing the causes of workforce emotions experiences and their impact on the work attitudes and behaviours.

A comprehensive literature review of the theory of viability i.e. the VSM, helped in comprehending the organization of its parts and the roles performed by each of its functional distinction. It helped in developing the pool of work-events – specific to each VSM distinction- that are likely to be experienced by the workers in an organization while performing their duties. These work-events were classified under the nine different classifications provided by the functional (six out of nine) and relational (three out of nine) view of the VSM.

The nine categories of the work events identified corresponding to VSM distinctions determined the six dimensions of functional work events and three dimensions of relational work events constructs.

The functional work events (FWE) construct comprised of six sub-dimensions, namely: **system 1** (**S1**; *operations*), **system 2** (**S2**; *dampening oscillations*),

system 3 (**S3;** *synergy optimization*), **system 3*** (**S3***; *audit*), **system 4** (**S4**; *environmental scanning*) and **system 5** (**S5**, *policy making*). A hierarchical component model (HCM) was established for functional work events construct following top-down approach (Wetzels *et al*., 2009). FWE high-order construct (HOC) was made part of the structural model and its sub-dimensions were organized in second–order model as low-order constructs (LOCs). Using HCM helped in making the path model parsimonious by reducing the number of relationships in structural model and making it easier to grasp (Ringle *et al*., 2012).

According to the literature, four main types of HCMs are mostly used in the applications, characterized by different relationships between (a) HOC and LOCs and (b) the constructs and the indicators (Jarvis *et al*., 2003; Ringle *et al*., 2012). The HCM types are: reflective-reflective, reflective-formative, formative-reflective and formative-formative. The type designated for two-layer FWE construct (HCM) was reflective-formative; indicating formative relationship between functional work events construct (HOC) and its sub-dimensions (LOCs) and each sub-construct measured by reflective indicators.

Likewise, the relational work events (RWE) construct consisted of three dimensions based on VSM parts, namely: **inside operations** (**In O**; *relations with co-worker*), **operations and management** (**O-M**; *relations with manager*) and **operations and environment** (**O-E**; *relations with outside actors*). Similar to

FWE construct, RWE construct was also designed using hierarchical component model (HCM) of reflective-formative type, i.e. formative relationships between RWE (HOC) and its sub-dimensions (LOCs) and each construct measured by reflective indicators.

Based on literature available pertaining to VSM theory and its applications, the arrangement of its parts and the functions of its subsystems were comprehended to determine the functional and relational diagnosis offered by VSM distinctions. The apprehended information on VSM parts and its subsystem was evaluated by the researcher and the cybernetics specialist from Center of System Studies to devise the operational definition of each VSM distinction (given in table 4.1). It was used as an organizer for the work events specific to the functional and relational categories stated above.

The pool of functional and relational work events was generated in two steps. First, the previous studies were utilized to adopt the available work events. The events concerning the categories (defined above) not available were developed by the researcher in the next phase.

The archival search identified that several studies have tested the relation of affective events with employee's emotional experiences, attitudes and behaviours (e.g. Basch and Fisher, 1998; Fitness, 2000; Grandey *et al*., 2002; Patterson *et al*., 2004; Wegge *et al*., 2006; Judge, Scott and Ilies, 2006; Erol-Korkmaz, 2010; Tenhiala and Lount Jr., 2013). However, few of them attempted to generate the

pool of work events occurring frequently within the work settings for testing their affective influence on the workforce (e.g. Basch and Fisher, 1998; Fisher, 2000; Erol-Korkmaz, 2010).

The researcher adopted the work events from Affective Events Scale (AES) developed by Erol-Korkmaz (2010). It was developed on the basis of the work events inventory, representing the events occurring within the workplace and strongly influencing the emotional experiences of employees, for testing the proposition of AET. The work events were compiled from employees pertaining to thirty nine different jobs due to which it was not specific to any occupation but general in nature (Yalcin, 2010); which provided an advantage to the current study as it required work events more general in nature. The categories used for organizing the work events were: task-relevant events, relations with the supervisor, relations with the co-workers, relations with the subordinates and organizational policies. High reliability coefficients have been reported indicating that the affective events scale possessed desirable psychometric properties (Yalcin, 2010; Erol-Korkmaz, 2010).

Initially, a pool of fifty seven work events was compiled on the basis of previous studies and new items developed with the help of a cybernetics specialist. The repository of functional and relational work events was checked by a specialist of VSM and system complexity, Dr. Angela Espinosa, who holds intensive practical experience of projects related to VSM implementation on national and

international level. Under her guidance, the number of the items was reduced from fifty seven (57) to thirty one (31) to make the questionnaire more responsive (appendix 2a).

Out of total thirty one work events, twenty events were related to six sub-dimensions of functional work events construct whereas eleven events were related to three sub-dimensions of relational work events (table 4.2).

With respect to the sub-dimensions (S1-S5) of FWE high-order construct, the indicators used for measuring each of the constructs are as follows:

System 1 (S1) pertaining work events determined the primary work undertaken by workforce every day. Five indicators based on work characteristics were adopted from Job Characteristics Model –JCM (developed by Hackman and Oldham, 1975). JCM has been taken for the study to determine the work characteristics as it is most widely recognized (Garg and Rastogi, 2006; Saavedra and Kwun, 2000; Lawrence, 2001) with five core job dimensions i.e. skill variety, task identity, task significance, autonomy and feedback. The items were rephrased into events and included in S1 sub-dimension.

System 2 (S2) specific work events determined the anti-oscillatory activities for reducing bottle-necks in daily operations. Three indicators pertaining to conflict management activities were developed on the basis of Basch and Fisher's (1998)

events-emotions matrix items labeled as the 'acts of colleagues' in their respective study.

System 3 (S3) related work events determined the synergy optimization activities for better performance of working units. Six indicators related to performance management activities were included in the work events inventory. Three items pertaining to 'feedback' and 'resources provision' were adapted from Basch and Fisher (1998) list of work events; whereas the rest of the three events related to performance management were developed by the researcher and included.

System 3* (S3*) specific work event gauged the sporadic audit by the management. It was measured using a single item.

System 4 (S4) related work events tapped the activities of environmental scanning for change and adaptation. Three indicators were used, out of which two were adapted from Basch and Fisher (1998) work events list and one was developed by the researcher.

For system 5 (S5), two indicators were adapted from Erol-Korkmaz's (2010) affective events scale (AES) for gauging the activities pertaining to policy making.

Another pool of eleven relational work events was compiled for measuring the three sub-dimensions: inside operations, operations and management, operations and environment. Three indicators were used for measuring InO (i.e. relation with

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co-worker) construct; six indicators were used for measuring O-M (i.e. relation with manager) construct and two indicators measured O-E (i.e. relation with customer/client) construct. Out of total eleven, nine items were adapted from Erol-Korkmaz (2010) AES to measure In O and O-M constructs. One item was adapted from Basch and Fisher (1998) events inventory and another was self-developed to for measuring O-E construct.

Table 4.2: FWE and RWE Sub-Dimensions and Measures

HOCs	LOCs	Measures	Total
Functional WE	System 1(S1)	**1,2,3,4,5**	
	System 2 (S2)	**6,7,8**	
	System 3 (S3)	**9,10,11,12,13,14**	
	System 3* (3*)	**15**	
	System 4 (S4)	**16,17,18**	
	System (S5)	**19,20**	**20**
Relational WE	Inside Operations (In O)	**21,22,23**	
	Operations and Management (O-M)	**24,25,26,27,28,29**	
	Operations and Environment (O-E)	**30,31**	**11**

All of the FWE and RWE indicators were measured on 5 point Likert scale. The scale measured the frequency of the occurrence of the event (e.g. 'I had a dispute with my co-worker') on the five points (1=Never, 3=Sometimes, 5=Always). It was used to monitor the frequency of the occurrence of the specific work event at workplace.

4.3.2 Emotions Experience Scale

Along with functional and relational work events frequency scale, the emotions experiences were measured simultaneously for assessing the emotions generated in response to the occurrence of specific event (table 4.3). In continuation to the previous example, the event 'I had a dispute with my co-worker' might trigger negative, positive or neutral emotion of the individual.

Table 4.3: Emotions Experience Scale

Work Event	Frequency of Occurrence					Emotions Experience		
	Never	Rarely	Sometimes	Often	Always	NEGATIVE	NEUTRAL	POSITIVE
I had a dispute with my co-worker	1	2	3	4	5	☐	☐	☐

For measuring emotions experience, researchers usually provide a list of emotion labels to obtain information on the qualitative nature of the affect state experienced (Scherer, 2005). The use of fixed-response alternatives has advantage of efficiency and standardization of data collection (Scherer, 2005). Therefore the researcher adopted the list of positive and negative emotions for the bi-dimensional valence (positive and negative) of employee's emotions experiences in response to the work events and did it based on Basch and Fisher (1998) emotions scale adopted for testing Affective Events theory. The sixteen emotions

were selected for the study, including: affection, pleasure, happiness, pride, optimism, enthusiasm, frustration, anger, disgust, unhappiness, disappointment, embarrassment, worry, relief, sadness and powerful.

First thirteen items (affection-worry) were adopted from Fisher's (1997) Job Emotion Scale (JES) as it was specifically constructed to tap common job related emotions (Basch and Fisher, 1998). Other two items relief and sadness were adopted from Shaver *et al*. (1987) list of emotions and powerful was added being an important aspect of emotions at work (Hunt, 1998). Along with eight positive and eight negative emotions, an option of 'neutral' was added in case no emotion was felt by the respondent in experience of specific work-event.

The current study used period of three weeks for recalling the occurrence of work events and responding to the emotions experienced because of them. Three weeks period was selected keeping in view the potential retrospection difficulties with longer time frames (Mignonac and Herrbach, 2004) and to increase the chances of accuracy in recalling the events by the respondents (Erol-Korkmaz, 2010). As Mignonac and Herrbach (2004) suggested "the evaluation of emotions experiences over a larger period can lead to strong correlation with close, but distinct constructs of temperament or personality traits" (Payne, 2001). Therefore, past three-weeks period was used to collect the response for work events in the study.

Discussion with the professionals from the corporate sector of Pakistan, preliminary to pilot testing, highlighted the reluctance of corporate people in sharing their emotions of embarrassment, disgust or affection towards any specific work related factor. Further, pilot testing identified few of the issues faced by respondents in using the emotions list, which were dealt and resolved (discussed in pilot testing section).

4.3.3 Core Self-Evaluation Measurement Model

As discussed in Chapter 3, core self-evaluation plays a dominant role in the employee's appraisal of events leading to emotional experiences, his level of satisfaction towards his job, commitment towards the organization in which he is employed, his citizenship and counterproductive work behaviours towards organization and other workers. Therefore, core self-evaluation (CSE) construct was made part of the model for assessing the core traits of personality i.e. self-esteem, generalized self-efficacy, neuroticism, and locus of control (Judge *et al*., 1998). The hierarchical component model (HCM) of reflective-formative type was developed for measuring CSE (HOC) and its sub-dimensions (LOCs) mentioned above. The constructs were measured by adopting the indicators of core self-evaluation scale (CSES) developed by Judge and his colleagues (2003).

Core self-evaluation scale is known for being direct and brief measure of personality trait. Judge *et al*. (2003) reported the validity of the scale for measuring for core self-evaluation as a high-order construct (Heilmann and Jonas,

2010). The results from four independent samples collected by Judge and colleagues (2003) supported the validity of the measure by displaying acceptable levels of internal consistency and test-retest reliability. Also, the inter-source (self-significant other) level of agreement was also comparable to other personality measures. It further evidenced the convergent validity by its correlation to the four specific core traits i.e. self-esteem, generalized self-efficacy, neuroticism, and locus of control (Sheykhshabani, 2011) and displayed incremental validity over the five-factor model (Heilmann and Jonas, 2010).

The studies undertaken demonstrate that CSES is a valid and reliable scale for measuring international core self-evaluations (e.g. Albrecht *et al*., 2013 *for German*; Sheykhshabani, 2011 *for Iran*; Heilmann and Jonas, 2010 *for German*; Zhi-hong *et al*., 2009 *for Chinese*). CSES has been widely used in the past for investigating the impact of personality on work related outcomes, e.g. job satisfaction (Judge, Heller and Klinger, 2008; Heller, Judge and Watson, 2002), job performance (Haugh, 2010; Judge, Van Vianen and De Pater, 2004), organizational citizenship behaviour (Scott and Judge, 2009) and job stress (Brunborg, 2008; Yagil, Luria and Gal, 2008).

The 8 indicators were used to measure core self-evaluation construct based on four sub-dimensions (LOCs) of locus of control (LC), neuroticism (Ne), generalized self-efficacy (GS) and self-esteem (SE) (appendix 2b). Seven items were adopted from the scale of core self-evaluation developed by Judge *et al*.

(2003). Items 'Sometimes I feel depressed', 'I complete tasks successfully', 'When I try, I generally succeed', 'Overall, I am satisfied with myself', 'I am filled with doubts about my competence' and 'I am capable of coping with most of my problems', 'There are times when things look pretty bleak and hopeless to me' were included without any changes. Another item 'I feel self-determined and responsible for own success' was constructed. Each one of the four dimensions of CSE -neuroticism, locus of control, self-esteem and generalized self-efficacy- was measured by two indicators (table 4.4). They were measured on 5 point Likert scale (1=Strongly Disagree, 3=Neutral, 5=Strongly Agree).

Table 4.4: CSE Sub-Dimensions and Measures

Constructs	No. of Measures	Total Items
Neuroticism	**02**	
Self-Esteem	**02**	
Generalized Self-Efficacy	**02**	
Locus of Control	**02**	**08**

4.3.4 Job Satisfaction Measurement Model

The current study intended to determine the impact of emotions experience on employee's overall evaluation about his/her job in general terms. Hence, Brayfield and Rothe's (1951) job satisfaction scale was used as it is commonly used by the researchers seeking to measure overall job satisfaction (Saari and

Judge, 2004; Castillo and Cano, 2004). This five item version scale has been used widely in the empirical investigations pertaining to job satisfaction (e.g. Schleicher, Watt and Greguras, 2004; Judge at al., 2003; Judge, Heller and Mount, 2002; Durham et al., 1998).

The reliability and validity of the scale has been in verified in previous studies (Judge et al., 2003; Agho *et al*., 1992; Brooke, Russell, and Price, 1988). The internal consistency at .80 or above has been reported in most of the studies (Judge and Ilies, 2004; Judge, Erez, Bono and Thoresen, 2003; Judge, Bono and Locke, 2000; Barbouletos, 2011).

The reflective measurement model was established based on indicators adapted from the scale: 'I feel fairly well satisfied with my present job', 'I consider my job rather unpleasant' (included without any changes); 2-items were combined as 'I feel enjoyment and enthusiasm in my work' and included in the survey items. These three indicators were used to measure job satisfaction construct (appendix 2c). The items were measured on five points scale ranging from strongly disagree (1) to strongly agree (5).

4.3.5 Organizational Commitment Measurement Model

Based on Meyer and Allen's (2004) affective commitment scale, the reflective measurement model was developed to measure the employees' affective and overall commitment to the organization (appendix 2d) in the study.

The organizational commitment scale (OCS) developed by Meyer and Allen (1991) has been used widely by several studies for assessing employee's affective, continuance and normative commitment to the organization (Lumley *et al*., 2011; Gellatly, Meyer and Luchak, 2004; Herscovitch and Meyer, 2002).

Numerous studies have assessed the construct validity of these scales (Cohen, 2007; Meyer *et al*., 2002). Meyer and Allen (2004) advised that it is possible to alter the scales for utilization without having a major impact on reliability and validity. The most common modification made by the researchers, is the reduction in the number of items to reduce the length of survey instrument (e.g. Lavelle *et al*. (2009) adapted three items based on the OCS scale for measuring individual's commitment to his workgroup).

Meyer and Allen (2004) based on their experience confirmed that the reduction in size of the scale doesn't have any major impact on reliability. However, they further suggested that a pilot study should be conducted to assess reliability of small scale before conducting the full-scale study.

Two measures were adopted from OCS scale which seemingly tapped the employee's affective element and staying/leaving behaviour oriented towards the organization. Items 'I feel emotionally attached and loyal to this organization' (reworded) and 'I would like to spend the rest of my career with this organization' were measured on five point scale ranging from strongly disagree (1) to strongly agree (5).

4.3.6 Organizational Citizenship Measurement Model

Organizational citizenship behaviour (OCB) construct intended to measure the affect oriented behaviour of employees in terms of the beneficiary of citizenship behaviour i.e. organization (OCBO) and individuals (OCBI) working within organization. The measures adopted for measuring the reflective-formative type hierarchical component model i.e. OCB (HOC) involving two layers structure: OCBO and OCBI (LOCs) were based on Lee and Allen (2002) study of work behaviours.

Lee and Allen (2002) developed the pool of OCB items based on previous scales, tapping the behaviours beneficial to individuals and to the organization. They avoided the possible overlap of the items with workplace deviant behaviours while making selection. The confirmatory factor analysis confirmed an empirical distinction between OCBI (towards individuals) and OCBO (towards organization) with reliabilities of .83 (OCBI) and .88 (OCBO).

The scale of Lee and Allen (2002) has been utilized by several studies (e.g. Dávila and Finkelstein, 2010; Finkelstein and Penner, 2004; Newland, 2012) for investigating the relationship of citizenship behaviour with emotions (Lee and Allen, 2002) and other work related behaviours (Dunlop and Lee, 2004; Finkelstein, 2013; Gautam *et al.*, 2005).

Therefore, the scale of Lee and Allen (2002) was adopted to measure the sub-

dimensions of OCB- towards individuals as well as organization. Total seven items were adopted from the scale. Three indicators were used for measuring OCB-I. the measures included: 'I willingly give my time to help others who have work or non-work related problems', I adjust my work schedule to accommodate other employees' requests for time off' and 'I show genuine concern and courtesy toward co-workers, even under difficult situation' (first two indicators were adopted whereas third one was re-worded).

Likewise, four indicators for measuring the OCB-O dimension included: 'I defend the organization when other employees criticize it' and 'I take action to protect the organization from potential problems' (without any changes); 'I contribute as much as possible to the organizational development' and 'I demonstrate concern about the image of the organization and defend it in case of criticism (outside organization)' (re-worded).

Table 4.5: OCB Sub-Dimensions and Measures

Constructs	No. of Measures	Total Items
OCBI	03	
OCBO	04	07

In essence, 7 indicators in total were used to measure organizational citizenship behaviour (OCB, table 4.5) from two different dimensions i.e. behaviour towards individuals (OCB-I) and the organization (OCB-O) (appendix 2e). Three

indicators measured OCB-I and four measured OCB-O low-order constructs on five point scale (Never=1, Sometimes=3, Always=5).

4.3.7   Counterproductive Work Behaviour M. Model

Counterproductive work behaviour checklist (CWB-C) developed by Spector et al. (2006) was used for measuring counterproductive behaviours of employees. Majority of the studies in the past have relied on self-report for measurement of counterproductive work behaviour (Berry *et al*., 2012; Berry, Ones, and Sackett, 2007; Hershcovis *et al*., 2007). Penney and Spector (2005) reported that CWB-C demonstrated good internal consistency for both the self- and peer-report versions ($\alpha = 0.89$ and 0.97, respectively).

This self-reporting checklist of counterproductive work behaviours has been used in number of prior studies (Penney and Spector, 2005; Bruursema *et al*., 2004; Goh *et al*., 2003) investing the relationship of counterproductive work behaviour with job stress (Salami, 2010; Penny and Spector, 2005), social stressors (Bruk-Lee and Spector, 2006) personality traits (Cohen *et al*., 2012; Bing *et al*., 2007). Therefore, the study has adopted the self-reporting measures of CWB from CWB-C (Spector *et al*., 2006).

Robinson and Bennett (1995) suggested two distinct dimensions for measuring the counterproductive work behaviour (CWB) of employees i.e. towards individuals (CWB) and towards organization (CWBO); creating distinctions in

behaviours targeting the organization and people separately (Bennett and Robinson, 2000; Fox and Spector, 2001). Therefore, OCB construct was modeled as reflective-formative type hierarchical component model with low-order constructs - CWBI and CWBO.

6 items scale of five points (Never=1, Sometimes=3, Always=5) was used to measure counterproductive work behaviours constructs (table 4.6; appendix 2f). CWBI was measured with two indicators: 'I had been nasty or rude to a client or customer' and 'There has been a situation in which I started an argument with someone at work and reacted badly to him/her'. CWBO was measured using four indicators: 'I started or continued a damaging or harmful rumor at work', 'I often come late to work without permission' and 'I have acted with bitterness to the organization by purposely wasting employer's resources and not doing work on time' (Spector *et al.*, 2006). One item was developed by researcher i.e. 'I reacted aggressively towards authority'.

Table 4.6: CWB Sub-Dimensions and Measures

Constructs	No. of Measures	Total Items
CWBI	02	
CWBO	04	06

The next section corroborates on the pilot testing conducted to validate the measurement models developed for measuring the exogenous and endogenous constructs in the proposed model.

4.4 PILOT TESTING

The pilot study was conducted in two phases to validate the measurement scales used for all the constructs. The first phase included the validation of the functional and relational work events based on small pilot testing. In second phase, the measurement scales of exogenous and endogenous constructs (specified in the previous section) were validated to confirm their appropriateness for the main survey. Thirteen participants responded in phase 1 and twenty nine participants responded in phase II of the pilot testing. The procedure and findings, with respect to both the phases of pilot testing are discussed in section 4.4.1 and 4.4.2.

4.4.1 Phase 1 – Functional and Relational Work Events Validation

A small pilot test was conducted in order to assess if the selected/developed work events were valid by confirming their occurrence within the organizational settings. It was conducted using the work events inventory developed on the basis of VSM (six) functional and (three) relational distinctions, measured on the five point Likert scale of frequency (1-5; Never to Always).

4.4.1.1 Procedure

The participants from two different organizations (providing telecommunication and education services) were involved in the study on the referral basis. The volunteers were engaged in different jobs including HR, administration, services

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and teaching. This selection was intended to confirm the experience of work events by diverse range of employees. They were informed that their input would help in the PhD study.

The form based on work events inventory and instructions on filling the form was emailed to fifteen participants in their respective offices. The prospective respondents were requested to fill the forms within three days and send back to the researcher. On fourth day, the forms were received from the participants. Out of fifteen, only two people excused themselves for not completing the task due to their busy schedule. However, the researcher decided to continue the analysis on the basis of thirteen filled forms instead of waiting further.

4.4.1.2 Analysis

SPSS was used for conducting the descriptive analysis. The analysis confirmed the frequency mean of all the work events pertaining to both functional and relational work aspects, higher than 2.5 (median value) except for one relational work event i.e. 'I have had a dispute with my operational manager/ supervisor' (mean values of 2.31). However, the work event was retained for further pilot testing as the mean value was close enough to the mid-point value. The findings suggested that all the functional and relational work events pooled for the study occurred frequently within the work settings (table 4.7 and 4.8). All of them were retained and no work event was discarded.

Table 4.7: Frequencies of Functional Work Events (In Descending Order)

VSM Based Functional Work Events	Frequency (Out of 65)	Mean
9. Individual and/or group performance was reported to the higher management	55	4.23
3. I completed piece of work that has an obvious beginning and end	53	4.08
15. In case of an emergency or unusual situation in unit/department direct alert was sent to the senior management	53	4.08
12. The management provided feedback on individual and/or group performance	52	4.00
1. I worked closely with other people (clients or employees)	48	3.69
4. I did many different things at work using a variety of my skills and talents	48	3.69
8. Lack of coordination among units or departments created conflicts & work deadlocks	48	3.69
17. New line of products/services was introduced to cope up with the growing competition detected in market	47	3.62
2. I decided on my own how to do the work	46	3.54
10. The management provided the required resources to operate successfully well in time	46	3.54
6. Availability of common policies & procedures helped me in managing routine transactions	45	3.46
7. Availability of common information on continuous basis helped in coordinating activities with those of other units & departments	45	3.46
13. The performance assessment criteria was good & reward distribution was fair	45	3.46
14. The clear policies, guidelines, principles and values were provided to deal with situations by self instead of coursing to the management	44	3.38
16. I suggested improvements to the existing products/services &technologies on the basis of changing trends in environment	41	3.15
5. My work significantly effected on other people's performance in the organization	39	3.00

	Frequency	Mean
19. Decisions or organizational changes were discussed with us	38	2.92
20. New organizational policies were introduced fairly after being consulted with us	38	2.92
11. Biased distribution of resources was done on the basis of personal relations & favoritisms	35	2.69
18. Markets, products, strategies & plans were reviewed to account for changes in the environment including my views	35	2.69

Table 4.8: Frequencies of Relational Work Events (In Descending Order)

VSM Based Relational Work Events	Frequency (Out of 65)	Mean
22. I had pleasant time with co-workers on the job	46	3.54
28. My operational manager/supervisor helpfully guided me through the work	45	3.46
30. I had good and respectful interaction with customers	45	3.46
21. My co-worker/s helped me on a task	44	3.38
25. My operational manager/supervisor put in practice a work relevant suggestion of mine	44	3.38
31. I received positive feedback from the customer about my performance	43	3.31
27. My operational manager/ supervisor supported me in front of top management	41	3.15
23. I had a dispute with my co-worker	40	3.08
26.My operational manager / supervisor built my morale despite a mistake of mine	40	3.08
24. My operational manager / supervisor resolved my conflicts with co-workers	36	2.77
29. I have had a dispute with my operational manager/ supervisor	30	2.31

The work events inventory was used along with other constructs measurement models for pilot testing in phase 2.

4.4.2   Phase 2 - Measurement Scales Validation

The objective of this survey was to validate the measurement scales of all the predicting and target constructs proposed in the conceptual model of the study: functional work events (FWE), relational work events (RWE), core self-evaluation (CSE), emotions experience (Emo), job satisfaction (JS), organizational commitment (OC), organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB). A structured questionnaire was administered online to fifty six participants from corporate workforce. They were requested to fill the questionnaire and also make comments and give suggestions for making the questionnaire more comprehendible. Total twenty nine filled questionnaires were received back in one week period. The procedure used for data collection and the findings of the pilot study have been reported in the next sections (4.4.2.1 and 4.4.2.2).

4.4.2.1   Procedure

Email invitations were sent to almost ninety participants from different business enterprises in three days. Only fifty six people responded back to the invitation in subsequent two weeks and showed willingness for participation in pilot study. The questionnaires were administered online to all of them. They were allocated a time frame of five days for responding and returning the survey questionnaires, which was later increased to seven days to receive maximum response. The participants were given three reminders for filling the questionnaire (on day 3,

day 5 and day 7) since the survey administration. The findings of the pilot study remained positive on the whole. Twenty nine people filled the questionnaire with response rate of 51.7%. The respondents' reaction to online survey remained well. No difficulty was reported regarding questions or instructions comprehension. However, two important issues regarding emotions experience scale were raised by most of the respondents, discussed in analysis section.

4.4.2.2 Analysis

The statistical analysis of the data received from respondents was conducted using SPSS. *Descriptive Analysis:* The demographic profiles (table 4.9) of the respondents identified that 76% of the respondents were male and 24% were female; the reason for low female participation can be attributed to small size of female workforce in Pakistan (i.e. 28%; World Development Report, 2013). However, in main study, researcher contacted more female workers to participate in the survey. With respect to age group, 79% of the respondents aged from 18 to 35 years. The educational details of the participants indicated that 96% of the respondents had their formal academic education up to graduation level. The findings supported that most of the corporate workforce had good understanding of English language due to their higher level of academic qualification (*Note: Keeping in view that English is the most frequently used language in Pakistan corporate sector; the questionnaires were not translated into Urdu –the native language of Pakistan).*

Table 4.9: Demographic Profile of Respondents (pilot testing)

Gender		Age		Education		Work Exp.		Current Level		Marital Status	
Category	%	Category	%	Category	%	Category	%	Category	%	Category	%
Male	75.86	18-25 years	24.14	Voc. Training	0%	<3 years	31.03	Entry-Level	37.93	Single	55.17
Female	24.14	26-36 years	55.17	High School	3.45	4-9 years	51.72	Mid-Level	34.48	Married	34.48
Industry		36-45 years	13.79	Bachelors	55.17	10-14 years	13.79	High-Level	27.59	Separated /Widow	10.34
Category	%	46 years & Above	6.9	Masters & Above	41.38	15 years & Above	3.45				
Manufacturing	37.93										
Services	62.07										

It was found that 83% of the respondents had work experience up to nine years working at different levels (operational, mid and higher managerial) within the organization. 38% of the respondents were working in manufacturing concerns in comparison to 62% from services sector.

Information on marital status was also taken keeping in view the medical studies indicating that divorced/unmarried people are more vulnerable to stress as compared to their married contemporaries (University of Maryland Medical Center, 2013). The findings reported that 65% of the respondents were either single or separated whereas 35% were married.

The mean value of the all measurement items was calculated along with standard deviation (appendix 3a). The mean values of the all measuring items specific to study constructs i.e. functional and relational work events, core self-evaluation,

job satisfaction, organizational commitment and organizational citizenship behaviour were higher than the mid value of 2.5 except for item 20 (New organizational policies were introduced fairly after being consulted with us) in functional work events measures with mean value of 2.07.

Two items from counterproductive work behaviour scale i.e. 'I had been nasty or rude to a client or customer' and 'I reacted aggressively towards authority' had mean values of 1.72 and 1.79 respectively, which were lesser then the mid-point.

In order to confirm the error free measurement scales for measuring the construct, the validity and reliability of the scales are assessed below.

Validity and Reliability Assessment: The validity and reliability confirmation of measurement scales for measuring the unobserved latent construct is essential in order to draw valid conclusions from the analyses. Therefore, an exploratory factor analysis was conducted using principal component analysis with the help of IBM SPSS application to assess the factor structure and individual items validity (Costello and Osborne, 2005). The values of item communality ranging from 0.40 to 0.70 are considered low to moderate in social sciences and thus acceptable (Costello and Osborne, 2005).

The results pertaining to all the constructs and corresponding items met the minimum threshold specified for meeting the quality criteria. The communalities of all the indicators remained high with values greater than 0.50 (appendix 3b).

With respect to factor analysis solution, the results depicted that indicators (specific to respective constructs) loaded strongly on specified factors. The functional work events scale revealed that variables loaded on six components explaining the total variance of 71.05%. Likewise, for relational work events scale, three components explained the total variance of 64.85% whereas emotions experiences scale depicted nine factors solution with total variance of 80.30%.

Core self-evaluation scale accounted for the total variance of 77.88% with four components model and job satisfaction's one factor solution accounted for the total variance of 63.21%. One component solution provided by organizational commitment scale accounted for the total variance of 51.76%. The two factors solution pertaining to organizational citizenship behaviour and counterproductive work behaviour scales accounted for total variation of 64.32% and 69.45% respectively.

The most frequently used method for calculating internal consistency of the construct measurement model is 'Cronbach's alpha' (Pallant, 2001) and therefore, the same has been used for assessing reliability of the scales. According to the guideline of Nunnally (1978) the Cronbach's alpha for the scale underlying test must be equal to or higher than 0.70 to pass the test of reliability. The reliability scores of all the predicting and target constructs (given in table 5.9) were calculated using IBM SPSS application. The alpha values remained as: functional work events = 0.777; relational work events = 0.702; emotions experience =

0.857; core self-evaluation scale = 0.709; job satisfaction = 0.707; organizational commitment = 0.371; organizational citizenship behaviour = 0.794; counterproductive work behaviour = 0.722.

Tale 4.10: Cronbach Alpha Scores of Constructs

Scale	No. of Items	Score
Functional Work Events	20	.777
Relational Work Events	11	.702
Emotions Experience	31	.857
Core Self-Evaluation	08	.709
Job Satisfaction	03	.707
Organizational Commitment	02	.371
Organizational Citizenship Behaviour	07	.794
Counterproductive Work Behaviour	06	.722

The Cronbach's alpha values of all the constructs (table 4.10) met the reliability criteria of 0.70 as suggested by Nunnally (1978) except for organizational commitment scale. The alpha value of organizational commitment (i.e. 0.37) was found to be quite low as compared to minimum requirement but the most obvious reason was the less number of indicators for its measurement. However, partial least square structural equation modeling (PLS-SEM) application can handle well the constructs with two indicators based measurement model (Hair *et al.*, 2013). Therefore, it was decided to continue with the two items for measuring the affective commitment of the employee with the organization keeping in view the length issue of the questionnaire.

The overall validity and reliability test results confirmed the error free measurement models developed for the constructs. However, pilot-testing highlighted two important issues with respect to the emotions list used for measuring emotions experiences construct:

firstly, responding to all seventeen emotions list was very tedious and induced fatigue amongst the respondents (supporting Basch and Fisher's (1998) concern);

secondly, people found difficulty in labeling the emotions correctly.

Scherer (2005) identified that people who do not attempt to label or communicate their emotional responses face problems in labeling their felt emotions correctly; and secondly, individual differences exist in regard to their vocabulary which might constraint their responses.

However, people responded well to the list of emotions which removed the apprehensions shared by professionals that workforce might be reluctant in sharing their emotions, prior to pilot testing. However that doesn't imply that they labeled their felt emotion correctly, e.g. 'disappointed' instead of 'angry' or 'happy' instead of 'affection'. Therefore, in order to resolve the above discussed issues i.e. length of emotions list and labeling of emotions response, the researcher decided to use the broad categories of positive, negative or neutral for gauging the emotions experience of participants in the study.

The emotion experienced by the employees due to work-events was measured in main study on three points scale of 'Negative', 'Neutral', 'Positive' . It helped to make the survey more responsive and resolved the problem of labeling the emotions specifically. An index was created (scale ranging from -31 to 31; numbered as -1 for each negative response, +1 for each positive response and 0 for each neutral response) on the basis of the measures used for gauging emotions experiences simultaneously to the occurrence of workplace events and used as single-item construct in the subsequent analysis (Albers and Hildebrandt, 2006; Petter *et al*., 2007).

4.4.3   Contribution of Pilot testing

Overall, pilot testing remained effective in receiving the feedback from twenty nine participants. They contributed enthusiastically by giving suggestions on how to make the questionnaire more responsive. Their valuable comments were taken into consideration and in response the measurement scale for emotions experiences was revisited and modified to make it more comprehendible and responsive. As a result, instead of long exhaustive list of emotions labels, general categories of 'positive' and 'negative' emotions were used along with the option of 'neutral' to capture no emotion response. The pilot study results helped in gaining confidence on the measurement scales to be used in main survey.

Summary

Saunders *et al*. (2007) research onion was used as a blue print for delineating the research methodology adopted for the study. Constructivism position with hypothetic-deductive approach for investigating the research questions was implemented. Multi-methods strategy including archival research and survey were adopted for data collection. Based on the recommendations made by Churchill and Iacobucci (2002), the self-administered questionnaire was designed and used for collecting information from Pakistan corporate workforce selected using multi-stage sampling technique.

Partial least square structural equation modeling (PLS-SEM) was selected for conducting the data analysis. The PLS-SEM analyses procedure recommended by Hair *et al*. (2013) was adopted as a blue print for undertaking the measurement and structural model evaluation and findings interpretation.

The measurement models (inner model) for three exogenous (i.e. functional work events, relational work events and core self-evaluation) and five endogenous (emotions experience, job satisfaction, organizational commitment, organizational behaviour and counterproductive work behaviour) variables were developed. The exogenous latent constructs (i.e. functional WE, relational WE and core self-evaluation) were modeled as reflective-formative type high-order constructs with respective low-order dimensions. Likewise, citizenship behaviour and counterproductive WB endogenous variables were modeled as hierarchical latent

constructs of reflective-formative type. The other two endogenous constructs i.e. job satisfaction and organizational commitment, were measured reflectively. A composite index was created for emotions experience construct on the basis of thirty one events score.

The developed questionnaire items were used for pilot testing in two phases. In phase one, the occurrence of work events within the organizational settings was validated on the basis of the response collected from thirteen participants representing telecom and educational setups. In phase 2, the validity and reliability assessment of the measurement scales was conducted using IBM SPSS on the basis of data collected from twenty nine participants. The analyses confirmed that all the measurement scales were reasonable for survey administration.

The subsequent study findings will help in assessing the potential benefits of utilizing the suggested reference model of HEMM for measuring workforce emotions. The ability of functional work-events, relational work-events and core-self-evaluation (exogenous constructs) in diagnosing the workforce emotional experiences and subsequent work attitudes and behaviours (endogenous constructs), will determine if the VSM theory can provide a framework for better understanding of the entire working environment (and the events in particular) for understanding the causes behind the employees' affective states and its relationship to employee's attitudes and behaviours.
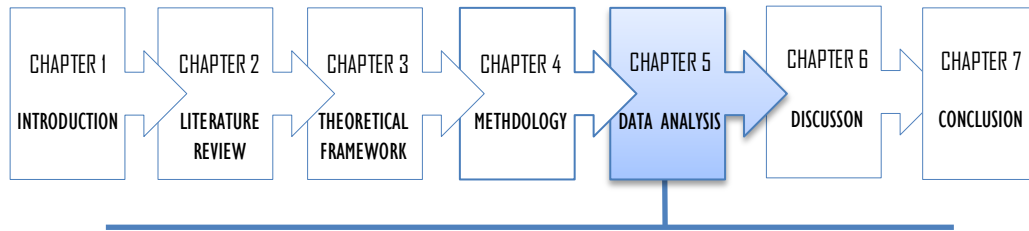
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SUMMARY

Chapter 5

DATA ANALYSIS

Introduction

In continuation to the previous chapter, after structural and model measurement specification and the validations of measures through pilot testing; the current chapters conducts the main survey followed by the empirical assessments of measurement and structural models, one after another following the two-step process (as discussed in chapter 4: 4.2). In the first step, the assessment is focused on measurement model estimation, which implies the relationship between the indicators and the constructs. In second step, the structural model is assessed which indicates the relationship between the specified constructs (Hair *et al*., 2013).

The study adopted partial least square structural equation modeling (PLS-SEM) method for analyzing the measurement and structural models (Petter *et al*., 2007). Few of the important reasons[5] for making this choice included theory testing with small sample size (177), non-normal data, model complexity and formatively measured hierarchical latent variables (Ringle *et al*., 2012). The SmartPLS[6] 2.0 software (Ringle *et al*., 2005) is used to execute the PLS-SEM analyses.

The systematic applications of both the model assessment criteria (i.e. measurement and structural) in the study are discussed in section 5.2 and 5.3

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5 For detail see Chapter 4 (section 4.2)

6 Available at http://www.smartpls.de

respectively, followed by the descriptive analyses of the survey data (5.1).

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5.1 MAIN SURVEY

The main survey was conducted with the use of self-administered questionnaires (by hand and online). Personalized email invitations were sent at random to five hundred people working in Islamabad and Lahore based public and private companies, both from the services and the manufacturing sectors, using the social networking forum 'LinkedIn'. They were informed about the study and its purpose and were requested to participate on volunteer basis. The people selected for the study represented wide-ranging business types including: banks, telecom, hotels, hospital, education, media (from services); and textiles manufacturers, automobile manufacturers, consumer goods manufacturers, pharmaceuticals (from manufacturing). The selection of the respondents from these companies was done keeping in view the inclusion of employees working at the various organizational positions and levels – operational, supervision, managerial and senior management.

Two hundred and sixty seven (267) people responded back to the invitation in a period of three weeks and showed willingness to participate in the study. Questionnaires were administered to those who confirmed their participation, either online or by hand depending on their proximity and convenience. Eighty two (82) questionnaires were delivered by hand to the workforce from hospitals,

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telecommunication companies, pharmaceutical company, hotel and educational institution based in Islamabad. The rest hundred and eighty five (185) questionnaires were administered online to the people working in banks, electronic and print media, hotels, textile manufacturers, consumer goods manufacturers, automobiles manufacturers, based in Lahore as well as Islamabad.

Time frame of two weeks was initially allocated for completion of survey questionnaires. However, it was later increased to three weeks to receive maximum response as the response of online participants was slow. A reminder was given on regular basis with the interval of three days, totaling up to five reminders for filling the questionnaire (on day 4th, 8th, 12th, 16th and 20th). The regular follow-ups helped to resolve the queries (if any) of the respondents and facilitated the completion of the questionnaire. The average time consumed in the collection of filled questionnaires was three weeks. The overall response of the survey remained good. The response rate is discussed in detail in the next section.

5.1.1 Response Rate

Two hundred and sixty seven (267) questionnaires in total were distributed amongst the corporate sector work force members by hand as well as online. Out of eighty two (82) questionnaires delivered by hand, seventy one (71) responses were received back. The response rate made up to 86.6%; whereas hundred and eighty five (185) questionnaires administered online, received back responses from one hundred and forty four (144) participants. The response rate of online

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participation made up to 77.8%. The total response received from the questionnaires (administered both by hand and online) remained two hundred and fifteen (71+144 = 215) with the average response rate of 80.5%. The high response rate can be attributed to the respondents' prior confirmation of participating in the survey. The respondent represented the workforce from thirty nine (**39**) different companies, giving a wide representation of workforce from two main business hubs in Pakistan.

Before starting with the data analysis, the response pattern was examined by the researcher manually for addressing the issues of missing data, straight lining, outliers and lack of normality (Hair *et al*., 2013). The initial manual screening of the questionnaires revealed that there was high percentage of missing data in twenty one (21) data sets. As suggested by Hair and colleagues (2013) the data sets with missing values higher than 15% were not included in the analysis.

Specific to straight lining problem, the scrutiny recognized that in seventeen questionnaires (17) the respondents had selected the same option for high-proportion of the questions which determined that questions were not attended properly; leaving the major portion of the questionnaire useless for statistical analysis. Therefore, they were also eliminated the analysis to reduce the error.

The filtration reduced the data size from two hundred and fifteen (215) cases to one hundred and seventy seven (**177**). Thirty eight (38) responses were discarded in total out of which thirty two (32, 84%) were amongst those collected by hand

and six (6, 16%) from online responses. The quality of responses gathered from online survey was found to be good.

Thus, 177 cases were left to perform statistical analysis.

5.1.2 Descriptive Analysis

The data sets available for the analyses were entered in IBM SPSS application. The frequencies of all the questionnaire items were calculated (appendix 4a). Using the explore option, a descriptive analysis was conducted to identify the missing values, outliers and data distribution. The results indicated low level of missing values per indicator (less than 5%), due to which they were substituted by mean values (Tabachnick and Fidell, 2001). Outliers were assessed with the help of boxplots and stem and leaf options and no influential observations were detected.

Data distribution was assessed with the use of skewness and kurtosis values to confirm that data had not substantially deviated from normal (appendix 4b). The general criteria are that if value is greater than +1 and lower than -1, this is an indication of substantially skewed distribution (Meyers, Gamst, and Guarino, 2013). Likewise, for kurtosis, if the value is greater than +1 and lower than -1, it is indicative of data distribution too peak and flat respectively. The analysis revealed that all the indicators had the kurtosis and skewness values between +1 and -1 except for counterproductive work behaviour's indicator one, five and six

(with values 1.057, 1.013, 1.641 respectively) which depicted skewness whereas only indicator six had the kurtosis value higher than +1 (i.e. 2.01). As PLS-SEM is a nonparametric statistical method and does not require the data to be normally distributed (Hair *et al*., 2013). Therefore, the indicators were retained for further analysis as they depicted slight degree of non-normality.

5.1.3   Respondents Demographic Profile

The demographic information[7] of the respondents pertaining to gender, age group, educational level, marital status, work experience, current position level and type of industry represented by them is as follows:

5.1.3.1   Gender

Male accounted for the majority of the participants in the study with 62% whereas 38% contributed by women.
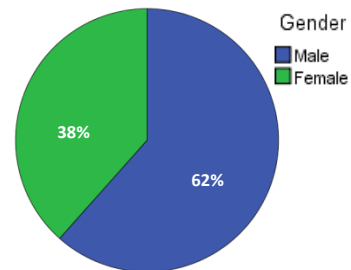
5.1.3.2   Age

46% of the participants belonged to the range of 26-35 years of age followed by 32% belonging to 18-25 years of age; 18% belonging to the range of 36-45 years of age

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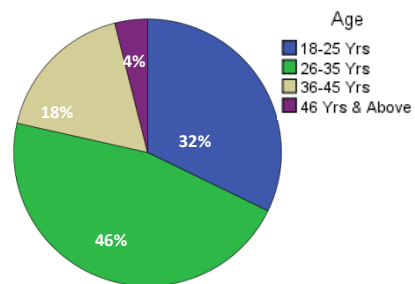
and people older than 46 years of age contributed only by 4%. Thus, 79% of the participants had 18 to 35 years of age.

5.1.3.3   Education

46% respondents were graduates with bachelor's level degree followed by 42% respondents holding masters or above level degree, both totaling to 88%. Only 12% of the respondents held some kind of vocational training (3%) and high school (9%). The major portion of the participants was holding qualification at bachelors or the higher level.
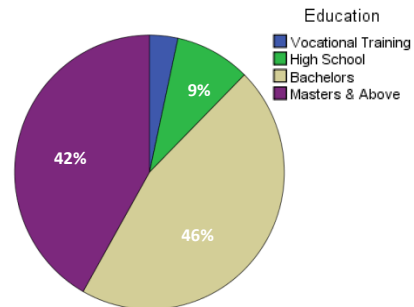
5.1.3.4   Marital Status

54% of the respondent belonged to the category of single followed by 42% respondents who were reported married. Only 4% participants belong to the category of divorced/separated/widow.
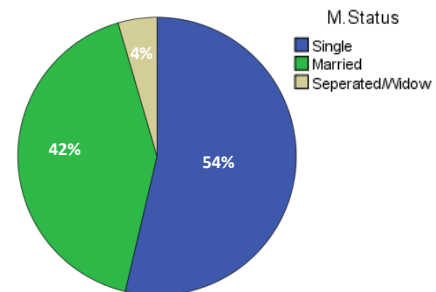
5.1.3.5   Work Experience

44% participants had less than 3 years of work experience. 33% respondents held 4-9 years of total work experience. People with work
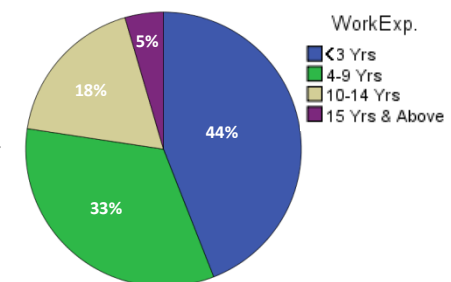
experience higher than 10 years contributed only by 23% (10-14 year=18%; 15 years and above=5%).

5.1.3.6 Current Position

38% of the respondents reported to be working at the entry-level/operations/support. 23% participants fell in the category of supervisors; 32% were managers at midlevel and only 7% worked at the higher level management.
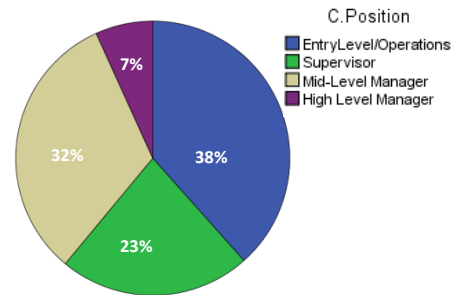
5.1.3.7 Industry Type

The analysis revealed that 33% of the respondents represented manufacturing concerns where as 67% represented services sector.
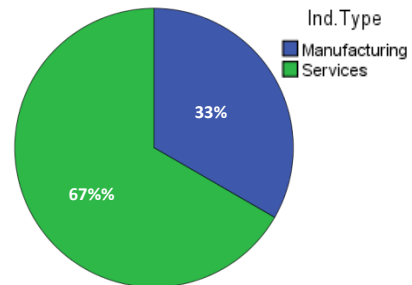
Overall, the respondents' demographic profile depicted a wide representation of diverse workforce with respect to the industry type, the work positions, work experience, gender, age, educational background and marital status which would help to identify the difference existing between the sub-groups in emotions experiences and their affective reactions in form of work attitudes and behaviours.

5.2   MEASUREMENT MODELS ASSESSMENT

As discussed in detail in chapter 4, the exogenous constructs in the study i.e. functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) were operationalized as multi-dimensional entities. Thus they were designed as a hierarchical latent variable of reflective-formative type (Ringle *et al*., 2012) to reduce model complexity and make it parsimonious (Becker *et al*., 2012; Law, Wong, and Mobley, 1998).

The functional work events high order construct consisted of six distinct dimensions represented as low-order constructs, namely: system 1 (S1), system 2 (S2), system 3 (S3), system3* (S3*), system 4 (S4) and system 5 (S5). The relationship between the high-order and low-order constructs was formative whereas low –order constructs were reflectively measured depicting reflective-formative, type II model (Jarvis *et al*., 2003).

Likewise, the relational work events high-order construct consisted of three distinct low-order constructs i.e. inside operations (In O), operations and management (O-M), operations and environment (O-E). Like FWE, it was also modeled as reflective-formative, type II model (Ringle *et al*., 2012). Similarly, core self-evaluation high-order construct consisted of interrelated four dimensions (arranged as low-order constructs): self-esteem (SE), locus of control (LC), generalized self-efficacy (GS) and neuroticism (Ne), depicting the reflective-formative relationship.

The endogenous constructs measured reflectively in the study included job satisfaction (JS) and organizational commitment (OC). Organizational citizenship behaviour and counterproductive work behaviours were modeled as hierarchical latent constructs of reflective-formative type. OCB high order construct included two sub-dimensions of citizenship behaviour towards individual (OCBI) and towards organization (OCBO) as a whole. Likewise, the counterproductive work behaviour high order construct measured deviant behaviours with two sub-dimensions i.e. towards individual (CWBI) and towards organization (CWBO). The sub-dimensions of both OCB and CWB high order constructs were modeled as low-order constructs. An index was created for emotions experiences (Emo) construct based on the recommendation of not using categorical variables in endogenous constructs given by Hair, Ringle, and Sarstedt (2013).

Dealing with multi-dimensional constructs, includes the two levels of analysis, i.e. firstly, relating indicators to low-order constructs; and secondly, relating the low-order constructs (sub-dimensions) to the high-order latent construct (MacKenzie *et al.*, 2005). As mentioned before, all the hierarchical latent constructs designed in the study were of reflective-formative type with reflective first-order and formative second-order specifications (i.e. first-order formative dimensions which are themselves measured by reflective items) (Diamantopoulos, Riefler, and Roth, 2008).

The evaluation process of the multi-item measurement model included the

validity and reliability assessment of reflective and formative measurement models used in the study (Hair *et al*., 2013). The criteria adopted for their measurement is different from each another as discussed in detail in previous chapter (refer figure 4.8 and 4.9). However, the criteria for measuring multi-item reflective and formative measurement models was not applicable to index based single item construct of emotions experience.

5.2.1   Reflective Constructs Evaluation

The model was run to analyze the quality criteria of the reflective measurement models. The PLS algorithm was calculated with path weighting scheme and parameter settings of three hundred (300) iterations and abort criterion of 1.0E-5. The algorithm converged in twenty eight iterations which was lower than the maximum stated number of iterations (i.e. 300).

Reflective measurement models were assessed on the basis of their internal consistency and reliability by means of composite reliability (measuring internal consistency), convergent validity (through indicator reliability and average variance extraction) and discriminant validity (with Fornell-Larcker criterion) (Hair *et al*., 2013; Cenfetelli and Bassellier, 2009; Chin, 1998). The results of all the evaluation criteria are discussed below.

5.2.1.1   Indicator Reliability

Indicator reliability refers to the outer loadings of the indicators measuring the

construct where higher outer loadings depict the commonality amongst the measuring indicators. The calculation results (table 5.1) depicted that the outer loadings of all of the reflective constructs OCBI, OCBO, CWBI, CWBO, SE, GS, LC, Ne, S5 and O-E are well above the threshold of 0.70 (Hair *et al*., 2013). The reflective constructs S1, S2, S3, S4, In O, O-M and JS had few of the indicators with low outer loadings (i.e. *work events_ind 1, 3, 8, 9,13, 14, 16, 23, 26, 29; js_ind 3; and oc_ind 1*). The indicators with low loadings were removed to improve AVE and composite reliability values of the scales. The items removed included: item 1, 3, 8, 9, 13, 14, 23, 26 and 29 from functional and relational sub-constructs scales and item 3 from job satisfaction scale. Item 16 (0.6196) from S4 scale and item 1 (0.52) from organizational commitment scale were retained on the basis of their contribution to the scale (Hair *et al*., 2013). After the data cleaning composite reliability, convergent validity and discriminant validity of the scales were assessed (discussed in next sections).

5.2.1.2 Internal Consistency

Internal consistency determines the reliability based on inter-correlations of the observed indicator variables. Hair and his colleagues (2013) suggested the composite reliability (P_c) is an appropriate measure of internal consistency as unlike cronbach's alpha it does not under estimate the reliability on the basis of the number of items in the scale. The composite reliability values of 0.60 to 0.70 are acceptable whereas the values below 0.60 indicate lack of internal

consistency. The quality criteria report based on calculation results revealed that all the reflectively measured constructs (and sub constructs) met the threshold of 0.70 with the minimum composite reliability value of 0.7248 for organizational commitment scale. The composite reliability values remained as: LC (0.818), GS (0.726), Ne (0.797), SE (0. 781), S1 (0.756), S2 (0.803), S3 (0.749), S4 (0.803), S5 (0.867), In O (0.852), O-M (0.821), O-E (0.799), JS (0.787), OC (0.725), OCBI (0.819), OCBO (0.831), CWBI (0.842) and CWBO (0.817).

Table 5.1 provides detailed information of composite values of all the constructs (before and after item deletion) and their respective items outer- loadings.

Table 5.1: Composite Reliability & Outer Loadings of Items

Items	LC	GS	Ne	SE	S1	S2	S3	S4	S5	CR	CR A/Del
cse.1	0.8325										
cse.2	0.8318									**0.8183**	
cse.3		0.7002									
cse.4		0.8149								**0.7260**	
cse.5			0.7566								
cse.6			0.8686							**0.7969**	
cse.7				0.8049							
cse.8				0.7269						**0.7812**	
fwe.1					x[8]						
fwe.2					0.6704						
fwe.3					x						
fwe.4					0.8302						
fwe.5					0.7258					**0.7407**	**0.7558**
fwe.6						0.8909					
fwe.7						0.7422					
fwe.8						x				**0.6816**	**0.803**
fwe.9							X				
fwe.10							0.7208				
fwe.11							0.6898				
fwe.12							0.7073				
fwe.13							X				
fwe.14							X			**0.7439**	**0.7489**
fwe.16								0.6196			
fwe.17								0.8576			
fwe.18								0.8703		**0.8034**	
fwe.19									0.8724		
fwe.20									0.8778	**0.8673**	

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8 Deleted Items

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Items	In O	O-M	O-E	JS	OC	OCBI	OCBO	CWBI	CWBO	CR	CR A/Del
rwe.21	0.8867										
rwe.22	0.836										
rwe.23	x									**0.7194**	**0.8521**
rwe.24		0.7042									
rwe.25		0.7442									
rwe.26		x									
rwe.27		0.7833									
rwe.28		0.6922									
rwe.29		x								**0.7684**	**0.8215**
rwe.30			0.8405								
rwe.31			0.789							**0.7988**	
js.1				0.8098							
js.2				0.7001							
js.3				x						**0.7109**	**0.7868**
oc.1					0.5587						
oc.2					0.9351					**0.7248**	
ocb.1						0.8147					
ocb.2						0.7742					
ocb.3						0.737				**0.8192**	
ocb.4							0.7191				
ocb.5							0.7218				
ocb.6							0.8416				
ocb.7							0.6807			**0.8306**	
cwb.1								0.8371			
cwb.2								0.8675		**0.8416**	
cwb.3									0.7975		
cwb.4									0.6244		
cwb.5									0.6744		
cwb.6									0.8003	**0.8171**	

5.2.1.3　　　　Convergent Validity

Average Variance Extraction (AVE) is a common measure to establish the convergent validity of the reflectively measured constructs depicting the extent to which a measure correlates positively with alternative measures of the same construct. The AVE value of 0.50 or higher is required to confirm that the construct explains more than half of the variance of its indicators (Hair *et al.*, 2013). The quality criteria report depicted the AVE values of all the reflectively measured constructs higher than the minimum threshold of 0.5 (Table 5.2).

The AVE values of the reflectively measured constructs are: LC (0.625), GS (0.571), Ne (0.663), SE (0.520), S1 (0.514), S2 (0.672), S3 (0.599), S4 (0.588), S5 (0.766), In O (0.742), O-M (0.536), O-E (0.664), JS (0.653), OC (0.588), OCBI (0.602), OCBO (0.552), CWBI (0.727) and CWBO (0.530).

Table 5.2: Average Variance Extraction values of Reflectively Measured Constructs

Constructs	Low-Order Constructs	AVE
Core Self-Evaluation	Locus of Control (LC)	**0.6925**
	Generalized Self-Efficacy (GS)	**0.5715**
	Neuroticism (Ne)	**0.6635**
	Self Esteem (SE)	**0.5204**
Relational Work Events	Inside Operations (In O)	**0.7425**
	Operations & Management (O-M)	**0.5356**
	Operations & Environment (O-E)	**0.6645**

Constructs	Low-Order Constructs	AVE
Functional Work Events	System 1 (S1)	0.5138
	System 2 (S2)	0.6723
	System 3 (S3)	0.5986
	System 4 (S4)	0.5876
	System 5 (S5)	0.7658
Job Satisfaction		0.6527
Organizational Commitment		0.5877
Organizational Citizenship Behaviour	Individual (I)	0.6021
	Organization (O)	0.5524
Counterproductive Work Behaviour	Individual (I)	0.7266
	Organization (O)	0.5303

5.2.1.4   Discriminant Validity

Discriminant validity measurement establishes the distinction amongst the construct and determines their uniqueness in capturing the phenomena in the model (Hair *et al*., 2013). The Fornell-Larcker criterion was used to establish the discriminant validity of the reflective constructs. The requirement for passing the test is that the square root of each constructs AVE should be greater than its highest correlation with any other construct[9]. However, failing this assessment indicates the problem of discriminant validity amongst two or more constructs. The results of Fornell-Larcker criterion assessment (table 5.3) with the square

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9 Only exception is between LOCs and HOC of reflective-formative HCMs

roots of reflective constructs AVEs on the diagonal and the correlations between the constructs in the lower left triangle confirmed the discriminant validity of all the constructs. The square roots of the AVEs for the reflective constructs were higher than the correlation of these constructs with other latent variables: LC (0.832), GS (0.756), Ne (0.815), SE (0.721), S1 (0.717), S2 (0.820), S3 (0.774), S4 (0.767), S5 (0.875), In O (0.862), O-M (0.732), O-E (0.815), JS (0.808), OC (0.767), OCBI (0.776), OCBO (0.743), CWBI (0.852), CWBO (0.728).

Table 5.3: Discriminant Validity Assessment

	LC	GS	Ne	SE	S1	S2	S3	S3*	S4	S5	In O	O-M	O-E	Emo	JS	OC	OCBI	OCBO	CWBI	CWBO
Locus of Control	**0.832**																			
G. Self-Efficacy	0.377	**0.756**																		
Neuroticism	0.006	0.121	**0.815**																	
Self Esteem	0.292	0.402	0.285	**0.721**																
System 1	0.170	0.164	0.029	0.157	**0.717**															
System 2	-0.008	0.039	0.098	0.091	0.212	**0.820**														
System 3	-0.001	-0.091	0.074	0.044	0.066	0.329	**0.774**													
System 3*	0.270	0.086	0.076	0.045	0.117	0.189	0.213	**1**[10]												
System 4	0.078	0.128	0.092	0.140	0.275	0.322	0.339	0.182	**0.767**											
System 5	0.024	-0.031	0.057	0.124	0.055	-0.013	0.508	0.193	0.198	**0.875**										
Inside Operations	0.166	0.256	0.063	0.260	0.011	0.253	0.242	0.107	0.184	-0.041	**0.862**									
Oper. & Mgmt	0.186	0.123	0.094	0.267	0.191	0.205	0.394	0.240	0.282	0.407	0.366	**0.732**								
Oper. & Env.	0.189	0.306	0.121	0.204	0.001	0.128	0.139	0.210	0.060	0.082	0.341	0.261	**0.815**							
Emotions Experience	0.127	0.018	0.054	0.262	0.274	0.425	0.461	0.221	0.307	0.405	0.204	0.618	0.150	**1**						
Job satisfaction	0.221	0.214	0.099	0.355	0.235	0.222	0.319	0.261	0.133	0.270	0.216	0.314	0.177	0.357	**0.808**					
Org. Commitment	0.276	0.122	0.138	0.266	0.078	0.212	0.283	0.260	0.023	0.133	0.232	0.245	0.134	0.344	0.440	**0.767**				
O. Citizenship B (I)	0.269	0.246	0.048	0.192	0.121	0.024	0.055	0.157	0.079	0.018	0.168	0.102	0.241	0.020	0.210	0.059	**0.776**			
O. Citizenship B (O)	0.344	0.262	0.171	0.208	0.207	0.155	0.195	0.373	0.185	0.366	0.080	0.412	0.200	0.305	0.370	0.301	0.420	**0.743**		
Counterproductive WB (I)	-0.224	-0.125	-0.062	-0.160	-0.012	0.011	0.030	0.010	0.106	0.155	-0.112	-0.036	-0.161	-0.068	-0.056	-0.133	-0.145	-0.022	**0.852**	
Counterproductive WB (O)	-0.311	-0.242	-0.068	-0.272	0.079	0.036	-0.020	-0.086	0.190	0.081	-0.183	-0.164	-0.138	-0.127	-0.109	-0.231	-0.077	-0.134	0.551	**0.728**

10 Single Item

5.2.2 Formative Constructs Evaluation

In order to compute the formatively measured second-order hierarchical latent variables quality (for functional work events (FWE), relational work events (RWE), core self-evaluation (CSE), organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB)), the sequential latent variable score method (i.e. two-stage approach) was adopted (Ringle *et al*., 2012; Wetzels *et al*., 2009) instead of repeated indicator approach as repeated use of same indicators can cause artificially correlated residuals (Becker *et al*., 2012). In the first stage model, the first-order constructs scores were computed (without the second-order construct present) which were used as indicators for high order latent variables in separate second-stage analysis (Becker *et al*., 2012; Wetzels *et al*., 2009; Wilson and Hensler, 2007). The formatively measured high-order constructs with manifested indicators were assessed based on multi-collinearity checks, and the significance and relevance of the indicators (Hair *et al*., 2013; Cenfetelli and Bassellier, 2009; Chin, 1998).

5.2.2.1 Multi-Collinearity Assessment

Multi-Collinearity refers to high correlations between two formative indicators which can be problematic for the estimation of weights and their statistical significance (Diamantopoulos and Winklhofer, 2001; Hair *et al*., 2013). The collinearity diagnostic analysis was conducted by computing the tolerance and

variance inflation factor (VIF) values provided by the regression analysis output of IBM SPSS (Diamantopoulos and Winklhofer, 2001). A tolerance value of 0.20 or lower and VIF value of 5 and higher indicate a potential collinearity problem (Hair, Ringle, and Sarstedt, 2011). The results (table 5.4) indicated the VIF values of all the indicators were below the threshold value of 5 whereas the tolerance level remained higher than 0.20. The VIF of all indicators remained as LC (1.337), GE (1.340), Ne (1.077), SE (1.375), S1 (1.177), S2 (1.375), S3 (1.815), S4 (1.194), S5 (1.779), In O (1.475), O-M (1.595), O-E (1.219), OCBI (1.081), OCBO (1.132), CWBI (1.132) and CWBO (1.184). Thus, the finding supported that all the formative constructs were free from collinearity issue.

Table 5.4: Multi-Collinearity Diagnostic of Formative Constructs

Constructs	Manifested Indicators	Tolerance	VIF
	Locus of Control (LC)	.748	1.337
	Generalized Self-Efficacy (GS)	.746	1.340
Core Self-Evaluation	Neuroticism (Ne)	.929	1.077
	Self Esteem (SE)	.727	1.375
	System 1 (S1)	.850	1.177
	System 2 (S2)	.727	1.375
	System 3 (S3)	.551	1.815
Functional Work Events	System 3*(S3*)	.838	1.194
	System 4 (S4)	.768	1.301
	System 5 (S5)	.562	1.779

Constructs	Manifested Indicators	Tolerance	VIF
Relational Work Events	Inside Operations (In O)	.678	1.475
	Operations & Mgmt. (O-M)	.627	1.595
	Operations & Env. (O-E)	.820	1.219
Org. Citizenship B.	Individual (I)	.925	1.081
	Organization (O)	.884	1.132
Counterproductive WB	Individual (I)	.883	1.132
	Organization (O)	.844	1.184

5.2.2.2   Significance & Relevance of Outer Weights

After multi-collinearity checks, the study proceeded with the significance testing of outer weights of the indicators by the means of boot strapping procedure.

The significance and relevance of outer weights determine the contribution and the relevance of formative indicators. The algorithm option of no-sign change, one hundred and seventy seven (177) cases and five thousand (5000) samples was selected for running the bootstrap routine. The results (given in table 5.5) provided the summary report of the outer weights estimates, the t values and the corresponding significance level [11] of formatively measured constructs. The significance levels depicted that all formative indicators were significant except CSE_LC (p-value: 0.16), FWE_S3* (0.14), FWE_S4 (0.30), RWE_InO (0.56), RWE_O-E (0.98), CWB-I (0.14).

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11 Calculated using TDIST function [=TDIST(*t value, df, tails*)] in MS-Excel

Table 5.5: Weights of Formative Indicators

Constructs	Manifested Indicators	Weights	t values	p values	sig.
Core Self-Evaluation	Locus of Control (LC)	0.2492	1.4028	0.16	ns
	Gen. Self-Efficacy (GS)	0.3312	2.0757	0.04	*
	Neuroticism (Ne)	0.4377	2.593	0.01	*
	Self Esteem (SE)	0.7765	5.5138	0.00	***
Functional Work Events	System 1 (S1)	0.2520	2.7166	0.01	*
	System 2 (S2)	0.4799	4.6401	0.00	***
	System 3 (S3)	0.2718	2.4457	0.02	*
	System 3*(S3*)	0.1342	1.4736	0.14	ns
	System 4 (S4)	0.1106	1.0347	0.30	ns
	System 5 (S5)	0.4237	4.0262	0.00	***
Relational Work Events	Inside Operations (In O)	0.0755	0.5899	0.56	ns
	Operations & Mgmt (O-M)	0.8247	5.6616	0.00	***
	Operations & Env. (O-E)	0.0023	0.0228	0.98	ns
Org. Citizenship Behaviour	Individual (I)	0.4706	1.9784	0.05	*
	Organization (O)	0.7122	4.3948	0.00	***
Counterproductive WB	Individual (I)	0.6011	1.4793	0.14	ns
	Organization (O)	0.6526	1.9795	0.05	*

According to the criteria suggested by Hair *et al.*, (2013) if the weights of formative indicators appear to be non-significant, they should not be interpreted as indicative of poor measurement model quality; instead their absolute contribution to its construct (given by indicators outer loading) should be

assessed; to ensure if the construct is still measuring the entire domain and content validity is preserved (Diamantopoulos and Winklhofer, 2001; Bollen and Lennox, 1991). The results revealed that the indicators with non-significant weights had significant loadings (table 5.6). Therefore they were retained as well for the structural model assessment on the basis of their absolute importance.

Table 5.6: Outer- Loadings of Formative Indicators with Low Weights

Constructs	Manifested Indicators	Loadings	t values	p values	sig.
Core Self Evaluation	Locus of Control (LC)	0.3458	2.0843	0.04	*
Functional Work Events	System 3*(S3*)	0.4041	3.4624	0.00	***
	System 4 (S4)	0.5237	5.7465	0.00	***
Relational Work Events	Inside Operations (In O)	0.2864	2.1075	0.04	*
	Operations & Env. (O-E)	0.2051	1.9931	0.05	*
Counterproductive WB	Individual (I)	0.7995	2.6861	0.00	**

Subsequent to the confirmation of the measurement models meeting the quality criteria, the next step in the assessment process structural model results. The criteria implemented for assessing the structural model are discussed in detail in subsequent section (5.3).

5.3   STRUCTURAL MODEL ASSESSMENT

As discussed during structural model specification stage (section 3.2), the study intended to examine the impact of functional (FWE) and relational (RWE) workplace events and core self-evaluation (CSE) on workforce emotions

experiences (Emo) and the subsequent impact of these emotions experiences (Emo) on employee's job satisfaction (JS), organizational commitment (OC), organizational citizenship (OCB) and counterproductive work behaviours (CWB). Thus, emotions experience construct held a dual relationship in the model as both dependent and independent variable. It served as dependent variable while being predicted by core self-evaluation, functional and relational work events; and independent variable while predicting the job satisfaction, organizational commitment, citizenship and counterproductive behaviours.

The exogenous constructs (i.e. FWE, RWE, and CSE) and two endogenous constructs (i.e. OCB and CWB) in the study were modeled as formative high-order constructs along with two reflectively measured endogenous constructs of job satisfaction and organizational commitment. A composite index[12] was used as single item for assessing emotion experiences (Emo) in the model; based on the recommendation of not using categorical variables in endogenous constructs given by Hair, Ringle, and Sarstedt (2013).

The two-stage approach was selected to model hierarchical latent variables used as exogenous and final endogenous constructs in a nomological network of study latent variables (Becker *et al*., 2012). Because the use of the repeated indicator approach for calculating path estimates with hierarchical latent constructs used as endogenous variables (in a nomological network of latent variables) was not

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12 Refer section 4.4.2.2 (*last paragraph*) for details

suitable (Hair *et al*., 2013; Hair, Ringle, and Sarsdet, 2013). In study, the impact of employees' emotion experiences (while serving as independent variable) was assessed on their organizational citizenship behaviour and counterproductive work behaviours which were modeled as high-order constructs.

In the repeated indicator approach (regardless of measurement mode A or B), the low order constructs (LOCs) explain all the variance of the higher-order construct (HOC) due to which other antecedent constructs cannot explain any variance of the high-order construct; consequently, the path relationship between antecedent construct and the endogenous HOC will always be approximately zero and non-significant (Ringle *et al*., 2012; Wetzels *et al*., 2009; Hair *et al*., 2013). In order to overcome this technical limitation of the repeated indicator approach, Ringle *et al*. (2012) suggested using two-stage approach to assess the effect of antecedent constructs on HOC whenever PLS-SEM model involves formative hierarchical latent variables in an endogenous position (Hair, Ringle, and Sarstedt, 2013; Becker *et al*., 2012). Also Becker *et al*. (2012) examination of the parameter estimates provided by the various approaches including repeated indicator, hybrid and two-stage revealed that there was virtually no difference between the results provided by two-stage approach and repeated indicator approach (mode B) with path-weighting scheme [13]. The two stage approach also has an advantage of

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13 Path weighting scheme has been used in the study for PLS calculations

estimating a more parsimonious model on the higher level of analysis without needing the low-order constructs (Ringle *et al*., 2012).

Thus, two-stage approach was used by estimating a first-level model with only first-order constructs and the endogenous variables (first stage) and then using the latent variable scores of the first-order constructs as formative indicators of second-order constructs (second-stage) (Becker *et al*., 2012). The exogenous formative second order constructs (i.e. FWE, RWE, CSE) directly influence the endogenous construct (Emo) and endogenous second order constructs (i.e. OCB, CWB) are directly influenced by the antecedent construct (i.e. Emo) (appendix 4c).

Since, two-stage approach estimates a model on the higher level of analysis without needing the lower level constructs (Wilson and Henseler, 2007; Becker *et al*., 2012); the separate estimation of path coefficients was conducted to assess the distinct impact of functional work events and relational work events low-order dimensions on emotion experiences (Hair *et al*., 2013; Ringle *et al*., 2012).

The structural model evaluation involved the examination of the models predictive capabilities and the relationship between the constructs including the steps of multi-collinearity checks, path coefficients significance, R^2 level and f^2 effect size (Hair *et al*., 2013; Ringle *et al*., 2012) discussed in sub-sections (5.3.1 – 5.3.4).

5.3.1   Collinearity Assessment

The set of predictors in the structural model were examined for collinearity amongst the predictor constructs which might bias the path coefficients (Hair *et al*., 2013). The two parts of the models included: (1) functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) as predictors of emotion experiences (Emo); and (2) emotion experiences (Emo) as predictor of job satisfaction (JS), organizational commitment (OC), organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB).

Same measures i.e. tolerance level higher than 0.20 and VIF values lower than 0.50 were used as thresholds to estimate collinearity in the set of predictor constructs in the first part of the structural model as in second part there was single construct (i.e. Emo) predicting target variables (JS, OC, OCB and CWB). The latent variable scores were imported to IBM SPSS software and multiple-regression was run, with set of predictor constructs as independent variables and job satisfaction as the dependent variable. The collinearity results (table 5.7) depicted VIF values for all predictor constructs clearly below the threshold of 5 which confirmed that the structural model had no issue of collinearity.

Table 5.7: Collinearity Assessment in Structural Model

Constructs	Collinearity Statistics	
	Tolerance	VIF
Functional Work Events	.728	1.373
Relational Work Events	.743	1.346
Core Self-Evaluation	.855	1.169

5.3.2 Coefficient of Determination-R^2/Predictive Relevance-Q^2

After passing the collinearity test amongst the predictors of the model, R^2 values of the endogenous variables were observed (table 5.8) to determine the model's predictive relevance for endogenous variables (Henseler *et al*., 2009; Hair *et al*., 2011; Gefen *et al*., 2000; Petter *et al*., 2007). The R^2 values of the endogenous constructs remained as: emotions experiences (0.551), organizational citizenship behaviour (0.145), job satisfaction (0.122), organizational commitment (0.114) and counterproductive work behaviour (0.033). Hair and colleagues (2013) suggested that it is difficult to provide rule of thumb for R^2 values as that depends on model complexity and research discipline. They further indicated that R^2 values of 0.20 may be considered higher in behavioral studies exploring satisfaction or loyalty.

Table 5.8: R^2 values of Endogenous Constructs

Constructs	R^2
Emotions	0.551
Job Satisfaction	0.121
Organizational Commitment	0.113
Citizenship Behaviour	0.145
Counterproductive Work Behaviour	0.033

An *F*-test was conducted (appendix 4d) to assess the significance of R^2 values of the endogenous variables. The result of *F*-test identified that the R^2 values of all endogenous variables were significant at 1% except that of counterproductive work behaviour ($p = 0.33$).

Therefore, cross-validated redundancy measure Q^2 was checked to determine the models predictive relevance for endogenous constructs of counterproductive work behaviour and others (Wold, 1982). The rule of thumb is that Q^2 values larger than zero indicate model's predictive relevance for the endogenous construct(s) under consideration (Hair *et al*., 2013).

The blindfolding procedure was run to assess the predictive relevance of the path model with omission distance[14] of 7. The blindfolding routine was run (five[15]

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14 Where the division of the number of observations used in the model estimation by the distance must not be an integer (i.e. 177/7 = 25.28)

times) by selecting the endogenous construct one after another for extracting the results of all the constructs. The Q^2 values of all endogenous constructs (table 5.9) were above zero, thus providing support for the model's predictive relevance regarding the endogenous variables.

Table 5.9: Q^2 values of Endogenous Constructs

Constructs	Q^2
Emotions	0.545
Job Satisfaction	0.068
Organizational Commitment	0.065
Citizenship Behaviour	0.064
Counterproductive Work Behaviour	0.027

5.3.3 f^2 Effect Size

Subsequently, f^2 effect size was computed to determine the contribution of functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) exogenous constructs to endogenous variable i.e. emotion experiences, with the use of following formula:

$$\frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

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15 Current version of SmartPLS doesn't support multiple latent constructs at one point in time (Hair et al., 2013).

The f^2 values of 0.02, 0.15 and 0.35 indicate small, medium and large (respectively) effect of exogenous construct on endogenous construct. $R^2_{included}$ and $R^2_{excluded}$ values were (re)calculated of emotion experiences construct after deleting the predictor constructs (FWE, RWE, CSE) from the model, one after another. The computed values were used for calculating the f^2 effect size of functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) on emotions experiences (Emo) construct (table 5.10; calculation given in appendix 4e). According to the rule of thumb, the f^2 effect size for the relationship between functional work events (FWE) and emotion experience (Emo) can be considered large (f^2 value 0.312). the f^2 effect size for the relationship between relational work events (RWE) and emotion experiences (Emo) can be considered medium (f^2 value 0.176). The f^2 effect size of relationship between core self-evaluation and emotion experiences (higher than 0.02 criteria) remained small with f^2 value of 0.05.

Table 5.10: f^2 Effect Sizes

Exogenous Constructs	R^2 Excluded	f^2 Effect Size
Functional Work Events	0.411	0.312
Relational Work Events	0.472	0.176
Core Self-Evaluation	0.526	0.056

5.3.4 Path Coefficient (Hypotheses Testing)

The path coefficients determine the structural model relationships hypothesized amongst the constructs (Hair *et al*., 2013). Estimated path coefficients close to +1 indicate strong positive relationship and vice versa for negative values. By the means of bootstrapping procedure the significance of path coefficients is determined based on *t* values (Hair *et al*., 2013). For two tailed test, the critical values are 1.65, 1.96 and 2.57 for significance levels of 10%, 5% and 1% respectively.

The study examined the significance of relationship between functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) on emotions experiences (Emo) of the workforce and the subsequent impact of emotions experiences on employee's attitudes of job satisfaction (JS) and organizational commitment (OC) along with their work behaviours: organizational citizenship behaviour (OCB) and counterproductive work behaviour (CWB). Emotions experience construct held dual relationship in the model as both dependent (predicted by FWE, RWE, and CSE) and independent (predictor of JS, OC, OCB, and CWB) variable.

The exogenous constructs (i.e. FWE, RWE, and CSE) and two endogenous constructs (i.e. OCB and CWB) in the study were modeled as formative high-order constructs with reflectively measured low-order constructs. The endogenous constructs of job satisfaction and organizational commitment were designed as

reflective measurement models. Emotions experience endogenous construct was measured by single item (composite index).

During the hypotheses testing study separately tested sub-model (a) for assessing the path coefficient between the first-order dimensions of FWE and RWE (exogenous high-order variables) and emotions experience (endogenous variable). Later the computed first-order scores were used to manifest indicators of second-order constructs for assessing the higher-level path coefficients amongst the variables (Hair, Ringle, and Sarstedt, 2013; Becker *et al*., 2012). The proposed model conceptualized the first-order dimensions as the formative indicators of the second-order FWE, RWE, CSE, OCB and CWB constructs.

Path coefficients significance of the hypothesized relationships was tested using bootstrapping procedure (with 5,000 subsamples; 177 cases).

The results specific to each study hypothesis are as follows:

Hypothesis 1: Functional work-events (a-f) have significant impact on the employee's emotional experience; (a) system1, (b) system 2, (c) system 3, (d) system 3*, (e) system 4, (f) system 5.

The above stated hypothesis was tested to assess if the work events specific to viable system's functions- primary work (system 1), conflict management and coordination (system 2), synergy optimization (system 3), audit (system 3*),

environmental forecasting (system 4) and policy making (system 5)- influenced on employee's emotion experiences. The *t* values of the path coefficients revealed that functional work events dimensions: system 1, system 2, system 3 and system 5 had significant impact on the workforce emotions with respective *t* values and significance levels as: system 1($t = 2.08$, $p<0.05$), system 2 ($t = 4.58$, $p<0.001$), system 3 ($t = 1.98$, $p<0.05$) and system 5 ($t = 2.21$, $p<0.05$). However, no significant effect of sub-dimensions of system 3* ($t = 0.91$, n.s.) and system 4 (0.65, n.s.) was identified on employees' emotion experiences. The results indicated that H1(a), H1(b), H1(c) and H1(f) are supported whereas H1(d) and H1(e) found no support. Therefore, **H1 is partially accepted**.

Next, the following hypothesis was tested to determine if work events specific to relation with co-workers (inside operations), relation with manager/s (operations and management) and relation with clients/customers (operations and environment) impact on workforce emotions experiences.

Hypothesis 2: Relational work-events (a-c) have significant impact on the employee's emotional experience; (a) inside operations, (b) operations and management, (c) operations and environment.

The results showed that work events determining relation with manager (O-M) had significant impact on employee's emotion experiences ($t = 5.64$, $p<0.001$) whereas events related to the relationships with co-workers (In O; $t = 1.38$, n.s.)

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and clients/customers (O-E; $t = 0.09$, n.s.) had no significant impact on employees work experiences. Therefore, **H2 is partially accepted** as H2(b) is supported by the results whereas H2(a) and H2(c) did not get the empirical support.

In second stage, the scores of low-order constructs were manifested as indicators of respective high-order constructs to assess the impact of functional and relational work events high-order constructs on employee emotion experiences. The path coefficients of FWE→ Emo and RWE→ Emo remained significant at level of 1% with t values of 7.374 ($p<0.001$) and 5.181 ($p<0.001$) respectively.

In order to assess the influence of personality attributes on emotions, the following hypothesis was tested:

> **Hypothesis 3:** Core Self-Evaluation has a significant impact on the employee's emotional experience.

The impact of high-order core self-evaluation was tested for determining the impact of one's personality traits on his emotion experiences. The results revealed significant positive impact of one's self-evaluation on his/her emotional experiences within the work settings ($t=3.112$, $p<0.01$). Thus, **H3 is accepted**.

On the basis of the results pertaining to workplace (functional and relational) and personality (core self-evaluation) related antecedents of the emotions; the impact

of emotions were further assessed on employee's job satisfaction, commitment towards organization, citizenship behaviours and counterproductive behaviours.

Hence following hypotheses were tested to determine the impact of emotions on employee's attitudes of job satisfaction and commitment with organization:

Hypothesis 4: Employee's emotional experiences have a significant impact on job satisfaction.

Hypothesis 5: Employee's emotional experiences have a significant impact on organizational commitment.

The result identified strong relationship between employees' emotional experiences and their satisfaction level with the job. The path coefficient (0.347) remained significant (p<0.001) with *t* value of 4.89. This finding was in-line with the existing empirical studies on the impact of one's emotions on his/her job satisfaction level. Hence, **H4 is accepted**.

The results also revealed strong relationship between employee's emotional experiences and his commitment with organization. The path coefficient (0.335) remained significant (p<0.001) with *t* value of 5.49. Thus **H5 is accepted**.

Subsequent to the assessment of the impact of emotional experiences on employee's work attitudes, the influence of emotions was assessed on his/her

work behaviours i.e. organizational citizenship behaviour and counterproductive work behaviour. Consequently, the following hypotheses were tested:

Hypothesis 6: Employee's emotional experiences have a significant impact on organizational citizenship behaviour.

Hypothesis 7: Employee's emotional experiences have a significant impact on counterproductive work behaviour.

The findings supported the strong impact of individual's emotional experiences on his/her organizational citizenship behaviour. The path coefficient (0.3809) remained significant (p<0.01) with *t* value of 2.95. Therefore, **H6 is accepted.**

The test results also identified a significant impact of individual's emotions on counterproductive work behaviours. The path coefficient (-0.182) remained significant with *t* value 2.47 and p<0.05. The negative relationship was depicted between emotions and counterproductive work behaviours identifying the inverse directions i.e. the lower the level of positive emotions the higher the level of counterproductive behaviours and vice versa. Hence **H7 is accepted.**

In essence, the results suggested that functional and relational workplace events occurring within the work environment have strong influence on the emotions of the employees. Likewise, an individual's personality has been identified to hold

strong influence on his/her emotions experienced while at work. These emotional experiences of the employees, due to the workplace functional and relational aspects and affective personality traits, significantly contribute to their job satisfaction, commitment with organization, citizenship behaviour and counterproductive work behaviours. Thus the overall, results suggested the validation of functional (FWE) and relational (RWE) work events variables modeled to capture the holistic view of the workplace day-to-day affective events along with personality dimension (i.e. core self-evaluation-CSE). The tested model (figure 5.1) provides insights into the affective personality and workplace events on emotional experiences and affective reactions.
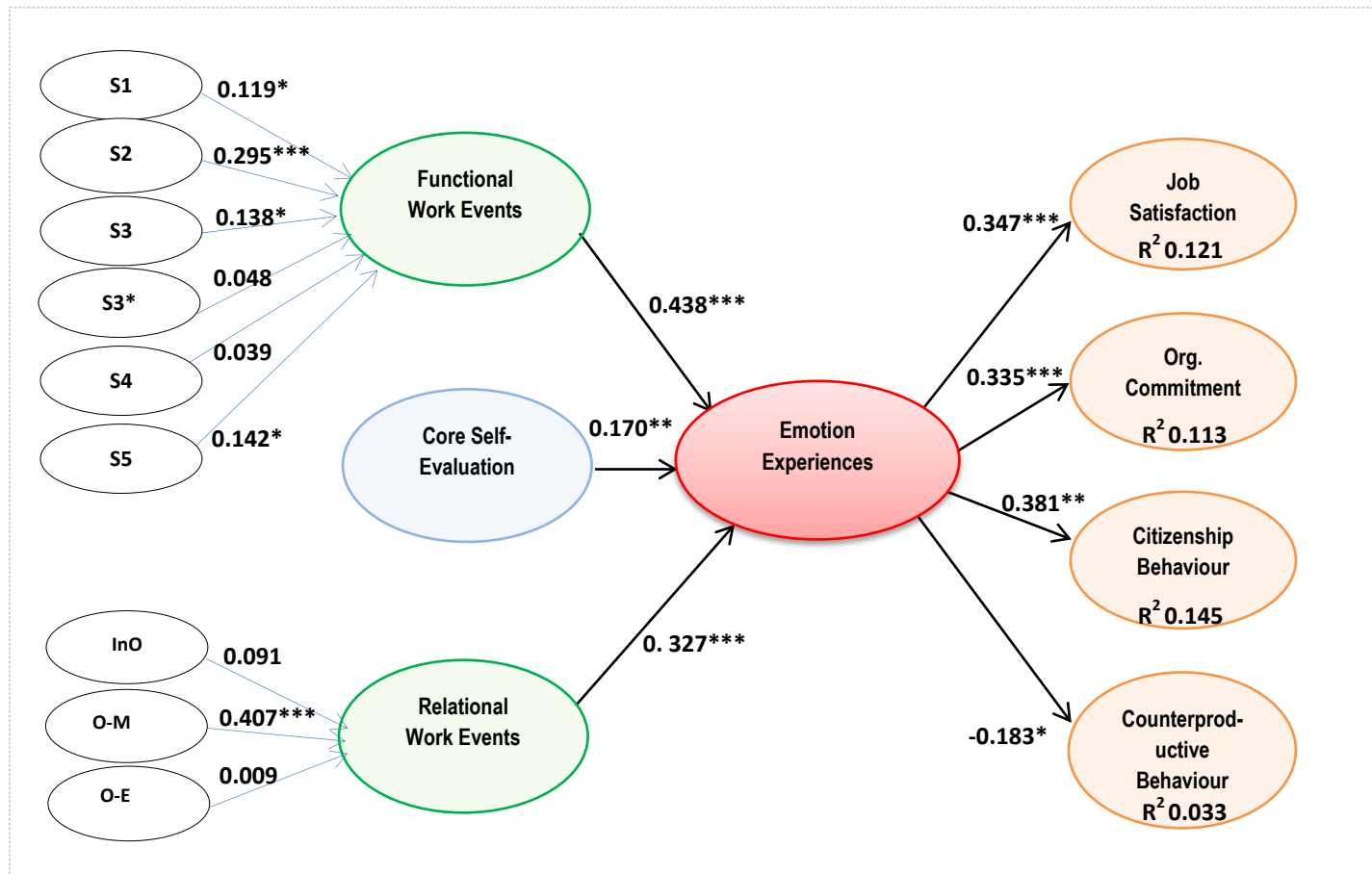
Figure 5.1: PLS Test Results of Proposed Model

***Significant at p<0.001; ** Significant at p<0.01; *Significant at p<0.05

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5.3.5 Mediating Effect

The effect of work events and core self-evaluation on attitudes and behaviours of employees explained via the emotions mediator was assessed as an additional step to determine the situation of mediation in the model. Boot strapping was conducted to test the mediation effect as suggested by Hair *et al*. (2013) as it exhibits higher level of statistical power compared with Sobel test (appendix 4-f). Hair *et al*. (2013, 223) further suggest that "it makes no assumptions about the shape of the variables' distribution or sampling distribution of the statistics and can be applied confidently to small sample size".

The test began with the assessment of the significance of the direct path between exogenous and endogenous variables without including mediator in the model (Zhao, Lynch, and Chen, 2010). The bootstrapping procedure was conducted for the assessment of the same and the results indicated significant direct path relationship between all the exogenous and endogenous variables in the study model. Hence, mediator analysis was continued by including mediator construct in the path model.

In second step, the significance of the indirect effect was assessed by including the mediator construct. The results revealed that all the indirect paths were significant except between core self-evaluation and counterproductive work behaviours depicting no mediation between the two variables. Based on the

findings total effect was computed (results given in appendix 4-f)

In third step, VAF (variance accounted for; appendix 4-g) was calculated to determine the size of the indirect effect in relation to the total effect (i.e. direct effect + indirect effect). VAF larger than 20% and less than 80% depicts partial mediation; where higher than 80% characterizes full mediation and lower than 20% depicts almost no mediation.

The VAF values of functional (FWE) and relational work events (RWE) revealed partial mediation (i.e. >20 and <80) depicting that emotions partially mediated the relationship between the work events (functional & relational) and the attitudes and behaviours of the employees. However, VAF values of core self-evaluation remained lower than 20% depicting no mediation. The results have been given in appendix (4-g).

5.3.6 Demographic Variables

The demographic profile of the employees was taken into consideration as well to assess if there is any significant relationship between them and the endogenous constructs i.e. emotion experiences, job satisfaction, organizational commitment, citizenship and counterproductive work behaviours. Using IBM SPSS, a non-parametric Mann-Whitney U test for 2 Independent Samples was conducted for gender and industry type variables whereas a non-parametric Kuruskal-Wallis H test for K Independent Samples was run for all other demographic variables.

The results revealed that demographic profiles had no significant influence on employees' affective experiences and reactions except for industry type; depicting that people working in services sector had higher level of commitment to their organizations as compared to manufacturing concerns.

However, gender, age, education, marital status, current position and work experience demonstrated no participation in employee's affective experiences within the organizational settings.

Table 5.11: Path Coefficients - Demographic Variables

Relationships	Path coefficient	T Statistics	P value	Sig. level
Age -> Emo	-0.0393	0.5166	0.61	n.s.
Age -> CWB	0.222	1.7204	0.10	n.s.
Age -> JS	0.0955	0.7226	0.47	n.s.
Age -> OC	-0.0125	0.0948	0.92	n.s.
Age -> OCB	0.0759	0.6592	0.51	n.s.
Gender -> Emo	0.0619	1.0853	0.28	n.s.
Gender -> CWB	0.093	1.1291	0.26	n.s.
Gender -> JS	0.0105	0.1448	0.89	n.s.
Gender -> OC	-0.062	0.7819	0.44	n.s.
Gender -> OCB	-0.1412	1.7734	0.08	n.s.
Marital Stat -> Emo	0.0205	0.3205	0.75	n.s.
Marital Stat-> CWB	0.0456	0.4118	0.68	n.s.

Relationships	Path coefficient	T Statistics	P value	Sig. level
Marital Stat -> JS	-0.0355	0.3714	0.71	n.s.
Marital Stat -> OC	-0.1178	1.2709	0.21	n.s.
Marital Stat -> OCB	0.1149	1.0988	0.27	n.s.
C. Position -> Emo	0.1012	1.6043	0.11	n.s.
C. Position -> CWB	-0.0063	0.0601	0.95	n.s.
C. Position -> JS	-0.0981	0.8757	0.38	n.s.
C. Position -> OC	0.0216	0.2557	0.80	n.s.
C. Position -> OCB	-0.0697	0.886	0.38	n.s.
Work Exp -> Emo	-0.0472	0.7048	0.48	n.s.
Work Exp -> CWB	-0.1488	1.08	0.28	n.s.
Work Exp -> JS	0.1528	1.4408	0.15	n.s.
Work Exp -> OC	0.0661	0.5666	0.57	n.s.
Work Exp -> OCB	0.0194	0.1972	0.84	n.s.
Industry -> Emo	-0.0705	1.4266	0.16	n.s.
Industry -> CWB	-0.0447	0.5411	0.59	n.s.
Industry -> JS	0.1297	1.7443	0.08	n.s.
Industry -> OC	0.2177	2.8877	0.00	**
Industry -> OCB	0.036	0.484	0.63	n.s.

Overall, the hypotheses testing results revealed significant influence of functional

and relational work events (work related antecedents of emotions) and core self-

evaluation (personality specific antecedents of emotions) on the workforce emotions experiences. These emotional experiences are found to have strong impact on employees overall job satisfaction, commitment to organization, their extra-role and counterproductive work behaviours.

VSM based reference model proved to be fruitful in capturing the wide-ranging affective antecedents responsible for maneuvering employees work attitudes and behaviours. The discussion on their relevant significance is made in the subsequent chapter.

Summary

Email invitations were sent to five hundred people across the services and manufacturing industries. In total two hundred and sixty seven questionnaires were distributed (by hand and online) which helped in receiving the responses from two hundred and fifteen people.

The initial screening depicted the issue of straight lining and higher missing value due to which thirty eight data sets were removed and one hundred and seventy seven data sets were used for descriptive analyses using IBM SPSS application. The descriptive statistics revealed no issue of missing values higher than 5% and no extreme outliers. However, data distribution checks of skewness and kurtosis depicted no extreme cases of data non-normality. The demographic profile of the respondents revealed a good representation of diverse workforce across the industry types, working positions, work experience, age, gender, marital status and educational backgrounds.

Subsequently, the systematic assessment of the measurement models and the structural model was undertaken using partial least square structural equation modeling (PLS-SEM) following the guidelines of Hair *et al*. (2013), Ringle *et al*. (2012) and Becker *et al*. (2012). The SmartPLS 2.0 software (Ringle *et al*., 2005) was used for the analyses.

The multi-dimensional exogenous constructs: functional WE (S1, S2, S3, S3*, S4, S5), relational WE (In O, O-M, O-E), and core self-evaluation (SE, GS, LC, Ne),

were designed as reflective-formative type with reflective first-order and formative second-order specifications. Likewise, the endogenous constructs: organizational citizenship behaviour (OCBI, OCBO) and counterproductive work behaviour (CWBI, CWBO) were modeled as hierarchical latent constructs of reflective-formative type. The endogenous constructs of job satisfaction (JS) and organizational commitment (OC) were measured reflectively in the study. While an index was created for emotions experiences measured simultaneously against each work event.

The PLS algorithm was calculated with path weighting scheme and parameter settings of three hundred (300) iterations and abort criterion of 1.0E-5 for assessing measurement models.

Reflective measurement models were assessed on the basis of their internal consistency and reliability by means of composite reliability (measuring internal consistency), convergent validity (through indicator reliability and average variance extraction) and discriminant validity (with Fornell-Larcker criterion). The items with low loadings were removed from the scales to improve AVE and composite reliability values of the constructs. The quality criteria report based on calculation results revealed that all the reflectively measured constructs (and sub constructs) met the composite reliability assessment. Likewise, the AVE values of all the reflectively measured constructs remained higher than the minimum threshold of 0.5. The discriminant validity of the reflective constructs was also

established using the Fornell-Larcker criterion.

The quality assessment of formatively measured high-order constructs (with manifested indicators) was undertaken on the basis of multi-collinearity checks, and the significance and relevance of the indicators. The VIF values of all the indicators remained below the higher limit of 5 with tolerance level above 0.20, depicting no collinearity issues. Another check of the significance and relevance of outer weights was undertaken determine the contribution and the relevance of formative indicators to the construct. The weights of all formative indicators remained significant except cse_lc, fwe_s3*, fwe_s4, rwe_in-o, rwe_o-e, and cwb_i. However, they had significant loadings indicating their absolute contribution to the respective constructs, due to which they were retained for the structural model assessment.

Subsequent to the confirmation of the measurement models meeting the quality criteria, the structural model assessment was undertaken. It included the examination of the models predictive capabilities and the relationship between the constructs including the steps of multi-collinearity checks, path coefficients significance, R^2 level and f^2 effect size as suggested by Hair *et al*. (2013) and Ringle *et al*. (2012).

The two-stage approach was used by estimating a first-level model with only first-order constructs and the endogenous variables (first stage) and then using the latent variable scores of the first-order constructs as formative indicators of

second-order constructs (second-stage); based on Becker *et al*. (2012) suggestion. However, a separate estimation of path coefficients was conducted to assess the distinct impact of functional work events and relational work events low-order dimensions on emotion experiences as two-stage approach restricts the estimation of model at higher level without involving low-order constructs.

The collinearity results depicted that the structural model had no issue of collinearity. In the next step, the R^2 values of the endogenous constructs were computed. The F-test determined that the R^2 values of all the endogenous constructs remained significant except for counterproductive work behaviour depicting the predictive relevance of the model. Subsequently, f^2 effect size was computed to determine the contribution of functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) on employees' emotional experiences. The f^2 effect size of functional WE, relational WE and core self-evaluation on emotional experiences of the employees remained large, medium and small respectively.

Later the path coefficient was estimated to determine the influence of core self-evaluation and workplace events on employee's emotions. At higher level of analysis, the functional WE (H1) and relational WE (H2) had significant impact on employee's emotions ($p<0.001$). The analyses at low-order revealed that system 1 (H1a), system 2 (H1b), system 3 (H1c) and system 5 (H1f) contributed significantly to workforce emotions whereas system 3* (H1d) and system 4 (H1e)

found no empirical support. Therefore, hypothesis-1 was partially accepted. Likewise, hypothesis-2 was also partially accepted as O-M (H2b) was supported by the results whereas In-O (H2a) and O-E (H2c) did not get the empirical support. Hypothesis-3 was accepted as the results revealed significant positive impact of core self-evaluation on the emotions experienced by the employees within the work settings.

With respect to the relationship between employee's emotions and work-related outcomes, Hypotheses 4-7 were tested. Hypothesis 4 and 5 were accepted with significant positive impact of employees' emotions on their job satisfaction and commitment with organization respectively. Similarly, H6 and H7 were also accepted supporting the impact of emotions on organizational citizenship (positive relationship) and counterproductive work behaviours (negative relationship) respectively.

Thus the overall, results suggested the validation of functional (FWE) and relational (RWE) work events variables modeled to capture the holistic view of the workplace day-to-day affective events along with personality dimension (i.e. core self-evaluation-CSE), for comprehending their influence of employees emotions and subsequent work-related outcomes.
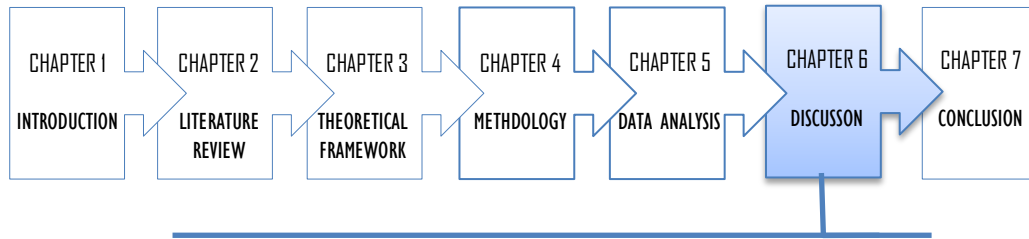
INTRODUCTION

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SUMMARY

Chapter 6

DISCUSSION

Introduction

The current chapter makes discussion on the findings of the analyses conducted to determine the potential benefits of Holistic Emotions Measurement Model (HEMM) for diagnosing the affective work environment and its related features holistically. It synthesizes the impact of personality and work aspects (categorized by HEMM) on employee's emotional experiences; and the subsequent influence

of these emotional experiences on his/her work attitudes (job satisfaction and organizational commitment) and behaviours (organizational citizenship behaviour and counterproductive work behaviour); to determine how well HEMM encompasses the wide-ranging causes of emotional reactions within the workplace. The discussion also includes the relationship amongst the final endogenous variables of the study (i.e. job satisfaction, organizational commitment, organizational citizenship behaviour and counterproductive work behaviour).

<p align="center">*****</p>

Literature suggested that emotions management has been hampered due to the lack of clear understanding of the underlying causes of emotional reactions within the work environment and the obvious reason is the non-accessibility of theoretical frameworks explaining work environment and its related aspects (Lindebaum and Fielden, 2011; Weiss, 2002). Thus, to overcome the above stated existing gap in the knowledge domain, the study proposed the holistic emotions measurement model (HEMM) based on viability theory of Stafford Beer (i.e. Viable System Model) to provide better understanding of the work environment and events in specific that cause emotional experiences and reactions.

The reference model proposed by the study for diagnosing the causes of emotional experiences within work settings more holistically as compared to existing emotions measurement tools, was tested in the field; to examine to what

extent it offers a plausible explanation of organization's work environment in the real world and its utilization for assessing the antecedents and consequents of emotions production within the work settings. The explanatory power of the suggested emotions measurement model was empirically assessed using hypothetic-deductive approach. The findings supported the potential benefits of proposed model in comprehending the functional and relational aspects of the workplace environment along with affective personality traits and their influence on employee's emotions and subsequent reactions within the work settings.

The **organizational functions** -primary operations, coordination/conflict management, synergy optimization, audit, change/adaptation, and policy making- and **relational aspects** –relations amongst co-workers, relations amongst managers and workers and relations amongst organizational members and external environment actors- inherent to any viable social organization, were included within the HEMM framework's specification of working environment. It also included the **personality aspect** of the workforce within the framework being affect oriented in nature. Together, these functional, relational and personal categorization of workplace aspects encompassed by HEMM, provided with a comprehensive picture of the working environment; which helped in identifying the underlying causes of emotions experienced by workforce holistically.

The results indicated that personality along with organizational 'functions' and 'relations' specific work events included in HEMM framework had significant

impact on the emotions experienced by the employees at the workplace. The path coefficients revealed that workplace events played a dominant role in triggering workforce emotions as compared to personality attributes. Amongst the workplace event, the functional events (path coefficient = 0.438) contributed more in eliciting emotions as compared to relational work events (path coefficient = 0.327); whereas core self-evaluation (path coefficient = 0.170) remained less dominant as compared to workplace aspects. However, it is important to note that HEMM doesn't alter the effect of emotions. It only testified that HEMM framework is an effective tool for diagnosing the wide-ranging causes of workforce emotions experienced at work. With the use of AET, the cumulative effect of these emotions (diagnosed by HEMM) was assessed further on workforce attitudinal and behavioral outcomes. The findings supported that workforce emotions had strong influence on their work specific attitudes as well as behaviors, supporting the prior studies.

The study findings confirmed the usability of HEMM for better depiction of work-environment and its related aspects for diagnosing the underlying causes behind the production of workforce emotions within work settings; as compared to existing emotions measurement tools (e.g. AET) which provided the fragmented view of the affective phenomenon embedded within social systems. Thus, HEMM framework might replace the macro structure of the 'antecedents of emotions' within AET framework for better comprehension of the antecedents of emotions existing within the working environment and work events in specific.

This comprehensive view of the causes of emotional experiences in workplace will provide managers and researchers with a better opportunity of understanding the reasons due to which employees get emotional (positively or negatively) and would also help them in making strategies for handling them effectively, by focusing the important work aspect (highly conducive of emotional experiences) first of all.

The detailed discussion on the significance and relevance of the tested relationships has been made as follows:

6.1   WORKPLACE EVENTS & EMOTION EXPERIENCES

The theoretical model of VSM provided with the structural fundamentals inherent to any social organization, which served as the basis for the development of HEMM. It helped in categorizing the workplace events specific to the functional and relational aspects of the working environment – operationalized for assessing the impact of necessary conditions of a viable organization on workforce emotions (H1 and H2). The functional work events were categorized into six distinct sub-dimensions (S1-S5) which formatively explained functional work events occurring within the organizational system. Likewise, the relational work events were categorized into three sub-dimensions (In O, O-M, O-E) for determining the events specific to social relations existing with the organization. According to the findings, both functional (p<0.001) and relational work events (p<0.001) at higher level, influenced employee's emotions significantly. It

allowed the researcher to see in totality that how events occurring in work place due to different organizational functions and relationships (which get evolved in social settings to get the work done) contributed differently in triggering people's emotions. The findings supported the main assumption of AET of Weiss and Cropanzano (1996) that events are the proximal causes of emotions i.e. things happen to people at work which instigate the change in their emotional states (Weiss and Beal, 2005). And also allowed to see the aggregate impact of these felt emotions on employees work attitudes and behaviors, otherwise, not possible with existing frameworks. Nevertheless, the contribution of the sub-dimensions of FWE and RWE in triggering employees' emotions was not uniform (table 6.1). The detail discussion is made in the following sub-sections (6.1.1 and 6.1.2) to assess how different aspects of work environment (encompassed in HEMM) contributed to the people's experiences of emotions at work.

6.1.1 Functional Work Events

The sub-dimensions (S1-S5) of functional work events encompassed the everyday functions taking place within the workplace environment including primary work, coordination/conflict management, synergy optimization, audit, change/adaptation and policy making.

The results of the statistical tests exhibited that the influence of the events-categorized under functional dimensions- on employees' emotions was not uniform. The path coefficients revealed that events specific to primary work (S1),

coordination/conflict management (S2), synergy optimization (S3) and policy making (S5) had significant impact on employee's emotions. Further deliberation suggested that the highest contribution in trigging the individuals' emotions was that of coordination and conflict management activities related events (performed by system 2; $p<0.001$); followed by policy making (system 5's task; $p= 0.03$), primary work done (in system 1; $p=0.04$) to accomplish organization's goals and synergy optimization functions (of system 3; $p= 0.05$) for increasing the performance of (S1) work units.

On the contrary, events related to audit (function of S3*) and change/ adaptation (function of S4) activities showed no significant participation in eliciting employees emotions.

System 1 (S1): The results revealed that primary activities performed by the employees for accomplishing organizational goals had significant influence on their emotions ($p=0.04$). People experienced positive emotions when they performed important tasks by using variety of their skills and had autonomy to take decisions specific to their work. Hence, the result supported the positive association of task autonomy and task significance with employees' affective experiences reported by Saavedra and Kwun (2000). The findings were also in line with the outcomes of Wegge *et al*. (2006) and Pekrun and Frese (1992) investigations that specific work features (i.e. autonomy and skills used, respectively) hold significant influence on elicitation of employees' affect at

work.

System 2 (S2): The findings supported that the availability of common information to the operational units for avoiding oscillations or conflicts in everyday working routines of work elicited positive emotions amongst the workforce ($p<0.001$). The higher the frequency of the availability of common information to the units or departments for performing their tasks, the more people felt positive emotions supporting the suggestion of Segal *et al*. (2013) to improve communication within the workplace for reducing employees' job stress. The study also supported the findings of Basch and Fisher (1998) that lack of common information can trigger employees' emotions.

System 3 (S3): The results showed that performance optimization functions performed by system 3 held the potential of triggering emotions amongst the employees ($p= 0.05$). The performance feedbacks and rewards by the management had significant influence on employees' emotions, confirming evidence from the findings of Grandey, Tam, and Brauburger (2002). The frequent fair performance appraisal systems adopted by the management elicited positive emotions amongst the employees supporting the research of Weiss, Suckow, and Cropanzano (1999) that procedural fairness influence employees' emotions. The study further identified that clear guidelines on procedures given to the employees for managing their tasks by themselves instead of coursing to the management contributed substantially in positive emotional experiences.

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System 3* (S3*): The investigation illuminated that direct intervention of senior management in case of emergency situations didn't have any substantial influence on employees' emotions. The sporadic intervention of senior management can forsake the autonomy of working units which may influence on negative emotions of the workforce but study findings didn't support the hypothesis. However, it is imperative to take into account that the data was collected from Pakistan corporate workforce with high to medium[16] power-distance (Hofstede *et al*., 2010). The senior management maintains the higher level of autonomy and intervenes in the daily operations more frequently due to which employees are accustomed to it and may not react affectively or behaviorally. Future research may determine the difference between the employees working in high and low power-distance organizations, in terms of emotions elicitation in response to the sporadic interventions made by the senior management.

System 4 (S4): Likewise, no relationship was found between the change and adaptation specific activities of system 4 and employees' affective experiences. The frequent introduction of new lines of products or services by the organization to cope market competition or the periodical review of market and plans/strategies by the management (and employees) for accounting environmental changes played no significant role in triggering employees' emotions. These findings can be attributed to the short-term orientation of Pakistani society where planning

16 Power Distance Index = 55 (www.clearlycultural.com)

horizons tend to be short with focus on quick results and believe that future can never be known (depicted by high score on uncertainty avoidance[17]). This calls for the need of future investigation to determine how employees from long and short term orientation cultures react affectively to organizational changes.

System 5 (S5): The analysis showed a strong relationship between policy settings and emotional experiences of the employees ($p = 0.03$). The employees felt positive emotions when senior management involved them in organizational decisions and introduced new policies after consultation with them supporting the findings of Basch and Fisher (1998).

The results pertaining to S1-S5 sub-dimensions of FWE identified that coordination and conflict function of management (i.e. S2) holds an immense capacity of triggering workforce emotions followed by policy making (S5), primary work (S1) and synergy optimization (S3) functions. According to the findings, along with the affective functional aspect of the organization, the social relations embedded within human organizations also remained conducive of emotional experiences. The following section highlights the findings of the investigation:

6.1.2   Relational Work Events

The workplace events specific to human relations (i.e. relational work events)

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17 Uncertainty Avoidance Score = 70 (www.clearlycultural.com)

were arranged under the three components of VSM framework (i.e. operations, management and environment) referred as inside operations (In O), operations & management (O-M), and operations and environment (O-E). It enabled the consolidated view of the social interactions and the relations developed amongst the people while accomplishing organization's mission i.e. amongst the co-workers (In O), amongst the employee and the manager (O-M), and amongst the employees and the customers/clients (O-E). The relational work events arranged the interactions and relations amongst the internal members and the external environment actors.

At higher level, a significant relationship was revealed between the relational work events ($p<0.001$) and the emotional experiences of the employees which confirmed the influence of social relationships on emotions elicitation. The lower-level investigation showed that relationship with manager (O-M; $p<0.001$) plays a major role in provoking emotions as compared to relationship with co-workers (n.s.) or clients (n.s.).

Operations & Management (O-M): The evidence supported that the employee's relationship with manager played an influential role in triggering their emotions ($p<0.001$). The support and guidance provided by managers/supervisors at work elicited positive emotions amongst the workers supporting the findings of Wegge *et al.* (2006). Likewise, the managers act of practicing employee's work relevant suggestions also contributed to employees positive feelings substantially. This

finding necessitates the positive role of managers in shaping the positive attitudes and behaviours of employees while at work.

Inside Operations (In O): The analysis revealed that co-workers support or pleasant time spent with them, had no substantial influence on employees' emotions which was against the expectations of the study. The results didn't support the findings of Fitness (2000) who reported that unhealthy relationship with co-workers was the main cause for eliciting anger amongst the employees. The data in current research doesn't take into account the work design (i.e. working individually or as a part of team). Future research can systematically examine influence of co-workers' relation on employee's emotions by taking both the perspectives into account and gathering data from distinct samples of workers performing individually or as a team member.

Operations & Environment (O-E): Similarly, it was identified that the quality of relationship between employee and customer/client had no significant effect on employee's emotions. The finding was against the conclusion drawn by the Grandey and colleagues (2002) who reported that interpersonal mistreatment from customers frequently caused anger amongst the part-time employees involved in customer-services. However, the current study was not limited to the customer-services employees and the study participants represented the workforce from diverse range of jobs; which might be the reason for the non-significant influence of customer's relation on employee's emotions. It provides a direction for the

futures studies to determine the role of job-type (e.g. customer services, operations, support etc.) in the influence of customer relationship on employee's emotions.

The path coefficients of the low-order dimensions of functional and relational work events determining their relevant contribution to emotional experiences of individuals within the work settings have been given (table 6.1) below.

Table 6.1: Path Estimates of FWE &RWE Sub-Dimensions

First-Order	Path coefficient	T Statistics	P value	Sig. level
S1→ Emo	0.1186	2.0785	0.04	*
S2 →Emo	0.2949	4.5816	0.00	***
S3→ Emo	0.1376	1.9805	0.05	*
S3* →Emo	0.0484	0.9053	0.37	ns
S4→ Emo	0.0391	0.6541	0.51	ns
S5 →Emo	0.1416	2.2196	0.03	*
In O→ Emo	0.0906	1.3823	0.17	ns
O-M →Emo	0.4066	5.6356	0.00	***
O-E→ Emo	0.0090	0.0880	0.93	ns

The bootstrapping procedure also provided with the information regarding the effect of functional and relational work events on employees' attitudes and behaviours (table 6.2).

Table 6.2: Effects of FWE & RWE on Employees' Attitudes & Behaviours

Paths	Path coefficient	T Statistics	P value	Sig. level
FWE→JS	0.1522	3.5818	0.00	***
FWE→OC	0.1471	4.2362	0.00	***
FWE→OCB	0.1670	2.7160	0.00	**
FWE→CWB	-0.0801	2.4747	0.01	*
RWE→JS	0.1134	3.9789	0.00	***
RWE→OC	0.1096	3.8982	0.00	***
RWE→OCB	0.1244	2.4713	0.01	*
RWE→CWB	-0.0597	2.0355	0.04	*

6.2 CORE SELF-EVALUATION & EMOTION EXPERIENCES

Core self-evaluation- as a high-order personality trait- was indicated by four sub-dimensions: (1) self-esteem, (2) generalized self-efficacy, (3) neuroticism, and (4) locus of control.

The results indicated that core self-evaluation ($p<0.01$) had significant impact on emotional experiences of the employees supporting the findings of Erol-Korkmaz (2010). Amongst all the four sub-dimensions, one's self-esteem ($t=5.513$; $p<0.001$) was found to be the dominant in influencing emotional experiences followed by neuroticism ($t=2.59$; $p=0.01$) and generalized self-efficacy ($t=2.076$; $p<0.05$) respectively. However, locus of control didn't have any impact on the

emotional experiences (*t*=1.403; n.s.). Overall the findings identified that as individuals, the way we positively value ourselves and believe in our capabilities with less focus on negative aspects of life; contributes a lot to our emotional experiences. In essence, positive evaluation regarding oneself results in higher generation of positive emotions while at work.

Table 6.3: Relationship of Core Self-Evaluation with Endogenous Variables

Paths	Path coefficient	T Statistics	P value	Sig. level
CSE→ Emo	0.1701	3.1117	0.00	**
CSE→ JS	0.0591	2.5037	0.01	*
CSE → OC	0.0571	2.4634	0.01	*
CSE → OCB	0.0648	2.2710	0.02	*
CSE → CWB	-0.0311	1.6442	0.10	n.s.

The indirect effect of core self-evaluation (table 6.3) on endogenous variables discovered that core self-evaluation had strong positive relationship with employees' job satisfaction level (p=0.01) supporting the findings of Judge and Bono (2001) and Judge *et al.* (1998); their commitment with organization (p=0.01) as evidenced by Judge *et al*. (1999); and their extra-role behaviours (OCB) (p=0.02) as suggested by Bowling, Wang, and Li (2012). The findings depicted no significant influence of personality traits (CSE) on counterproductive work behaviours (p=0.10) but with a marginal difference.

6.3 EMOTION EXPERIENCES & EMPLOYEES ATTITUDES

The findings confirmed that emotions experienced by employees due to their distinct personalities and every day hassles and uplifts within the workplace contribute significantly to their job satisfaction level ($p<0.001$), supportive to the conclusion drawn by Fisher's (2000) study based on sixty five (65) organizations. Explicitly, higher level of positive emotions experienced by employees at work will increase their satisfaction pertaining to job; whereas lower level of positive emotions (i.e. more negative emotional experiences) will reduce the employee's overall satisfaction towards the job as suggested by Cote and Morgan (2002). Thus, the study confirmed the significant role of emotions in effecting employee's job satisfaction levels.

The study also reaffirmed the strong relationship between employee's emotions and his commitment to organization ($p<0.001$) as reported by Li, Ahlstrom and Ashkanasy (2010). Employees tend to stay for long within the organization when they experience more emotions within that work environment and vice versa. Hence, study also supported the substantial contribution of everyday emotional experiences to employee's commitment and loyalty to the organization. Therefore, the finding suggests that the amplification of positive events (generating positive emotions) within the work environment can reduce the intent to turnover.

6.4 EMOTION EXPERIENCES & EMPLOYEES BEHAVIOURS

In order to assess the impact of employee's emotions on his/her work behaviours, organizational citizenship and counterproductive work behaviours were investigated in the study. The higher-level abstraction indicated the significant relationship of emotions with organizational citizenship ($p<0.01$), hence supporting the findings of George and Brief (1992) and Staw *et al*. (1994) that positive affect at work results in greater spontaneity and task co-operation respectively. The results also revealed a significant impact of workforce emotions on their counterproductive work behaviour ($p<0.05$) as suggested by Spector and Fox (2005).

With respect to organizational citizenship behaviour, the study identified that emotions had significant bearing on both its dimensions: towards the individuals (OCBI; $p=0.05$) as well as towards the organization (OCBO; $p<0.01$). However, emotions had higher impact on employee's citizenship behaviours oriented towards organization as compared to individual specific. It depicted that when employees experience positive emotions, they exhibit more good behaviours focused towards organization as whole and when the level of positive emotions experience reduces, so is the employees extra-role behaviours. Likewise, employees get involved in more helpful behaviours when they are feeling positive emotions and vice versa. However, the relevant impact of emotions on

employee's extra-role behaviours towards organization as a whole is higher as compared towards the people working within.

On the other side, despite of the significant negative relationship between emotions and counterproductive work behaviour at higher-level, the influence of emotions was not evident on counterproductive behaviours towards individuals (CWBI; $t=1.48$; n.s.) sub-dimension. But emotions had a significant impact on employees CWB towards the organization ($p=0.05$) as a whole. The results revealed that employees who experienced more positive emotions tend to display less counterproductive behaviours, whereas due to negative emotional experiences employees engage more in deviant behaviours (Cohen *et al*., 2012). The results didn't support the relationship between emotional experiences and counterproductive behaviours towards individuals, illuminating that despite of intense (positive/negative) emotions felt by the employees within the workplace, their behaviour towards people stays unaffected. The reason behind it might be strong intrinsic controls of the employee's morale or high extrinsic controls within the organization.

An additional investigation was conducted to determine the relationships amongst the endogenous variables of job satisfaction, organizational commitment, organizational citizenship and counterproductive work behaviours. The results (table 6.4) depicted that job satisfaction was strongly positively correlated to the employee's affective commitment ($t = 5.27$; $p<0.001$) with the organization.

With respect to work behaviours (OCB and CWB), it was revealed that job satisfaction had a significant impact on organizational citizenship behaviour ($t = 3.0$, $p<0.01$) confirming the positive association of job satisfaction with discretionary behaviours of employees reported by Podsakoff *et al*. (2009). However, employee's satisfaction with job had no significant influence on his/her counterproductive work behaviours.

On the other hand, organizational commitment had significant positive relationship with organizational citizenship behaviour ($t=2.86$; $p<0.01$) supporting the findings of Meyer *et al*. (2002); and significant negative relationship with counterproductive work behaviour ($t = -0.3073$; $p<0.05$). The results identified that people with higher level affective commitment to the organization indulged more in extra-role behaviours and less in counterproductive behaviours.

Table 6.4: Relationship Amongst Work Attitudes & Behaviours

Paths	Path coefficient	T Statistics	P value	Sig. level
JS→ OC	0.3410	4.8564	0.00	***
JS→ OCB	0.3183	3.1691	0.00	**
JS → CWB	-0.1896	0.9127	0.36	n.s.
OC → OCB	0.2626	2.8620	0.00	**
OC → CWB	-0.3073	2.1289	0.03	*
OCB → CWB	-0.1230	0.9769	0.33	n.s.

In essence, the findings supported that the emotions experienced by employees due to workplace functional and relational work-events had significant influence

on their work attitudes: job satisfaction and organizational commitment; and behaviours: organizational citizenships and counterproductive work behaviour. It was further determined that job satisfaction was strongly associated to organizational commitment and organizational citizenship behaviour. On the other hand, organizational commitment had strong relationships with organizational citizenship as well as deviant workplace behaviours.

The findings determined the validity of holistic emotions measurement model for diagnosing the wide-spread causes of the elicitation of employee's emotions holistically, which helped in evaluating the aggregate impact of employee's felt emotions on his/her subsequent reactions in form of work attitudes and behaviours. Thus, complementing state-of-art theories on emotions management by offering a better depiction of work environment and its related aspects for diagnosing the underlying causes behind the production of workforce emotions within organizational settings

Summary

The study findings supported the fruitful utilization of the reference model for capturing the holistic view of the workplace environment and comprehending the wide-spread causes of emotions production within organizational settings. At the higher level, both functional (FWE) and relational (RWE) work events significantly contributed to the emotional experiences of the employees. However, at lower level it was witnessed the contribution of the sub-dimensions of FWE and RWE in triggering employee's emotions was not uniform. It was revealed that the functional work events specific to primary work (S1), coordination/conflict management (S2), synergy optimization (S3) and policy making (S5) had significant impact on employee's emotions; whereas, events related to audit (function of S3*) and change/ adaptation (function of S4) activities made no significant participation in eliciting employees emotions. On the other side, the relational work events specific to relationship with manager (O-M) held a strong role in provoking emotions as compared to relationship with co-workers or clients.

Along with workplace features, the personal traits: core self-evaluation, had significant impact on emotional experiences of the employees supporting the prior studies. Amongst the four sub-dimensions, one's self-esteem was found to be the dominant in influencing emotional experiences followed by neuroticism and generalized self-efficacy respectively.

The study findings confirmed that emotions experienced by employees due to their distinct personalities and every day hassles and uplifts within the workplace contribute significantly to their job satisfaction level and their commitment to the organization.

Similarly, the emotions had significant bearing on both the organizational citizenship dimensions i.e. towards the individuals (OCBI) as well as towards the organization (OCBO). However, emotions had stronger impact on employee's citizenship behaviours oriented towards organization as compared to individual specific. On the other side, the results revealed that employees who experienced more positive emotions tend to display less counterproductive behaviours, whereas due to negative emotional experiences employees engage more in deviant behaviours. However, the influence of emotions was not evident on counterproductive behaviours towards individuals. The conclusion drawn from the findings has been discussed in final chapter of the thesis.

CHAPTER 1 — INTRODUCTION

CHAPTER 2 — LITERATURE REVIEW

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INTRODUCTION

SUMMARY

Chapter 7

CONCLUSION

Introduction

The conclusion chapter critically evaluates the current study by analyzing its accomplishments and limitations. It starts with the glimpse of the contribution this study has made to the knowledge domain (section 7.1) along with the analyses of the objectives undertaken and achieved (section 7.2). It further details on the study implications for researchers and the practitioners (section 7.3.1) and finally,

concludes with an account on the limitations of the study with recommendations for future research directions (section 7.3.2).

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7.1   STUDY CONTRIBUTIONS: HEMM Development & its Validation

The current study was concerned with the development of a reference model (named HEMM), illuminating the comprehensive working environment for diagnosing the underlying causes of people's emotional experiences within the work settings; an important limitation of emotions measurement literature review.

In order to fill this existing gap, it was imperative to broaden the 'narrowness' existing in the study of the causes of emotions at work; as the macro-structures of Affective Events Theory, which has been adopted as a seminal explanation of emotions within the workplace (with focus on causes, structure and consequences of emotions) by several researchers, were more general in nature. The explanation of the work features (disposing certain events) eliciting emotional experiences, were not specific and didn't offer much in term of organizational functioning or its social aspects. AET was developed with the expectation that the macrostructures (of causes, structure and consequences) would help guide research on emotions and micro structures would develop out of focused research,

filling in the macro arrangements but not much of the explanation pertaining to work environment ascended till date.

The present study developed the holistic emotions measurement model for diagnosing the underlying affective causes of emotional experiences holistically by comprehending the working environment and its related aspects as a whole, thus, overcoming the existing 'narrowness' in emotions measurement research. To do so, the study based the development of HEMM on an approach which could provide an insight into the organizational system as a whole predisposing certain work events- proximal causes of affective experiences and reactions of the workforce. A systems approach was adopted by the researcher to comprehend the features of complex organizational system as a coherent whole with 'joined-up' thinking, offering an integrated look into the work environment instead of fragmentary look at its aspects. The VSM -the theory of viability- offered the holistic view of the entire working of the organization by taking into consideration its operations, meta-systemic management and the environment.

The unprecedented qualities of the VSM have been largely adopted by public authorities and private organizations to design and diagnose firms of all kinds and sizes. Its utilization has also been extended up to community and ecological levels, for dealing with social and environmental issues and improving their sustainability. The findings of prior researches have confirmed that the five functions organized in VSM structure are integral to organizations viability

despite of its size, its business type and environment in which it exists, due to which it was utilized in the current study as well. It has been applied to deal with different soft issues inherent to any social system, like that of communication flows, managing knowledge, enhancing learning capacity, removing role conflicts, reducing role overload and political behaviors, dealing with social problems and so on. However, its ability of diagnosing the emotional attributes inherent to any social organization has remained unknown to the researchers as well as practitioners till date. The prior studies specific to the utilization of VSM for managing workforce emotions are almost nil. The use of VSM in emotions measurement methodologies has been made for the first time in organizational behaviour knowledge domain.

In the current study, the VSM framework and its structural specification had been utilized for comprehending the interconnectedness of the whole organizational system by illuminating its different parts and interactions amongst them along with the external environment in which it exists. It was used for the development of HEMM, offering a better understanding of the working environment and the work events in specific, for holistic diagnosis of the underlying causes of workforce emotional experiences and reactions within organizational settings. The personal, functional and relational work aspects encompassed by holistic emotions measurement model offered a broader view of the organizational working which addressed the issue of narrowness in the prior research on the antecedents of emotions within work settings.

The researcher's decision of introducing systems approach and cybernetic VSM in specific, for comprehending the affective work environment, was driven by Weiss (2002) suggestion that qualitatively rich theories or methodological approaches can guide better in ascertaining the work conditions and the events responsible for triggering emotions. The proposed approach contributed to the systematic evaluation of the interrelated aspects of the affective working environment for a better comprehension of the causes of emotional experiences at work.

The developed model was further tested in the field to assess its diagnostic capabilities for comprehending the affective working environment holistically and identifying the causes of emotions experienced by workforce. In order to accomplish this objective, the philosophy of constructivism was paired with positivism, following the suggestion of Schwaninger (2004) who was concerned with the large flow of interpretivist orientation into constructivism epistemology. A survey was conducted of corporate workforce in Pakistan using a structured questionnaire.

The AET framework was adopted to test the strength of HEMM in explaining the affective environment and its features specifically (based on the categories of personality and functional/relational work events), triggering workforce emotions. In order words, HEMM categories provided the micro-structures filling in the 'causes' macro-structure of AET to assess how sub-facets of functional, relational

and personal features of work influence on employees emotions. The aggregate impact of these felt emotions was assessed further on their work attitudes and behaviours, based on existing literature.

The detailed specification of the operationalization process of the multi-dimensional (exogenous and endogenous) constructs of the study variables was provided with the use of partial least square structural equation modelling (PLS-SEM) for testing the hypothesized relationship. The multi-stage procedure suggested by Hair and his colleagues, adopted as a blue-print for PLS-SEM analyses in the field of systems approach and emotions measurement is a novel contribution. An empirical assessment of the HEMM, determined the accessibility of VSM for quantitative research and also overcome the criticism regarding the abstractness of the model (Crisan, 2008).

Most of the hypothesized relationships were significant which confirmed the strength of HEMM in diagnosing the working environment and the underlying causes of people's emotional experiences as a whole instead of parts. HEMM allowed seeing the aggregate impact of corresponding felt emotions (by creating index) on employees' job attitudes and behaviours and the positive results supported the findings of prior literature. Thus, the VSM based holistic emotions measurement model developed in present study, was found capable of illuminating the fundamental aspects of the workplace environment (functional,

relational and personal) and diagnosing the causes of workforce emotions while at work.

The VSM has been predominantly applied for dealing with complexity of the social systems, individually as well as in conjunction to other frameworks (e.g. Complex Adaptive Systems, Critical Systems Heuristics, Viplan Method, Team Syntegrity Model, Boundary Critique Theory and so on). However, its use with AET has been made for the first time, which proves the possibility of a complementary use of VSM with this emotions measurement/management tool. Likewise, the systemic perspective of social systems offered by the VSM has helped to progress the state-of-art theories on emotions management. The use of cybernetics approach in emotions measurement methodologies is reasonably fresh, and has opened the doors for adoption of the cybernetics knowledge domain in emotions management studies.

The next section analyses the objectives which were undertaken and accomplished by the current research to determine if the research remained successful in achieving its aims.

7.2   CRITICAL REVIEW OF THE RESEARCH UNDERTAKEN

The current study attempted to redress the 'narrowness' and 'imbalance' in the research on the causes of emotional states by exploring the interrelated aspects of the work environment as one whole. The study encompassed three objectives which included: (1) the review of affective work environment from systemic

perspective, (2) the development of a conceptual device that could diagnose the affective work environment holistically, and (3) the testing of this conceptual device to assess its explanatory power for diagnosing the interrelated aspects working environment for comprehending the underlying causes of emotions production. The objectives undertaken and accomplished in the current study have been analyzed below:

7.2.1   First Objective of the Study

"To improve the current understanding of the work environment and related workforce emotional experiences by reinterpreting them from a systems perspective."

The current study anticipated that emotions cannot be managed well unless the wide-spread triggers of emotional experiences within the work environment are understood better. Therefore, it attempted to reinterpret the workplace antecedents of emotions identified in prior literature, by using the systems perspective -with the focus on 'whole picture' rather than one specific component. It was a reflection to Beer's (1979, 29) recommendation who rightly advised that "understanding has to be at the physiological level – the level at which the whole system is a whole – or not at all".

Following the suggestion of Brief and Weiss (2002) to remove the existing narrowness in the research on the antecedents of emotions, the current study proposed the adoption of systems approach to gain a consolidated view of the

affective work features. The systems approach helped researcher in gaining a better view of the complex emotional phenomenon in social organizations by incorporating the affective interrelated aspects of the working environment highlighted in distinct studies. It provided a structured way for studying the affective features of complex systems as a whole.

The prior literature review helped to determine the antecedents of emotions experienced by employees within the work settings. It was evident that the existing investigations on workplace emotions were not wide-ranging and concentrated on one or few aspects of the work environment. Like assessing internal environment (completely or partially) and excluding external environment or vice versa. Resultantly, the narrow focus on emotional antecedents remained incapable of giving an inclusive account of the consequences of employees' emotional reactions on work-related outcomes.

The systemic view offered by organizational cybernetics (one of the systems approach) allowed the researcher to synthesize the literature on emotional antecedents under the broad categories of work, interpersonal relations, management functions and environment. This literature analysis helped in gaining insights into the interrelated aspects of the work environment triggering workforce emotions; which accomplished the first objective of comprehending affective work environment using systemic perspective.

Subsequently, a topological cybernetic model, known as Viable System Model (VSM) -a universally valid approach to the modelling and design of human organization- was used in particular for achieving the second objective of the study discussed below.

7.2.2 Second Objective of the Study

Based on the literature analyses, the study proceeded with the development of emotions measurement model (named holistic emotions measurement model - HEMM) based on systems approach for diagnosing the wide-spread affective causes of emotions production within work settings; leading to its second objective, i.e.

"To develop the model for diagnosing the causes of workforce emotional experiences based on the systems principles of the VSM - used as a conceptual device for producing a holistic understanding of the work environment producing workforce emotions; such a model would enhance and complement state-of-art theories on emotions management."

The current study developed the reference model on the basis of VSM functional components, highly known for its diagnostic and designing capabilities in system theories. Previously, the VSM has been used successfully by several researchers and practitioners for improving the structural, functional, cultural, informational, learning, environmental, ethical, and value related issues pertaining to businesses (irrespective of industry), public bodies, communities and so on. The VSM language helps in illuminating the interrelated aspects of the organization, by

taking into view its internal functioning (i.e. operations and its management) along with the external environment in which it exists.

Therefore, the current study focused on systemic principles of the VSM theory and its wide-ranging applications across the industries, to assess its strength in comprehending the organizational functioning and its relationship networks in totality. Based on its prior successful applications for dealing with implicit issues, like cultural, value, ethics, knowledge and so on, the qualitatively rich theory of viability i.e. Viable System Model (VSM) was utilized by the current study as a guiding framework for ascertaining the interrelated aspects of the working environment (disposing affective events producing emotions) -social and economic- as a whole. The three main interactive components of VSM - operations, meta-systemic management and environment- illustrate the organizational functioning in totality. Resultantly, the utilization of viability theory helped in seeing the big picture of the patterns of relationships and processes existing within organizational system working together for accomplishing objectives. This holistic view resolved the existing problem of fragmented interpretation of the affective components of organization faced by organizational behaviour researchers.

The VSM distinctions provided with an adequate language for categorizing the workplace aspects under its framework, which were used for developing the holistic emotions measurement model, encompassing the functional as well as

relational aspects inherent to social organizations. With constructivist approach, it led to the accomplishment of the second objective of the current study. Step by step, the researcher demonstrated the utilization of these components for delineating the organizational functional view and social relationships view and categorizing the specific work events under its distinctions. The functional and the relational work aspects encompassed by HEMM (based on VSM) included nine (6 functional; 3 relational) sub-dimensions:

Functional View: The VSM sub-systems (S1-S5) facilitated the categorization of affective work events specific to the organizational functions and its operations necessary for maintaining viability. This categorization provided an insight into the emotions experienced by employees due to the everyday functions taking place within the workplace internal environment, where:

System 1 (S1) depicted the primary work/activities of the organization, oriented towards the accomplishment of organizational goals and implementation of its purpose.

System 2 (S2) ensured co-ordination and conflict management amongst working units during their everyday functioning and interactions; thus damping oscillations by sharing information and keeping everything running smoothly.

System 3 (S3) entrusted with the role of performance optimization by creating synergy amongst the operational units (S1) working as a whole.

System 3* (S3*) conducted auditing at intermittent basis for collecting the information directly from the work units whenever required or in case of emergency.

System 4 (S4) performed environmental scanning for gathering external information and managing change and adaptation to ensure long-term viability.

System 5 (S5) made policies, giving the organization its closure, identity and ethos, thus, steering it towards the specific direction.

In essence, the workplace events classified under the functional components (S1-S5) of VSM, allowed viewing how (a) primary work operations, (b) conflict management and co-ordination, (c) performance optimization, (d) audit, (e) change and adaptation, and (f) policy making activities contributed in the production of workforce emotions in totality.

Relational View: The main components of VSM i.e. operations, management and environment enabled perceiving the interactions and relations (a) amongst co-workers inside operations, (b) amongst workers and management, and (c) amongst the organizational members and the external environment actors, respectively, where:

Inside Operations depicted the relationships amongst the co-workers working together for accomplishing the organizational goals.

Operations and Management determined the relations amongst the employees and the managers- who provided services to the working units, for successful running of operations.

Operations and Environment categorized the relations and/or interactions between the internal members and the customers/clients of the organization.

This consolidated account of the relationships inherent to the collaborative functioning of the social organizations helped to determine the influence of social relationships on employee's emotions.

Together with functional and relational aspects of the work environment, the aspect of employees' affective personality (core self-evaluation) was also included in the emotions measurement model for understanding their substantial role in employee's affective experiences and subsequent reactions. Thus, the HEMM encompassed personality and work related functional and relational aspects, for diagnosing the wide-spread causes of workforce emotions production within the organization. This understanding would help further in comprehending the influence of employees' emotions on their work attitudes and behaviours which are of absolute importance to an organization's performance.

Nevertheless, researcher was not able to include the physical settings of the organization within HEMM for comprehending their influence on employee's emotional experiences and reactions. Prior studies have suggested the physical

settings of the workplace including space, light, smell etc. may have an impact on employee's emotional reactions. Similarly, the field of neuropsychology has been largely investigating in the connections between neuroanatomy and psychological functions. But, the VSM's distinctions didn't explicitly include the physical work settings within its framework, due to which this component was left out in the current research. However, future researchers may include this aspect as sub-dimension of system 3 which includes the resource allocation function for performance optimization in system one units.

On the other hand, the researcher made a very limited use of the potential of the VSM framework. The present study utilized only the diagnostic capabilities of the VSM by using its key concepts which it recommends for mapping organizational complexity but didn't explore its laws and principles of recursivity and requisite variety. These unexploited strengths of the VSM's principles and laws of variety management and recursivity can offer enormously to the emotions management research field. Specifically, regulatory strategies offered by 'attenuators' and 'amplifiers' components of the VSM can guide practitioners in developing affective strategies which could inhibit negative emotions and amplify positive ones, resulting in positive work climate.

Likewise, the recursivity law of the VSM could have helped researcher in investigating the affect phenomenon up to system level (including dyad and group level). However, the present study remained its focus limited to individual level

emotional experiences and their subsequent outcomes which didn't allow seeing the bigger picture of the effect of emotional experiences on team or departmental working. Prior studies have identified that individual level emotions have significant influence on group working as well which must be taken into account. Nonetheless, the objective of the study was constrained to the development of reference model capable of giving a holistic view of the working environment which could help better in understanding the affective causes of emotional experiences better. Only individual level emotions phenomenon was taken into consideration due to study time constraints leaving a direction for future studies. The future investigators may conduct research on the suitability of HEMM for measuring group emotions.

In essence, the diagnostic features of the VSM helped in the holistic emotions measurement model development which accomplished the second objective of the study. Further, this conceptual device was field tested to assess if its functional, relational and personal dimensions can diagnose the workplace emotions holistically; leading to our third study objective.

7.2.3   Third Objective of the Study

While achieving second objective of the study, the HEMM was developed, enabling holistic account of the working environment (by including organizational functions and the relationship networks existing within along with worker's personality), which could provide a comprehensive assessment of the affective

causes triggering employees' emotions underlying within the workplace; compared to the fragmented interpretation of the work related causes of emotions in prior affective studies. The current study after the development of holistic emotions measurement model, tested it in the field as well to assess empirically the diagnostic capabilities of this conceptual device; leading to its third objective, i.e.

"To test the explanatory power of the suggested emotions measurement model to determine the potential benefits for its use in understanding the affective work environment and its related features"

The field testing determined to synthesize its ability of encompassing the wide-ranging work events substantially influencing employees' emotions and further shaping their work related attitudes and behaviours. The researcher adopted hypothetic-deductive approach to test the reference model. It led to the combination of 'constructivism-positivism' philosophies for meeting the research objectives following the suggestion of Schwaninger (2004) who pointed the large flow of interpretivist orientation into constructivism. The positivist position adopted by researcher for field testing the model (developed using constructivist stance), permitted the structured research approach making replication easier for future studies. However, it also blinded the researcher for getting deeper into the complex phenomenon of employees emotions. On the other side, interpretivist position (which has remained the most traditional approach of viability theory researchers) might have allowed researcher to get rich insights into the complex

human emotions by getting involved with respondents personally and understanding their point of views and problems.

Nevertheless, the current philosophical position allowed the adoption of multi-methods strategy including archival research and survey for data collection using self-administered questionnaire. The participants from Pakistan corporate workforce were selected using multi-stage sampling technique for conducting the survey. The pilot testing conducted in two phases validated the measurement scales for survey administration. The first phase of pilot testing assessed the occurrence of work events within the organizational settings by getting input from thirteen participants; whereas the second phase determined the validity and reliability of the measurement scales by collecting data from twenty nine participants. IBM SPSS was used for analyses.

For main survey, email invitations were sent to five hundred people across the services and manufacturing industries. Two hundred and fifteen (215) people from thirty nine different organizations responded to the questionnaire, out of which thirty eight (38) were discarded after initial screening as they were not of good quality. One hundred and seventy seven (177) data sets were used for descriptive analyses using IBM SPSS application. The descriptive statistics revealed no issue of missing values higher than 5%, no extreme outliers and no extreme cases of data non-normality. The demographic profile of the respondents revealed a good representation of diverse workforce across the industry types,

working positions, work experience, age, gender, marital status and educational backgrounds.

The research framework specified for testing HEMM included: three independent variables (*i.e. 'functional work events', 'relational work events' and 'core self-evaluation'*-classified as causes of emotional experiences by HEMM) and their impact was assessed on '*emotions experiences'*. Subsequently, the impact of '*emotions experiences'* was assessed on employee's attitudes and behaviours by operationalizing '*job satisfaction', 'organizational commitment', 'organizational citizenship behaviour'* and *'counterproductive work behaviour'*. The emotions experience construct had dual role in the model i.e. (i) target variable being predicted by functional WE, relational WE and core self-evaluation constructs and (ii) predictor variable for target variables of job satisfaction, organizational commitment, citizenship and counterproductive work behaviours.

The multi-dimensional exogenous constructs, including: functional WE (System 1, System 2, System 3, System 3*, System 4, System 5), relational WE (Inside Operations, Operations & Management, Operations & Environment), and core self-evaluation (Self-Esteem, Generalized Self-Efficacy, Locus of Control, Neuroticism), were designed as reflective-formative type with reflective first-order and formative second-order specifications. Likewise, the endogenous constructs: organizational citizenship behaviour (Individual & Organization) and counterproductive work behaviour (Individual & Organization) were modelled as

hierarchical latent constructs of reflective-formative type. The endogenous constructs of job satisfaction (JS) and organizational commitment (OC) were measured reflectively in the study. While an index was created for emotions experiences measured simultaneously against each work event. A composite index was created for emotions experience construct on the basis of thirty one events score.

The study conducted the systematic assessment of the measurement models and the structural model using partial least square structural equation modelling (PLS-SEM). The researcher followed the guidelines of Hair *et al*. (2013), Ringle *et al*. (2012) and Becker *et al*. (2012) for conducting the models' assessments to confirm that all the steps of analyses have been undertaken carefully. As suggested, the reflective measurement models assessment undertook the threshold tests of: internal consistency, indicator reliability, convergent validity and discriminant validity. The items with low loadings were removed from the scales to improve reliability and validity values of the constructs. The quality criteria report based on calculation results revealed that all the reflectively measured constructs (and sub constructs) met the composite reliability assessment. Likewise, the AVE values of all the reflectively measured constructs remained higher than the minimum threshold of 0.5. The discriminant validity of the reflective constructs was also established using the Fornell-Larcker criterion. Similarly, the quality assessment of formatively measured high-order constructs (with manifested indicators) was undertaken on the basis of multi-collinearity

checks, and the significance and relevance of the indicators. The tests undertaken depicted no collinearity issue with significant loadings indicating their relevant and absolute contribution to the respective constructs.

Subsequent to the confirmation of the measurement models meeting the quality criteria, the structural model assessment was undertaken. It included the examination of the models predictive capabilities and the relationship between the constructs including the steps of multi-collinearity checks, path coefficients significance, R^2 level and f^2 effect size determination.

The two-stage approach was used by estimating a first-level model with only first-order constructs and the target variables (first stage) and then using the latent variable scores of the first-order constructs as formative indicators of second-order constructs (second-stage). However, a separate estimation of path coefficients was conducted to assess the distinct impact of functional work events and relational work events low-order dimensions (i.e. S1, S2, S3, S3*, S4, S5, InO, O-M, O-E) on emotion experiences as two-stage approach restricts the estimation of model at higher level without involving low-order constructs.

The collinearity tests undertaken depicted that the structural model had no issue of collinearity. In the next step, the R^2 values of the endogenous constructs were computed. The F-test determined that the R^2 values of all the endogenous constructs remained significant except for counterproductive work behaviour depicting the predictive relevance of the model. Subsequently, f^2 effect size was

computed to determine the contribution of functional work events (FWE), relational work events (RWE) and core self-evaluation (CSE) on employees' emotional experiences. The f^2 effect size of functional WE, relational WE and core self-evaluation on emotional experiences of the employees remained large, medium and small respectively.

Later the path coefficient was estimated to determine the influence of core self-evaluation and workplace events on employee's emotions. At higher level of analysis, the functional WE (H1) and relational WE (H2) had significant impact on employee's emotions ($p<0.01$). The analyses at low-order revealed that system 1 (H1a), system 2 (H1b), system 3 (H1c) and system 5 (H1f) contributed significantly to workforce emotions whereas system 3* (H1d) and system 4 (H1e) found no empirical support. Therefore, hypothesis-1 was partially accepted. Likewise, hypothesis-2 was also partially accepted as O-M (H2b) was supported by the results whereas In-O (H2a) and O-E (H2c) did not get the empirical support. Hypothesis-3 was accepted as the results revealed significant positive impact of core self-evaluation on the emotions experienced by the employees within the work settings. Thus, the acceptance of most of the hypotheses supported that the HEMM remained successful in identifying the functional and relational work events and personality- capable of triggering emotions of the employees- more holistically; which filled the gap in knowledge domain and provided with a conceptual device capable of giving a consolidated view of the

working environment associated with workforce emotions to compliment state-of-art theories on emotions management.

The HEMM micro-structures (i.e. functional, relational, personal along with their respective sub-dimensions) replaced the 'antecedents' structure in Affective Events Theory which is more general in nature and doesn't provide the specific aspects of the working environment. Resulting, in the fragmented interpretation of the antecedents of workplace emotions as up till now researchers have been operationalizing the 'antecedents' macro-structure of AET, based on limited affective work aspects. This problem has been solved by operationalizing HEMM (as antecedents of emotions) to get comprehensive view of the workplace by including all important and necessary work related features in its framework.

After assessing the impact of personality, functional and relational work events on employee's emotional experiences, the aggregate influence of these felt emotions was further tested on their work attitudes and behaviours. With respect to the relationship between employee's emotions and work-related outcomes, Hypotheses 4-7 were tested. Hypothesis 4 and 5 were accepted with significant positive impact of employee's emotions on his/her job satisfaction and commitment with organization respectively. Similarly, H6 and H7 were also accepted supporting the impact of emotions on organizational citizenship (positive relationship) and counterproductive work behaviours (negative relationship) respectively.

In essence, HEMM (based on VSM) was tested using AET to assess the impact of functional and relational work events and personality on employee's emotions and consequently how these emotions modify their attitudes and behaviours while at work. The overall, results suggested the validation of HEMM as a conceptual device to capture the holistic view of the workplace day-to-day affective events along with personality dimension, for understanding emotions at work more effectively. The empirical evaluation of the HEMM identified the potential benefit of its use in understanding the affective work environment as a whole; which accomplished the third and last objective of the study.

The study achieved the stated objectives and made a humble contribution to the state-of-art theories on emotions management theories, with the development of conceptual device useful for comprehending affective working environment and its related features as a whole. The next section highlights the implications and limitations of the study along with potential research directions.

7.3 STUDY IMPLICATIONS, LIMITATIONS AND FUTURE DIRECTIONS

The final section of this chapter briefs on the implications of the study for researchers and practitioners. It further reviews the limitations of the study along with the recommendations for the future investigators.

7.3.1 Research Implications

The current study has connotation for practitioners and researchers. It provided an empirical account on the effective utilization of cybernetic principles in the field of organizational behaviours and organizational psychology which has remained largely unexplored till date. The use of organizational cybernetics approach in emotions measurement methodologies have been adopted for the first time since the initial development of this field of investigation.

Likewise, based on the theory of viability i.e. VSM, the reference model has been proposed for the diagnosis of the antecedents of emotional experiences existing within the workplace environment is unique in its kind. VSM theory's implementation for the diagnosis of the antecedents of workforce emotions within social system has been done for the first time despite of its numerous applications in dealing with soft issues of the private firms, national organizations and communities. This contribution made by the study has opened doors for the investigation of the utilization of VSM in psychological and behavioural aspects of the organization, which may allow the joined-up thinking to enhance the state-of-art theories on organizational behaviour management. Similarly, VSM diagnosis method may be enhanced further by augmenting it with affective orientation of the workplace to reveal the subtle softness of the organizational systems.

Also, the study demonstrated the effective utilization of constructivism and positivism approach together, demonstrating that VSM is not just an abstract model and can be tested empirically using quantitative tools. It provided a detailed multi-stage procedure step-by-step for validating the measurement and structural models, along with the assessment of hypothesized relationships specified between the study variables, which will guide researchers in adopting PLS-SEM approach for future empirical investigations of VSM.

Similarly, the development of HEMM for emotions measurement has been found capable of giving the holistic view of work environment and its underlying affective causes eliciting workforce emotions. Corporate heads and managers can adopt the holistic emotions measurement model to identify the most significant antecedents of the workforce emotions underlying in the basic functional and social components of the organizations. They may focus on the work aspects which are highly conducive to negative emotions first and develop strategies which may help to generate positive work climate. Prior findings suggest that positive emotions experienced by the workforce result in their better performance whereas negative emotions felt due to any reason important to them may obstruct their performance. Therefore, managers should work as facilitators who help in promoting positive work climate with lesser room for performance obstructing events or situations.

7.3.2 Research Limitations & Future Directions

The study proposed the introduction of systems approach for comprehending the workplace environment as a whole for diagnosing the causes of emotional experiences of the employees. To achieve the purpose, cybernetic VSM was selected and its structural distinctions were utilized for developing holistic emotions measurement model used later for diagnosing the wide-spread causes of emotional elicitation. In essence, the strength of the VSM for managing workforce emotions was explored only partially, limited to its some of basic diagnostic capabilities and using the key concepts it recommends to map organizational complexity. It gave a restricted view of the potential of the VSM framework for managing emotions within organizational settings. It's clear for VSM experts that the VSM principles and laws of requisite variety and recursivity can offer much more for managing the complex emotional oriented behaviours of the organizational members. In future, researchers may utilize the recursivity principle of VSM to explore the implications of workforce emotions at different levels (individual, dyad, group and system level) within the organization. Likewise, future studies might investigate how emotions act as attenuators or amplifiers of the desired behaviours to design the organizational structures conducive of better performance and overall positive climate.

Secondly, the field testing of HEMM was conducted to assess its potential for providing the holistic comprehension of work environment triggering workforce

emotions based on survey data collected from Pakistani corporate workforce. However, the responses from one hundred and seventy seven employees -working in services and manufacturing concerns- wouldn't be enough to generalize the results. More studies would be required to reach a sample size big enough so that the results can be confidently generalized. Also, the sample frame may include (not-for-profit) public bodies and non-governmental organizations, along with business entities, to determine the difference amongst them, in terms of causes and impact of emotional experiences, where the main purpose of establishment is different from profit oriented firms. Likewise, studies may focus on a specific industry to assess if emotional influences behave differently with respect to industry type (e.g. automobile manufacturing vs. hospitals).

The naturalist perspective of emotions proposes female as more prone to emotional reactions as compared to their male counterparts. The current study didn't find any support to this proposition which might be due to the unequal ratio of male to female respondents (62:38 respectively). However, future researchers may concentrate on the emotional reactions specific to gender difference more deeply, to see if these neurological aspects of affective processes have implications on workplace behaviours.

Likewise, it might be an interesting question to draw the comparative analysis between different age groups specific to their emotional experiences and reactions within the work settings and answer questions like 'Do young entrants react more

emotionally as compared to adult workforce?' etc. The current study was unable to take this analysis as the percentage of participants above 45 years of age was very low (only 4%).

The survey questionnaires were distributed amongst the participants online as well as by hand. The researcher experienced that the quality of data collected using 'online' method was very good and very few of them were found to be problematic (in terms of straight lining or missing data). On the other hand, the data gathered by-hand had higher percentage of straight lining and missed answers. At least, thirty two (32) data sets (i.e. 84% of discarded cases) were wasted out of seventy one (71) total data sets, gathered 'by-hand' method. Therefore, online data collection method is highly recommended for future investigations.

The time-horizon adopted by the current study was cross-sectional. It would be advisable for future investigators to opt for longitudinal study where they can rightly differentiate between the emotional experiences and the temperament of the employees which may get involved due to retrospective study.

The events-based scales adopted for assessing the impact of functional and relational work-events on their emotions and subsequent reactions were not balanced across the functional and relational distinctions defined in the study. The number of event-based items for measuring emotional experiences specific to system-2, system-4, system-5; O-E, and In-O were quite low in number

(maximum 3; minimum 2); whereas only one item was used for measuring system 3*. The obvious reason was to curtail the size of the questionnaire and make it more responsive. Nevertheless, it is recommended that future investigators should include more work events specific to HEMM distinctions and deploy some viable strategy for making the questionnaire more responsive instead of compromising on lesser information.

Likewise, O-E (operations and environment) construct in the current study, measured the customers dimension only which gave restricted view of the external environmental effects on employee's emotions and subsequent work performance. For future studies, it is suggested to design environment as multi-dimensional construct, including: general environment factors (e.g. political, economic, social/cultural, suppliers and so on) or family life; to assess how general environment conditions or family life may contribute to the positive or negative emotions of a person, impacting his performance at work.

Similarly, the items (2) scale used for measuring employee's attitudes was very general and prohibited the deeper understanding of the employee's commitment which might be of normative, continuance or affective kind.

The researcher undertook all the steps laid down by Hair and his colleagues (2013) for assessing the reflectively and formatively defined constructs in the study, including: internal consistency, indicator reliability, convergent validity, discriminant validity (quality criteria for reflective measurement models),

collinearity amongst indicators and significance and relevance of outer weights (quality criteria for formatively measurement models). However, the researcher was not able to establish the convergent validity for the formative constructs (FWE, RWE, CSE, OCB, CWB) included in the study, i.e., the constructs were not measured simultaneously by the reflective (or single item) measures due to the length issue of the questionnaire, as guided by Hair *et al*. (2013). However, these formative constructs passed the threshold laid by other quality criteria (i.e. collinearity test and significance/relevance of outer weights) due to which they were adequate for relationship testing. However, it is recommended that future investigators must determine convergent validity of these formative constructs as well to make them more prudent for statistical analysis.

The *F*-test findings determined that the coefficient of determination (R^2) was significant for all the endogenous variables (Emo, JS, OC, OCB, CWB) of the research model (at 1%) except counterproductive work behaviour construct; suggesting that emotions did not predict well the counterproductive work behaviours of the employees. The primary reason could be the self-reporting method deployed for data collection instead of observer rating method, prone to biased information; where participants respond in a way that makes them look good. The future researches may focus on adopting observer-rating methods over self-reporting to cross-validate the current findings.

During the testing of hypothesis 1 (*i.e. functional work-events specific to 'S1', 'S2', 'S3', 'S3*', 'S4', and 'S5' have significant impact on employees emotional experiences*) and hypothesis 2 (*i.e. relational work-events specific to 'inside operations', 'operations and management', and 'operations and environment' have significant impact on employees emotional experiences*), it was identified that the impact of the functional work-events and relational work-events on felt emotions were not uniform across their sub-dimensions. S3* and S4 representing audit and change/adaptation function respectively were not having any impact on employees emotions. The apparent reason of this unexpected result could be culture specific. For example, S3* function which is a sporadic intervention of senior management in daily operations for surprise audit purpose: as Pakistani culture is medium to high power distance oriented due to which the higher management maintains maximum autonomy and intervenes more often in daily operations. Due to which, workforce might be accustomed and less emotionally reactive to these interventions. However, it would be an interesting topic to investigate for future studies if there is any difference in emotional experiences and reactions of employees subject to power-distance attribute of their organizational culture. Similarly, S4 function of environmental scanning to keep up with the changes of the environment: Pakistani society is rated high on the continuum of uncertainty avoidance with short-term orientations. Probably, this could be the reason due to which workforce was less emotionally reactive to the changes made by the organization. Nevertheless, it can also be a new area of

investigation for the studies of organizational diversity, if employees from short-term vs. long-term future orientated cultures show different emotional reactions to the same situation.

Likewise, 'inside operations' and 'operations and environment' representing the relationship amongst the co-workers and that of co-worker and customer respectively, also showed no impact on employee's emotions. These findings were not in-line with the prior research findings. With respect to 'inside operations' representing the relationship amongst co-workers, the data collected in current research didn't take into account the work design i.e. individual tasks or team-work. Future researchers should assess the influence of the quality of relationship with co-workers on one's emotional experiences by drawing comparative analysis between those working individually and others working as team players. On the other side, non-significant impact of customers (external environment agent) on employee's emotions also calls the need for taking into consideration the jobs which are specifically designed for providing customer service and assessing how frequently employee's react emotionally in situations when they are highly involved with the customers (unlike present study sample).

Above all, it is vital to replicate this empirical investigation (undertaken in Pakistan corporate sector) in different cultures to see the differences in the affective behaviour patterns within the social organizations guided by the cultural differences.

In essence, the current study has made a humble contribution to the state-of-art theories on emotions management theories, with the development of conceptual device (i.e. HEMM) useful for comprehending affective working environment and its related features as a whole.

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REFERENCES

Aaker, J. (1997). Dimensions of brand personality. *Journal of Marketing Research,34*, 347-356.

Achterbergh, J., & Vriens, D. (2002). Managing viable knowledge. *System Research and Behavioral Science, 19*, 223-241.

Achterbergh, J., & Vriens, D. (2009). *Organizations: Social Systems Conducting Experiments.* Dordrecht: SpringerVerlag.

Ackoff, R. (1971). Towards a System of Systems Concepts. *Management Science, 17(11)*, 661-671.

Adler, N. (1991). *International Dimensions of Organizational Behavior, 2nd ed.* PWS-Kent, Boston, MA.

Adolphs, R., & Damasio, A. (2001). The interaction of affect and cognition: A neurobiological perspective. In J. Forgas, *The Handbook of Affect and Social Cognition.* Mahwah, N. J.: Erlbaum.

Agho, A., Price, J., & Mueller, C. (1992). Discriminant validity of measures of job satisfaction, positive affectivity and negative affectivity. *Journal of Occupational & Organizational Psychology, 65(3)*, 185–96.

Alarcon, G., Eschleman, K., & Bowling, N. (2009). Relationships between personality variables and burnout: A meta-analysis. *Work & Stress, 23*, 244 – 263.

Albers, S., & Hildebrandt, L. (2006). Methodological problems in success factor studies - measurement error, formative versus reflective indicators and the choice of strutural equation model. *Zeitschrift fur betriebswirtschaftliche Forschung, 58(2)*, 2-33.

Albrecht, A., Paulus, F., Dilchert, S., Deller, J., & Ones, D. (2013). Construct- and criterion-related validity of the German Core Self-Evaluations Scale: A multi-study investigation. *Journal of Personnel Psychology, 12(2)*, 85-91.

Altrichter, H., Feldman, A., Posch, P., & Somekh, B. (2008). *Teachers investigate their work: An introduction to action research across the professions, (2nd ed).* London: Routledge.

Altrichter, H., Kemmis, S., McTaggart, R., & Zuber-Skerritt, O. (2002). The Concept of Action Research. *The Learning Organization, 9(3)*, 125-131.

Amabile, T., Barsade, S., Mueller, J., & Staw, B. (2005). Affect and Creativity at Work. *Administrative Science Quarterly, 50*, 367-403.

Ashby, W. (1957). *An Introduction to Cybernetics.* London: Chapman and Hall.

Ashby, W. (1964). *An Introduction to Cybernetics.* Methuen, London.

Ashforth, B., & Humphrey, R. (1993). Emotional labor in service roles: the influence of identity. *Academy of Management Review, 18(1)*, 88-115.

Ashforth, B., & Humphrey, R. (1995). Emotion in the workplace: a reappraisal. *Human Relations, 48(2)*, 97-125.

Ashkanasy, N. (2003). Emotions in organizations: A multilevel perspective. In F. Dansereau, & F. Yammarino, *Research in multi-level issues: Multi-level issues in organizational behavior and strategy, Vol 2* (pp. 9–54). Oxford, UK: Elsevier Science.

Ashkanasy, N., & Ashton-James, C. (2005). Emotion in organizations: A neglected topic in I/O psychology, but with a bright future. In G. Hodgkinson, & J. Ford, *International Review of Industrial and Organizational Psychology, Vol. 20* (pp. 221-268). Chichester: Wiley.

Ashkanasy, N., & Cooper, C. (2008). *Research Companion to Emotions in Organizations.* Cheltenham: Edward Elgar.

Ashkanasy, N., & Daus, C. (2002). Emotion in the workplace: The new challenge for managers. *Academy of Management Executive, 16(1)*, 76-86.

Ashkanasy, N., Härtel, C., & Daus, C. (2002). Advances in organizational behavior: Diversity and emotions. *Journal of Management, 28*, 307-338.

Ashkanasy, N., Härtel, C., & Zerbe, W. (2000). *Emotions in the work place: Theory, research, and practice.* Westport, CT: Quorum Books.

Ashton-James, C., & Ashkanasy, N. (2004). Affect in strategic management: Debunking the myth of cold rationality. *Second Brisbane Symposium on Emotions and Worklife, November* . Australia: Brisbane.

Ashton-James, C., & Ashkanasy, N. (2005). What lies beneath? A process analysis of affective events theory. In N. Ashkanasy, W. Zerbe, & C. Ha¨rtel, *Research on emotions in organizations, Vol.1* (pp. 23– 46). Amsterdam: Elsevier.

Ashton-James, C., & Ashkanasy, N. (2008). Affective events theory: a strategic perspective. *Research on Emotion in Organization, 4*, 1-34.

Assimakopoulos, N., & Dimitriou, N. (2006). A cybernetic framework for viable virtual enterprises: the use of VSM and PSM systemic methodologies. *Kybernetes, 35(5)*, 653-667.

Averill, J. (1980). A constructivist view of emotion. In R. Plutchik, & H. Kellerman, *Emotion: Theory, research and experience: Vol. I. Theories of emotion* (pp. 305-339). New York: Academic Press.

Axelrod, R., & Cohen, M. (2000). *Harnessing complexity: organizational implications of a scientific frontier.* New York: Free Press.

Bagozzi, R. (2003). Positive and negative emotions in organizations. In K. Cameron, J. Dutton, & R. Quinn, *Positive organizational scholarship: Foundations of a new discipline* (pp. 176–409). San Francisco: Berrett-Koehler.

Bagwell, D. (2000). *Work and personal financial outcomes of credit counseling clients.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review, 84(2)*, 191-215.

Barbouletos, S. (2011). *Discrepancy between role expectations and job descriptions: the impact on stress and job satisfaction.* Unpublished master's dissertation, University of Washington Bothell.

Barile, S., & Polese, F. (2010). Smart service systems and viable service systems: applying systems theory to service science. *Service Science, 2 (½)*, 21-40.

Barlow, J. (2013). Self-efficacy in the context of rehabilitation. In J. Stone, & M. Blouin, *International Encyclopedia of Rehabilitation.*

Barnard, C. (1938). *The functions of the executive.* Cambridge, MA: Harvard University Press.

Barrett, L. (2006). Emotions as natural kinds? *Perspectives on Psychological Science, 1*, 28-58.

Barrett, L., & Russell, J. (1999). The structure of current affect: controversies and emerging consensus. *American Psychological Society, 8(1)*, 10-14.

Barsade, S., & Gibson, D. (2007). Why Does Affect Matter in Organizations? *Academy of Management Perspectives*, 36-59.

Barsade, S., Brief, A., & Spataro, S. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg, *OB: The State of the Science* (pp. 3–52). Hillsdale, NJ: Lawrence Erlbaum and Associates.

Basch, J., & Fisher, C. (1998). Affective events - emotions matrix: a classification of work events and associated emotions. *Presented at the First Conference on Emotions in Organizational Life , August* (p. Discussion Paper no. 65). San Diego, California: Bond University, School of Business .

Bateman, T., & Organ, D. (1983). Job satisfaction and the good soldier: the relationship between affect and employee 'citizenship'. *Academy of Management Journal, 26*, 587-595.

Baumeister, R., Heatherton, T., & Tice, D. (1994). *Losing control: How and why people fail at self-regulation.* San Diego: Academic.

Baumeister, R., Vohs, K., DeWall, C., & Zhang, L. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review, 11*, 167-203.

Bechara, A., Damasio, H., & AntonioDamasio. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex, 10*, 295-307.

Bechara, A., Damasio, H., AntonioDamasio, & Lee, G. (1999). Different Contributions of the Human Amygdala and Ventromedial Prefrontal Cortex to Decision-Making. *Journal of Neuroscience, 19(13)*, 5473-5481.

Becker, J., Klien, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning, 45*, 359-394.

Beer, J., Knight, R., & Esposito, M. (2006). Integrating Emotion and Cognition: The role of the frontal lobes in distinguishing between helpful and hurtful emotion. *Psychological Science, 17*, 448-453.

Beer, S. (1959). *Cybernetic and Management.* English Universities Press.

Beer, S. (1979). *The Heart of Enterprise.* Chichester: Wiley.

Beer, S. (1981). *Brain of the Firm.* Chichester: Wiley.

Beer, S. (1985). *Diagnosing the System for Organizations.* Chichester: Wiley.

Beer, S. (1994). *Beyond Dispute: The Invention of Team Syntegrity.* Chichester: Wiley.

Belschak, F., & Hartog, D. (2009). Consequences of Positive and Negative Feedback: The Impact on Emotions and Extra-Role Behaviors. *Applied Psychology, 58(2)*, 274-303.

Ben-Ali, F. (2011). Structural design of a national youth and sports information system using the viable system model. *Kybernetes, 40(3/4)*, 394-404.

Bennett, R., & Robinson, S. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*, 349-360.

Berry, C., Carpenter, N., & Barratt, C. (2012). Do Other-Reports of Counterproductive Work Behavior Provide an Incremental Contribution Over Self-Reports? A Meta-Analytic Comparison. *Journal of Applied Psychology, 97(3)*, 613–636.

Berry, C., Ones, D., & Sackett, P. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology, 92*, 410 – 424.

Bing, M., Stewart, S., Davison, H., Green, P., McIntyre, M., & James, L. (2007). An integrative typology of personality assessment for aggression: implications for predicting counterproductive workplace behavior. *Journal of applied psychology, 92(3)*, 722-744.

Bititci, U., Carrie, A., & McDevitt, L. (1997). Integrated performance measurement systems: a development guide. *International Journal of Operations & Production Management, 17(5/6)*, 522-534.

Blaikie, N. (1993). *Approaches to Social Enquiry, 1st ed.* Cambridg: Polity Press.

Bless, H., & Fiedler, K. (2006). Mood and the regulation of information processing and behavior. In J. Forgas, *Affect in social thinking and behavior* (pp. 65-84). New York: Psychology Press.

Bolger, R., & Schilling, A. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressor. *Journal of Personality, 59(3)*, 355-386.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: a structural equation perspective. *Psychological Bulletin, 110(2)*, 305-314.

Bolon, D. (1997). Organizational citizenship behavior among hospital employees: a multi-dimensional analysis involving job satisfaction and organizational commtiment. *Hospital Health Serv Admn, 42(2)*, 243-254.

Bommer, W., Miles, E., & Grover, S. (2003). Does one good turn deserve another? Coworker influences on employee citizenship. *Journal of Organizational Behavior, 24*, 181–196.

Bono, J., & Judge, T. (2003). Core Self-Evaluations: A Review of the Trait and its Role in Job Satisfaction and Job Performance. *European Journal of Personality, 17*, S5–S18.

Bowling, N., Wang, Q., & Li, H. (2012). The moderating effect of core self-evaluation on the relationships between job attitudes and organizational citizenship behavior. *Applied Psychology, 61(1)*, 97-113.

Bowling, N., Wang, Q., Tang, H., & Kennedy, K. (2010). A comparison of general and work-specific measures of core self-evaluations. *Journal of Vocational Behavior, 76(3)*, 559–566.

Brannick, T., & Roche, W. (1997). *Business Research Methods.* Dublin: Oak Tree.

Brayfield, A., & Rothe, H. (1951). An index of job satisfaction. *Journal of Applied Psychology, 35*, 307-311.

Brief, A., & Weiss, H. (2002). Organizational behavior: Affect in the workplace. *Annual Review of Psychology, 53*, 279-307.

Briner, R. (1999). The neglect and importance of emotion at work. *European Journal of Work and Organizational Psychology, 8*, 323-346.

Britton, G., & Parker, J. (1993). An explication of the Viable system Model for Project Management. *Systems Practice, 6(1)*, 21-51.

Brocklesby, J., & Cummings, S. (1996). Designing a Viable Organization Structure. *Long Range Planning, 29(1)*, 49-57.

Brooke, P., Russell, D., & Price, J. (1988). Discriminant validation of measures of job satisfaction, job involvement, and organizational commitment. *Journal of Applied Psychology, 73(2)*, 139—145.

Bruk- Lee, V., & Spector, P. (2006). The social stressors-counterproductive work behaviors link: Are conflicts with supervisors and coworkers the same? *Journal of Occupational Health Psychology, 11(2)*, 145–156.

Brunborg, G. (2008). Core Self-Evaluations A Predictor Variable for Job Stress. *European Psychologist, 13(2)*, 96–102.

Bruursema, K., Kessler, S., Fox, S., & Spector, P. (2004). The connection between counterproductive work behavior and organizational citizenship performance. Unpublished data set.

Bunge, M. (1977). The GST Challenge to the Classical Philosophies of Science. *International Journal of General Systems, 4*, 29-37.

Burke, M., Brief, A., George, J., Roberson, L., & Webster, J. (1989). Measuring affect at work: Confirmatory analysis of competing mood structures with conceptual linkage to cortical regulatory systems. *Journal of Personality and Social Psychology, 57*, 1091-1102.

Cacioppo, J., & Berntson, G. (1999). 'The affect system: Architecture and operating characteristics. *Current Directions in Psychological Science, 8*, 133-137.

Cacioppo, J., Tassinary, L., & Berntson, G. (2000). Psychopysiological science. In J. Cacioppo, L. Tassinary, & G. (. Berntson, *Handbook of psychophysiology* (pp. 3-26). New York: Cambridge University Press.

Callahan, J. (2004). Breaking the Cult of Rationality: Mindful Awareness of Emotion in the Critical Theory Classroom. *New Directions for Adult and Continuing Education, 102*, 75-83.

Caprara, G., & Cervone, D. (2000). *Personality: Determinants, dynamics and potentials.* New York: Cambridge University Press.

Carlson, M., Charlin, V., & Miller, N. (1988). Positive mood and helping behavior: a test of six hypotheses. *Journal of Personality and Social Psychology, 55*, 211–229.

Carnevale, P., & Probst, T. (1998). Social values and social conflict in creative problem solving and categorization. *Journal of Personality and Social Psychology, 74*, 1300–1309.

Carter, M., Armenakis, A., Feild, H., & Mossholder, K. (2012). *Transformational leadership, relationship quality, and employee performance during continuous*

incremental organizational change. Retrieved from wileyonlinelibrary.com DOI: 10.1002/job.1824

Cartwright, S., & Pappas, C. (2008). Emotional Intelligence, its measurement and implications for the workplace. *International Journal of Management Review, 10 (2)*, 149-171.

Castillo, J., & Cano, J. (2004). Factors explaining job satisfaction among faculty. *Journal of Agricultural Education, 45(3)*, 65-74.

Cenfetelli, R., & Bassellier, G. (2009). Interpretation of formative measurement in information systems research. *MIS Quarterly, 33(4)*, 689-707.

Cezarino, L., & Beltran, A. (2009). Diagnosis of Organizational soft problems in a Peruvian Financial institution by systemic thinking. *System Practice Action Research, 22*, 101-110.

Chapman, E., & Goodwin, C. (2001). *Supervisor's survival kit: your first step into management, (9th ed.).* Prentice Hall.

Chappell, D., & Di.Martino, V. (2006). *Violence at work (3rd ed.).* Geneva: International Labor Office.

Chekroun, P., & Brauer, M. (2002). The bystander effect and social control behavior: The effect of the presence of others on people's reactions to norm violation. *European Journal of Social Psychology, 32*, 853-867.

Cheng, L. (2005). *Changing language teaching through language testing: a washbackstudy.* Cambridge University Press.

Chin, W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. In G. Marcoulides, *Modern Business Research Methods (ed.).* Mahwah, NJ: Lawrence Erlbaum Associates.

Chisnall, P. (1986). *Marketing Research.* Maidenhead: McGraw-Hill.

Churchill, A. (1999). *Marketing Research, 7th ed.* Chicago, IL: Dryden Press.

Churchill, G., & Iacobucci, D. (2002). *Marketing research: Methodological foundations (8th ed.).* Fort Worth, TX: Harcourt.

Churchill, G., & Iacobucci, D. (2009). *Marketing Research: Methodological Foundations, (10th ed.).* Mason, Ohio.

Clark, A., & Oswald, A. (2002). A simple statistical method for measuring how life events affect happiness. *International Journal of Epidemiology, 31*, 1139-1144.

Clarke, C., Hope-Hailey, V., & Kelliher, C. (2007). Being Real or Really Being Someone Else? Change, Managers and Emotion Work. *European Management Journal, 25(2)*, 92-103.

Clemens, R. (2009). Environmental Scanning and Scenario Planning: A 12 month Perspective on Applying the Viable Systems Model to Developing Public Sector Foresight. *Systemic Practice & Action Research, 22*, 249-274.

Cohen, A. (2007). Commitment before and after: An evaluation and reconceptualization of organizational commitment. *Human Resource Management Review, 17*, 336–354.

Cohen, T., Panter, A., & Turan, N. (2012). *Predicting Counterproductive Work Behavior from Guilt Proneness.* Paper No. 1413, Tepper School of Business.

Cole, P., Martin, S., & Dennis, T. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development, 75*, 317-333.

Corballis, M. (2011). *The Recursive Mind.* Princeton University Press.

Cornelius, R. (1996). *The Science of Emotion.* Englewood Cliffs, NJ: Prentice- Hall.

Costello, A., & Osborne, J. (2005). Best practices in Exploratory Factor analysis: Four Recommendations for getting the most from your data analysis. *Practical Assessment, Research & Evaluation, 10(7), ISSN 1531-7714*.

Cote, S., & Morgan, L. (2002). A longitudinal analysis of the association between emotion regulation, job satisfaction and intentions to quit. *Journal of organizational Behavior, 23*, 947-962.

Crabtree, S. (2004). Getting personal in the workplace: Are negative relationship squelching productivity in your company? *Gallup Management Journal*, 1-4.

Craig, R. (1999). Communication theory as a field. *Communication Theory, 9(2)*, 119-161.

Crisan, T. (2008). Assessing the viable system model: an empirical test of the viability-hypothesis. *International Journal of Applied Systemic Studies, 2(1)*, 66-81.

Cropanzano, R., Rupp, D., & Byrne, Z. (2003). The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology, 88(1)*, 160-169.

Cummings, L., & Berger, C. (1976). Organization structure: How does it influence attitudes and performance? *Organizational Dynamics, 5(2)*, 34-49.

Cyert, R., & March, J. (1992). *A Behavioral Theory of the Firm. 2nd ed.* Oxford: Blackwell Publishers.

Dalal, R. (2005). A meta-analysis of the relationship between organziational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology, 90(6)*, 1241-1255.

Damasio, A. (1994). *Descartes' error: Emotion reason and the human brain.* New York: G.P. Putnams Sons.

D'Amato, A., & Zijlstra, F. (2008). Psychological climate and individual factors as antecedents of work outcomes. *European Journal of Work and Organizational Psychology, 17(1)*, 33-54.

Darke, P., Shanks, G., & Broadbent, M. (1998). Successfuly Completing Case Study Research – Combining Rigour, Relevance And Pragmatism. *Information Systems Journal, 8(4)*, 273-289.

Davidson, R., Pizzagalli, D., Nitschke, J., & Kalin, N. (2003). Parsing the Subcomponents of Emotion and Disorders of Emotion: Perspectives from Affective Neuroscience. In R. Davidson, K. Scherer, & H. Goldsmith, *Handbook of the Affective Sciences* (pp. 8-24). New York and Oxford: Oxford University Press.

Davies, J. (2002). Models of governance – a viable systems perspective. *Australasian Journal of Information Systems, 9(2)*, 57-66.

Dávila, C., & Finkelstein, M. (2010). Predicting Organizational Citizenship Behavior from The Functional Analysis and Role Identity Perspectives: Further Evidence in Spanish Employees. *The Spanish Journal of Psychology, 13(1)*, 277-283.

Davis-Blake, A., & Pfeffer, J. (1989). Just a mirage: the search for dispositional effects in organizational research. *The Academy of Management Review, 14 (3)*, 385-400.

De Dreu, C., & Weingart, L. (2003). Task and relationship conflict, team performance, and team member satisfaction: A metaanalysis. *Journal of Applied Psychology, 88*, 741–749.

De Dreu, C., Van Dierndonck, D., & De Best-Waldhober, M. (2003). Conflict at work and individual well-being. In M. Schabracq, J. Winnubst, & C. Cooper, *the Handbook of Work & Health Psychology* (pp. 495-515). West Sussex, England: Jon Wiley & Sons Ltd.

Demerouti, E., & Bakker, A. (2011). The Job Demands–Resources model: Challenges for future research. *SA Journal of Industrial Psychology, 37(2)*, 974-982.

Denzin, N. (1978). *The research act.* New York: Wiley.

DeVaus, D. (2002). *Surveys in Social Research.* London: Routledge.

Devine, S. (2005). The viable systems model applied to a national system of innovation to inform policy development. *Systemic Practice and Action Research, 18(5)*, 491-517.

Diamantopoulos, A., & Winklhofer, H. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development. *Journal of Marketing Research, 38(2)*, 269-277.

Diamantopoulos, A., Riefler, P., & Roth, K. (2008). Advancing formative measurement models. *Journal of Business Research, 61(12)*, 1203-1218.

Dillman, D. (2000). *Mail and Internet Surveys: The Tailored Design Method.* New York: John Wiley & Sons.

Donaires, O., Pinheiro, M., Cezarino, L., Ostanel, L., & Martinelli, D. (2010). Systemic model for diagnosis of the micro, small and medium enterprises from two cities from the countryside of the state of Sao Paulo in Brazil. *Systemic Practice & Action Research, 23*, 221-236.

Dunham, R. (1979). Job design and redesign. In K. Steven, *Organizational Behavior* (pp. 337-354). Columbus, OH: Grid.

Dunlop, P., & Lee, K. (2004). Workplace deviance, organizational citizenship behavior, and business unit performance: the bad apples do spoil the whole barrel. *Journal of Organizational Behavior, 25*, 67–80.

Durham, C., Judge, T., Kluger, A., & Locke, E. (1998). Dispositional Effects on Job and Life Satisfaction: The Role of Core Evaluations. *Journal of Applied Psychology, 83(1)*, 17-34.

Easterby-Smith, M., Thorpe, R., & Jackson, P. (2008). *Management Research, 3rd ed.* London: SAGE Publications Ltd.

Ekman, P., & Davidson, R. (1994). *The nature of emotion: Fundamental questions.* New York: Oxford University Press.

Ellingwood, S. (2001). The collective advantage. *Gall UpJournal, 3*.

Ellsworth, P., & Scherer, K. (2003). Appraisal processes in emotion. In R. Davidson, K. Scherer, & H. Goldsmith, *Handbook of affective sciences* (pp. 572-595). New York: Oxford University Press.

Elsbach, K., Sutton, I., & Principe, K. (1998). Averting expected challenges through anticipatory impression management: A study of hospital billing. *Organization Science, 9(1)*, 68–86.

Erez, A., & Isen, A. (2002). The influence of positive affect on the components of expectancy motivation. *Journal of Applied Psychology, 87*, 1055–1067.

Eriksson, P., & Kovalainen, A. (2008). *Qualitative Methods in Business Research. 1st Ed.* London: SAGE Publications Ltd.

Erol-Korkmaz, H. (2010). *The relationship of categories of work events to affective states and attitudes in the workplace: A test of the Affective Events Theory.* Unpublished Doctoral Dissertation, Middle East Technical University, Ankara.

Erol-Korkmaz, T., & Sumer, C. (2012). Relations of Work Events, Core Self and External Evaluations, and Affective State with Employee Attitude and Behavior. *International Journal of Business and Social Science, 3(22)*, 134-150.

Espejo, R. (1997). Giving Requisite Variety to Strategic and Implementation Processes: Theory and Practice. *The London Strategy & Complexity Seminar, November.* London: London School of Economics.

Espejo, R. (2003). *The viable system model: a briefing about organizational structure.* Syncho limited, www.syncho.com.

Espejo, R. (2008). Observing organisations: the use of identity and structural archetypes. *International Journal of Applied Systemic Studies, 2(1/2)*, 6-24.

Espejo, R., & Gill, A. (1997). *The viable system model as a framework for understanding organizations.* Phrontis Limited, http://phrontis.com/vsm.htm.

Espejo, R., & Harnden, R. (1992). *The Viable System Model: Interpretations and Applications of Stafford Beer's VSM.* Chichester: Wiley.

Espejo, R., & Howard, N. (1982). *What is requisite variety? A re-examination of the foundation of Beer´s Method.* Working Paper Series, Number 242, The University of Aston Management Centre.

Espejo, R., & Kuropatwa, D. (2011). Appreciating the complexity of organizational processes. *Kybernetes, 40(3/4)*, 454 – 476.

Espejo, R., & Reyes, A. (2011). *Organizational Systems: Managing Complexity with the Viable System Model.* Heidelberg, Germany: Springer-Verlag.

Espejo, R., & Schwaninger, M. (1993). *Organisational Fitness: Corporate Effectiveness through Management Cybernetics.* Frankfurt and New York: Campus Verlag.

Espejo, R., Shuhmann, W., Schwaninger, M., & Billelo, U. (1996). *Organisational Transformation and Learning.* England, UK: John Wiley & Sons.

Espinosa, A. (2006). A cybernetic re-evaluation of socio-economic development programs. *Kybernetes, 35(1/2)*, 30-44.

Espinosa, A., & Maimani, A. (2010). A holistic approach to e-government: ongoing research in Oman. In J. Cordoba-Pachon, & A. Ochoa-Arias, *Systems Thinking and E-Participation - ICT in the governance of society* (pp. 109-134). Hershey, New York: Information Science Reference.

Espinosa, A., & Porter, T. (2011). Sustainability, complexity and learning: insights from complex systems approaches. *The Learning Organization, 18(1)*, 54-72.

Espinosa, A., & Walker, J. (2006). Environmental management revisited: lessons from a cybernetic intervention in Columbia. *Cybernetics and Systems, 37(1)*, 75-92.

Espinosa, A., & Walker, J. (2011). *A Complexity Approach to Sustainability: Theory and Application.* UK: Imperial College Press.

Espinosa, A., & Walker, J. (2013). Complexity management in practice: A Viable System Model intervention in an Irish eco-community. *European Journal of Operational Research, http://dx.doi.org/10.1016/j.ejor.2012.09.015*.

Espinosa, A., Cardoso, P., Arcaute, E., & Christensen, K. (2011). Complexity approaches to self-organisation: a case study from an Irish eco-village. *Kybernetes, 40 (3/4)*, 536 – 558.

Espinosa, A., Harnden, R., & Walker, J. (2007a). Beyond hierarchy: a complexity management perspective. *Kybernetes, 36(¾)*, 333-347.

Espinosa, A., Harnden, R., & Walker, J. (2007b). A complexity approach to sustainability – Stafford Beer revisited. *European Journal of Operational Research, 187*, 636-651.

Espinosa, A., Harnden, R., & Walker, J. (2008). A complexity approach to sustainability – Stafford Beer revisited. *European Journal of Operational Research, 187* , 636–651.

Estrada, C., Isen, A., & Young, M. (1994). Positive affect influences creative problem solving and reported source of practice satisfaction in physicians. *Motivation and Emotion, 18*, 285–99.

Eysenck, H. (1967). *The Biological Basis of Personality.* Springfield, IL: Thomas.

Felps, W., Mitchell, T., & Byington, E. (2006). How, when, and why bad apples spoil the barrel: Negative group members and dysfunctional groups. *Research in Organizational Behavior, 27*, 181–230.

Fetterman, A., & Robinson, M. (2012). Interpersonal cognitive self-focus as a function of neuroticism:Basal tendencies and priming effects. *Personality and Individual Differences, 52*, 527-531.

Fida, R., Paciello, M., Barbaranelli, C., Tramontano, C., & Fontaine, R. (2012). The role of irritability in the relation between job stressors, emotional reactivity, and counterproductive work behavior. *European Journal of Work and Organizational Psychology*, 1-17.

Fineman, S. (1993). *Emotion in Organizations. 1st ed.* New Delhi: Sage.

Fineman, S. (2000). Emotional arenas revisited. In S. Fineman, *Emotions in Organizations* (pp. 1-24). London: Sage.

Fineman, S. (2003). *Understanding Emotion at Work.* London: Sage.

Finkelstein, M. (2013). Correlates of Individualism and Collectivism: Predicting Organizational Citizenship Behavior. *International Journal of Psychology and Behavioral Sciences 2013, 3(2)*, 57-62.

Finkelstein, M., & Penner, L. (2004). Predicting organizational citizenship behavior: integrating the functional and role identity approaches. *Social behavior & Personality, 32(4)*, 383-398.

Fisher, C. (1997). *Emotions at work: what do people feel and how should we measure it?* Discussion Paper No. 63, School of Business.

Fisher, C. (1998). A preliminary test of Affective Events Theory. *Paper presented at the First Conference on Emotions and Organizational Life.* San Diego, CA.

Fisher, C. (2000). Moods and emotions while working: Missing pieces of job satisfaction? *Journal of Organizational Behavior, 21*, 185-202.

Fisher, C. (2002). Antecedents and consequences of real-time emotional reactions at work. *Motivation & Emotion, 26*, 3-30.

Fisher, C., & Ashkanasy, N. (2000). The emerging role of emotions in work life: An introduction. *Journal of Organizational Behavior, 21*, 123-129.

Fitness, J. (2000). Anger in the workplace: An emotion script approach to anger episodes between workers and their superiors, co-workers and subordinates. *Journal of Organizational Behavior, 21*, 147–162.

Flood, R., & Zambuni, S. (1990). Viable systems Diagnosis: Application with a Major Tourism Services Group. *Systems Practice, 3(3)*, 225-248.

Flowers, P. (2009, Jan). Research Philosophies – Importance and Relevance (Issue 1). *Leading, Learning and Change: Cranfield School of Management*.

Forgas, J. (1992). Mood and the perception of unusual people: Affective asymmetry in memory and social judgments. *European Journal of Social Psychology, 22*, 531-547.

Forgas, J. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin, 117*, 39–66.

Forgas, J. (1999). On feeling good and being rude: Affective influences on language use and request formulations. *Journal of Personality and Social Psychology, 76*, 928-939.

Forgas, J. (2000). Managing moods: Towards a dual-process theory of spontaneous mood regulation. *Psychological Inquiry, 11*, 172-177.

Forgas, J. (2001). Introduction: Affect and social cognition. In J. Forgas, *Handbook of Affect and Social Cognition* (pp. 1–24). Mahwah, NJ: Lawrence Erlbaum.

Forgas, J., & George, J. (2001). Affective Influences on Judgment, Decision Making, and Behavior in Organizations: An Interactional Approach. *Organizational Behavior and Human Decision Processes, 86*, 3-34.

Forthofer, M., Markman, H., Cox, M., Stanley, S., & Kessler, R. (1996). Associations between marital distress and work loss in a national sample. *Journal of Marriage and the Family, 58*, 597–605.

Fox, S. (2002). Special issue on emotions in human resources. *Human Resources Management Review, 12(2)*.

Fox, S., & Spector, P. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior, 59*, 291-309.

Frijda, N. (1986). *The Emotions.* Cambridge, England: Cambridge University Press.

Frijda, N. (1988). The Laws of Emotion. *American Psychologist, 43*, 349-358.

Frijda, N. (1993). Moods, emotion episodes, and emotions. In M. Lewis, & I. Haviland, *Handbook of emotions* (pp. pp. 381–403). New York: Guilford Press.

Furneaux, B., & Nevo, D. (2008). Beyond Cognitions: A Call for Greater Consideration of Emotion in Information Systems Decision Theories. *Proceedings of the 41st Hawaii International Conference on System Sciences.*

Garg, P., & Rastogi, R. (2006). New model of job design: motivating employees' performance. *Emerald, 25*.

Gautam, T., Van Dick, R., Wagner, U., Upadhyay, N., & Davis, A. (2005). Organizational Citizenship Behavior and Organizational Commitment in Nepal. *Asian Journal of Social Psychology, 8*, 336-345.

Gee, P., Ballard, T., Yeo, G., & Neal, A. (2012). Measuring Affect Over Time: The Momentary Affect Scale. *Research on Emotion in Organizations, 8*, 141-173.

Gefen, D., Straub, D., & Boudreau, M. (2000). Structural equation modeling techniques and regression: guidelines for research practice. *Communications of the AIS, 1(7)*, 1-78.

Gellatly, I., Meyer, J., & Luchak, A. (2004). *Organizational commitment and behavior: Testing for interdependency among three forms of commitment.* Unpublished manuscript, School of Business, University of Alberta.

George, J. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology, 75*, 107–116.

George, J. (1996). Trait and state affect. In K. Murphy, *Individual differences and behavior in organization* (pp. 145-171). San Francisco: Jossey-Bass.

George, J., & Jones, G. (1996). The experience of work and turnover intentions: Interactive effects of value attainment, job satisfaction, and positive mood. *Journal of Applied Psychology, 81*, 318–325.

George, J., & Jones, G. (1997). Experiencing work: Values, attitudes, and moods. *Human Relations, 50*, 393–416.

George, J., Jones, G., & Gonzalez, J. (1998). The Role of Affect in Cross-Cultural Negotiations. *Journal of International Business Studies, 29(4)*, 749-772.

George, M. (1991). State or trait: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology, 76 (2)*, 299-307.

George, M., & Brief, A. (1992). Feeling good-doing good: A conceptual analysis of the mood at work-organizational spontaneity. *Psychological Bulletin, 112(2)*, 310-329.

Gibson, D. (2006). Emotional episodes at work: An experiential exercise in feeling and expressing emotions. *Journal of Management Education, 30*, 477-500.

Gill, J., & Johnson, P. (2002). *Research Methods for Managers (3rd ed.).* London: Sage Publications.

Gittell, J. (2000). Organizing work to support relational coordination. *International Journal of Human Resource Management, 11*, 517-539.

Glomb, T. (2002). Workplace anger and aggression: informing conceptual models with data from specific encounters. *Journal of Occupational Health Psychology, 7*, 20–36.

Gmür, B., Bartelt, A., & Kissling, R. (2010). Organization from a systemic perspective: Application of the viable system model to the Swiss Youth Hostel Association. *Kybernetes, 39(9/10)*, 1627–1644.

Gobel, J., & Law, K. (2007). Organizational Systems: Why Emotions Should be Taken into Account. *Proceedings of the 13th ANZSYS Conference, December.* Auckland, New Zealand: Systemic Development: Local Solutions in a Global Environment.

Gogun, J., & Varela, F. (1979). Systems and Distinctions; Duality and Complementarity. *International Journal of General Systems, 5*, 31-43.

Goh, A., Bruursema, K., Fox, S., & Spector, P. (2003). Comparisons of self and coworker reports of counterproductive work behavior. *Poster session at the meeting of the Society for Industrial and Organizational Psychology, April.* Orlando.

Goldsmith, C., & Cyboran, S. (2012, April). *Choice architecture can help build a healthy enterprise.* Retrieved from http://www.sibson.com/publications/perspectives/volume_20_Issue_1/choice-architecture.html

Goleman, D. (1995). *Emotional Intelligence: Why it can Matter More than IQ.* New York: Bantam.

Golnam, A., Regev, G., & Wegmann, A. (2011). On viable service systems: developing a modeling framework for analysis of viability in service systems. *Lecture Notes in Business Information Processing, 82*, 30-41.

Gorard, G. (2004). *Combining Methods in educational and social research.* Berkshire: Open University Press.

Grandey, A., Tam, A., & A, B. (2002). Affective States and Traits in the Workplace: Diary and Survey Data from Young Workers. *Motivation and Emotion, 26(1)*, 31-55.

Grant, A. (2008). The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. *Journal of Applied Psychology, 93(1)*, 108–124.

Gratch, J., & Marsella, S. (2006). The Architectural Role of Emotion in Cognitive Systems. In G. Wayne, *Integrated Models of Cognitive Systems.* Oxford University Press.

Gray, E., & Watson, D. (2001). Emotion, mood, and temperament: Similarities, differenced, and a synthesis. In R. Payne, & C. Cooper, *Emotion at work* (pp. 21-45). Chichester, UK: Wiley.

Gray, J. (2001). Emotional modulation of cognitive control: Approach-withdrawal states double-dissociate spatial from verbal two-back task performance. *Journal of Experimental Psychology: General, 130*, 436–452.

Gray, J. (2004). Integration of emotion and cognitive control. *Current Directions in Psychological Science, 13(2)*, 46-48.

Gregor, S. (2004). The struggle towards an understanding of theory in Information Systems. *Information Systems Foundation: Constructing and Criticising held at The Australian National University.*

Gregory, A. (2007). Target setting, lean systems and viable systems: a systems perspective on control and performance measurement. *Journal of the Operational Research Society, 58*, 1503-1517.

Gross, J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*, 224–237.

Gross, J. (1999). Emotion and emotion regulation. In L. Pervin, & O. John, *Handbook of personality: Theory and research, 2nd ed.* (pp. 525–552). New York: Guilford.

Guba, E. (1990). The alternative paradigm dialog: . In E. Guba, *The Paradigm Dialog* (pp. 17-27). London: Sage.

Guba, E., & Lincoln, Y. (1994). Competing paradigms in quantitative research. In N. Denzin, & Y. Lincoln, *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.

Hackman, J. (2002). *Leading teams: Setting the stage for great performances.* Cambridge, MA: Harvard University Press.

Hackman, J., & Oldham, G. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology, 60*, 159-170.

Haidt, J. (2000). The positve emotion of elevation. *Prevention and Treatment, 3*.

Hair, J., Hult, G., Ringle, C., & Sarstedt, M. (2013). *A primer on partial least squares structural equation modelling (PLS-SEM).* Los Angeles: Sage.

Hair, J., Ringle, C., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice, 19(2)*, 139-151.

Hair, J., Ringle, C., & Sarstedt, M. (2013). Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. *Long Range Planning, 46 (1)*, 1-12.

Hammer, M. (2001). The Intercultural Conflict Style Inventory: A Conceptual Framework and Measure of Intercultural Conflict Approaches. *Paper presented in IACM 17th international conference* , (p. 101).

Hammer, M., & Champy, J. (2009). *Reengineering the Corporation: a manifesto for business revolution.* HarperCollins.

Harrigan, J., Rosenthal, R., & Scherer, K. (2005). *The New Handbook of Methods in Nonverbal Behavior Research.* Oxford: Oxford University Press.

Hartel, C., Hsu, A., & Boyle, M. (2002). A conceptual examination of the causal sequences of emotional labor, emotional dissonance and emotional exhaustion: The argument for the role of contextual and provider characteristics. In N. Ashkanasy, W. Zerbe, & C. Hartel, *Managing Emotions in the Workplace.* Armonk, NY: M. E. Sharpe.

Harter, S. (1990). Causes, correlates, and the functional role of global self-worth: A life-span perspective. In R. Sternberg, & J. Kolligan, *Competence considered* (pp. 67–97). New Haven, CT: Yale Univ. Press.

Haslett, T., & Sarah, R. (2006). Using the Viable systems Model to structure a system dynamics mapping and modeling project for the Australian Taxation Office. *Systemic Practice & Action Research, 19*, 273-290.

Hatch, M., & Cunliffe, A. (2006). *Organization Theory, 2nd ed.* Oxford : Oxford University Press.

Haugh, C. (2010). *An exploration of the Core Self-Evaluation-Performance relationships: the roles of Engagement and Need for Achievement.* Unpublished Masters thesis, Graduate School of Clemson University.

Hayward, P. (2002). *Facilitating foresight: where the foresight function is placed in organisations.* Unpublished work, Australian Foresight Institute, Hawthorn, Victoria.

Heilmann, T., & Jonas, K. (2010). Validation of a German-language Core Self-Evaluation scale. *Social Behavior & Personality, 38(2)*, 209-226.

Heller, D., Judge, T., & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior, 23*, 815-835.

Henle, C., & Gross, M. (2013). What have I done to deserve this? Effects of employee personality and emotion on abusive supervision. *Journal of Business Ethics, DOI 10.1007/s10551-013-1771-6*.

Henseler, J., Ringle, C., & Sinkovics, R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. *Advances in International Marketing, 20*, 277-320.

Herrera, C., Thomas, A., Belmokhtar, S., & Pannequin, R. (2011). A viable system model for product-driven systems. *International Conference on Industrial Engineering and systems Management, IESM, May .* France.

Herriot, P. (2001). Future work and its emotional implications. In R. Payne, & L. Cooper, *Emotions at work: Theory, research and applications for management.* Chichester: John Wiley.

Herscovitch, L., & Meyer, J. (2002). Commitment to organizational change: Extension of a three-component model. *Journal of Applied Psychology, 87*, 474-487.

Hershcovis, M., Turner, N., Barling, J., Arnold, K., Dupre, K., Inness, M., . . . Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology, 92*, 228 –238.

Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The Motivation to Work (2nd ed.).* New York: John Wiley.

Hirschheim, R., Klein, H., & Lyytinen, K. (1995). *InformationSystems Development and Data Modeling: Conceptual and Philosophical Foundations.* MA, USA: Cambridge University Press, Cambridge.

Hochschild, A. (1979). Emotion Work, Feeling Rules, and Social Structure. *American Journal of Sociology 85(3)*, 551-575.

Hochschild, A. (1983). *The Managed Heart: The Commercialization of Human Feeliing.* London: University of California Press.

Hochschild, A. (2003). *The Managed Heart: Commercialization of Human Feeling.* Berkeley: University of California Press.

Hofer, B. (2000). Dimensionality and Disciplinary Differences in Personal Epistemology. *Contemporary Educational Psychology, 25(4)*, 378–405.

Hofstede, G., Hofstede, G., & Minkov, M. (2010). *cultures and Organizations: Software of the Mind (3 ed.).* US: Mc Graw Hill.

Hoverstadt, P., & Bowling, D. (2002). Modelling Organizations using The Viable System Model. *Royal Academy of Engineering Systems Engineering Workshop, May 23rd.*

Hoverstadt, P., & Searles, J. (2007). Designing Governance using VSM (Practitioner Paper). *Systemist, 29(2)*, 81-87.

Humphrey, R. (2002). The many faces of emotional leadership. *The Leadership Quarterly, 13*, 493-504.

Hunt, C. (1998). A proposed taxonomy for conducting future research into the role of emotions in work life. *Paper presented at the Organizational Behavior Division, 1998 .* Academy of Management Conference, San Diego, California.

Hussey, J., & Hussey, R. (1997). *Business Research. A Practical Guide for Undergraduate and Postgraduate Students.* Palgrave: Basingstoke.

Ibarra, H., & Andrews, S. (1993). Power, social-influence, and sense making—Effects of network centrality and proximity on employee perceptions. *Administrative Science Quarterly, 38(2)*, 277–303.

Ilies, R., Keeney, J., & Scott, B. (2011). Work–family interpersonal capitalization: Sharing positive work events at home. *Organizational Behavior and Human Decision Processes, 114(2)*, 115-126.

Isen, A. (2000). Positive affect and decision making. In L. M, & J. Haviland-Jones, *Handbook of emotions* (pp. 417–435). New York: The Guilford Press.

Isen, A., & Baron, R. (1991). Positive affect as a factor in organizational behavior. *Research in Organizational Behavior, 13*, 1-53.

Ivanov, K. (1991). Critical systems thinking and information technology: Some summary reflections, doubts, and hopes through critical thinking critically considered, and through hypersystems. *Journal of Applied Systems Analysis, 18*, 39-55.

Izard, C. (1977). *Human Emotions.* New York: Plenum Press.

Izard, C. (2007). Basic emotions, natural kinds, emotion schemas, and a new paradigm. *Perspectives on Psychological Sciences, 2*, 260-280.

Ja'bari, N. (1995). *The viable system model (VSM) and the organization theory: a complementary approach to the case of pharmaceutical manufacturer.* PhD. thesis, University of Hull, UK.

Jackson, M. (2003). *Systems Thinking: Creative Holism for Managers.* England: John Wiley & Sons, Ltd.

Jacobson, B., Aldana, S., Goetzel, R., Vardell, K., Adams, T., & Pietras, R. (1996). The Relationship between Perceived Stress and Self-reported Illness-related Absenteeism. *American Journal of Health Promotion, September/October, 11(1)*, 54-61.

James, K., & Arroba, T. (1999). *Energizing the Workplace: A Strategic Response to Stress.* London: Gower.

James, L., & Tetrick, L. (1986). Confirmatory analytic tests of three causal models relating job perceptions to job satisfaction. *Journal of Applied Psychology, 71*, 77–82.

James, W. (1892). *Psychology: The briefer course.* New York: Henry Holt.

Jarvis, D., MacKenzie, S., & Podsakoff, P. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30(3)*, 199-218.

Jehn, K., & Mannix, E. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44*, 238-251.

Jessi, H. (2013, July). LinkedIn: How It's Changing Business. *Fortune*, pp. 69-74.

Johansson, L., Eek, D., Caprali, T., & Garling, T. (2010). Managers' Tradeoffs Between Equality and Efficiency: Preferences and Emotional Responses. *Journal of Applied Social Psychology, 40(2)*, 473-495.

Jones, S., Rodriguez-Diaz, A., Hall, L., Castanon-Puga, M., Flores-Gutierrez, D., & Gaxiola-Pacheco, C. (2007). A cybernetic approach to multi-agent system simulation in Tijuana-San Diego using the VSM. *IEEE International Conference on Systems, Man and Cybernetics*, (pp. 1649-1652). Montreal, Canadá.

Jonge, J., Dormann, C., Janssen, P., Dollard, M., Landeweerd, J., & Nijhuis, F. (2001). Testing reciprocal relationships between job characteristics and psychological well-being: A cross-lagged structural equation model. *Journal of Occupational and Organizational Psychology, 74*, 29–46.

Joo, B., Jeung, C., & Yoon, H. (2010). Investigating the Influences of Core Self-Evaluations, Job Autonomy, and Intrinsic Motivation on In-Role Job Performance. *Human Resource Development Quarterly, 21(4)*, 353-371.

Judge, T. (2009). Core self-evaluations and work success. *Current Directions in Psychological Science, 18*, 58 – 62.

Judge, T., & Bono, J. (2001). Relationship of core self-evaluation traits-self-esteem, generalized self efficacy, locus of control, and emotional stability-with job satisfaction and job performance: A meta analysis. *Journal of Applied Psychology, 86(1)*, 80-92.

Judge, T., & Ilies, R. (2004). Affect and Job Satisfaction: A Study of Their Relationship at Work and at Home. *Journal of Applied Psychology, 89(4)*, 661–673.

Judge, T., & Kammeyer-Mueller, J. (2008). Affect, satisfaction, and performance. In N. Ashkanasy, & C. Cooper, *Research companion to emotion in organizations* (pp. 136-151). Cheltenham, UK: Edward Elgar Press.

Judge, T., & Larsen, R. (2001). Dispositional source of job satisfaction: A review and theoretical extension. *Organizational Behavior and Human Decision Processes, 86*, 67-98.

Judge, T., & Watanabe, S. (1994). Individual differences in the nature of the relationship between job and life satisfaction. *Journal of Occupational and Organizational Psychology, 67*, 101-107.

Judge, T., Bono, J., & Locke, E. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology, 85*, 237-249.

Judge, T., Erez, A., & Bono, J. (1998). The power of being positive: The relationship between positive self-concept and job performance. *Human Performance, 11*, 167–187.

Judge, T., Erez, A., Bono, J., & Thoresen, C. (2002). Do the traits self-esteem, neuroticism, locus of control, and generalized self-efficacy indicate a common core construct? . *Journal of Personality and Social Psychology, 83*, 693–710.

Judge, T., Erez, A., Bono, J., & Thoresen, C. (2003). The core self-evaluation scale: Development of a measure. *Personnel Psychology, 56*, 303–331.

Judge, T., Heller, D., & Klinger, R. (2008). The dispositional sources of job satisfaction: A comparative test. *Applied Psychology: An International Review, 57*, 361- 372.

Judge, T., Heller, D., & Mount, M. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology, 87*, 530–541.

Judge, T., Locke, E., Durham, C., & Kluger, A. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*, 17-34.

Judge, T., Scott, B., & Ilies, R. (2006). Hostility, job attitudes and workplace deviance: Test of a multilevel model. *Journal of Applied Psychology, 91*, 126-138.

Judge, T., Thoresen, C., Bono, J., & Patton, G. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*, 376–407.

Judge, T., Thoresen, C., Pucik, V., & Welbourne, T. (1999). Managerial coping with organizational change: A dispositional perspective. *Journal of Applied Psychology, 84*, 107–122.

Judge, T., Van Vianen, A., & De Pater, I. (2004). Emotional stability, core self-evaluations, and job outcomes: A review of the evidence and an agenda for future research. *Human Performance, 17*, 325- 346.

Kahn, W. (1998). Relational systems at work. In B. Staw, & L. Cummings, *Research in organizational behavior, 20* (pp. 39-76). Greenwich, CT: JAI Press.

Kahn, W. (2007). Meaningful connections: Positive relationships and attachments at work. In J. Dutton, & B. Ragins, *Exploring positive relationships at work: Building a theoretical and research foundation* (pp. 189–206). Mahwah, NJ: Lawrence Erlbaum Associates.

Kanner, A., Coyne, J., Schaefer, C., & Lazarus, R. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of behavioral medicine, 4(1)*, 1-39.

Kelly, J., & Barsade, S. (2001). Mood and emotions in small groups and work teams. *Organizational Behavior & Human Decision Processes, 86*, 99-130.

Keltner, D., & Haidt, J. (1999). Social Functions of Emotions at Four levels of Analysis. *Cognition and Emotion, 13(5)*, 505-521.

Khosrowjerdi, M. (2011). Designing a viable scientific communication model: VSM approach. *Library Hi Tech, 29(2)*, 359-372.

Kickul, J. (2001). When Organizations Break Their Promises: Employee Reactions to Unfair Processes and Treatment. *Journal of Business Ethics, 29*, 289-307.

Kiefer, T. (2005). Feeling bad: Antecedents and consequences of negative emotions in ongoing change. *Journal of Organizational Behavior, 26*, 875-897.

Kinloch, P., Francis, H., Francis, M., & Taylor, M. (2009). Supporting crime detection and operational planning with soft systems methodology and viable system model. *System Research and Behavioral Science, 26*, 3-14.

Klinger, E. (1977). *Meaning and void: Inner experience and the incentives in people's lives.* Minneapolis, MN: University of Minnesota Press.

Klinger, E., Barta, S., & Maxeiner, M. (1980). Motivational correlates of thought content frequency and commitment. *Journal of Personality and Social Psychology, 39*, 1222–1237.

Larsen, R., & Diener, E. (1992). Problems and promises with the circumplex model of emotion. *Review of Personality and Social Psychology, 13*, 25-59.

Larsen, R., & Fredrickson, B. (1999). Measurement issues in emotion research. In D. Kahneman, E. Diener, & N. Schwarz, *Well-being: Foundations of hedonic psychology* (pp. 40-60). New York: Russell Sage.

Lavelle, J., Brockner, J., Konovsky, M., Price, K., Henley, A., Taneja, A., & Vinekar, V. (2009). Commitment, procedural fairness, and organizational citizenship behavior: a multifoci analysis. *Journal of Organizational Behavior, 30(3)*, 337-357.

Law, K., Wong, C., & Mobley, W. (1998). Toward a taxonomy of multidimensional constructs. *Academy of Management Review, 23 (4)*, 741-755.

Lawrence, R. (2001). *The application of Hackman and Oldham job characteristics model to perceptions community music school faculty have towards their job, Ph. D. thesis.* University of north Texas, Denton Texas.1-167.

Lazarus, R. (1991). Cognition and motivation in emotion. *American Psychologist, 46*, 352-367.

Leana, C., & Van Buren, H. (1999). Organizational social capital and employment practices. *Academy of Management Review, 24*, 538-555.

Leary, M. (2007). Motivational and emotional aspects of the self. *Annual Review of Psychology, 58*, 317-344.

Leary, M., & Buttermore, N. (2003). The evolution of the human self: Tracing the natural history of self-awareness. *Journal for the Theory of Social Behavior, 33*, 365–404.

LeBreton, M., Binning, J., & Adorno, A. (2004). Importance of personality and job-specific affect for predicting job attitudes and withdrawal behavior. *Organizational Research Methods, 7*, 300–325.

LeDoux, J. (1998). Cognition and Emotion: Listen to the Brain. In R. Lane, *Emotion and Cognitive Neuroscience.* New York: Oxford U. Press.

Lee, K., & Allen, N. (2002). Organizational Citizenship Behavior and Workplace Deviance: The Role of Affect and Cognitions. *Journal of Applied Psychology, 87(1)*, 131–142.

Leedy, P., & Ormrod, J. (2001). *Practical research: Planning and design (7th ed.).* Upper Saddle River, NJ: Merrill/Prentice Hall.

Leonard, A. (1999). A Viable System Model: Consideration of Knowledge Management. *Journal of Knowledge Management Practice, August.www.tlainc.com/jkmp.htm*.

Leonard, A. (2000). The viable system mode and knowledge management. *Kybernetes, 29(5/6)*, 710-715.

Leonard, A. (2004). *Coming concepts: The cybernetic glossary for new management*. Unpublished.

Leonard, A. (2007). Symbiosis and the viable system model. *Kybernetes, 36(5/6)*, 571-582.

Leonard, A. (2008). Integrating sustainability practices using the viable system model. *Systems Research and Behavioral Sciences, 25(5)*, 643-654.

Leonard, A. (2009). The viable system model and its application to complex organizations. *Systemic Practice and Action Research, 22*, 223-233.

Leonard, A., & Beer, S. (1994). *The systems perspective: methods and models for the future.* American Council for The United Nations University millennium project, futures research methodology.

Levin, D. (1988). *The opening of vision: Nihilism and the postmodern situation.* London: Routledge.

Lewis-Beck, M., Bryman, A., & Liao, T. (2004). *The SAGE Encyclopedia of Social Science Research Methods.* Sage Publication Inc.

Li, Y., Ahlstrom, D., & Ashkanasy, N. (2010). A multilevel model of affect and organizational Commitment. *Asia Pacific Journal of Management, 27*, 193–213.

Limpanitgul, T. (2009). Methodological consideration in quantitative study examining the relationship between job attitudes and citizenship behaviours. *18th EDAMBA summer academy, Soreze, France, July.*

Lincoln, Y., & Guba, E. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin, & Y. S. Lincoln, *In Handbook of Qualitative Research, 2nd edition* (pp. 163–188). Calif, USA: Sage, Thousand Oaks.

Lindebaum, D., & Fielden, S. (2011). It's good to be angry: Enacting anger in construction project management to achieve perceived leader effectiveness. *Human Relations, 64(3)*, 437-458.

Lindsay, D. (2003). *An Empirical Test of Affective Events Theory*. Air Force Institute of Tech Wright - PATTERSONAFB OH.

Locke, A. (1976). The nature and causes of job satisfaction. In M. Dunnette, *Handbook of industrial and organizational psychology* (pp. 1297–1343). Chicago: Rand McNally.

Locke, A., McClear, K., & Knight, D. (1996). Self-esteem and work. *International Review of Industrial/Organizational Psychology, 11*, 1-32.

Locke, E., & Latham, G. (1990). *A theory ofgoal setting and task performance.* Englewood Cliffs, NJ: Prentice-Hall.

Luckett, S., Ngubane, S., & Memela, B. (2001). Designing a Management System for A Rural Community Development Organisation Using a Systemic Action Research. *System Practice Action Research, 14(4)*.

Lumley, E., Coetzee, M., Tladinyane, R., & Ferreira, N. (2011). Exploring the job satisfaction and organizational commitment of employees in the information technology environment. *Southern African Business Review, 15(1)*, 100-118.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? . *Psychological Bulletin, 131*, 803-855.

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in Educational Research, 16*, 193-205.

MacKenzie, S., Podsakoff, P., & Jarvis, C. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *Journal of Applied Psychology, 90(4)*, 710-730.

Maitlis, S., & Ozcelik, H. (2004). Toxic decision processes: A study of emotion and organizational decision making. *Organization Science, 15(4)*, 375–393.

Malhotra, N. (1996). *Marketing Research: An Applied Orientation, (2nd ed.).* Upper Saddle River, NJ: Prentice-Hall.

Mangoine, T., & Quinn, R. (1975). Job satisfaction, counterproductive behavior and drug use at work. *Journal of Applied Psychology, 60*, 114-116.

Martin, A. (2005). The role ofpositive psychology in enhancing satisfaction,motivation,and productivity inthe workplace. *Journal of Organizational Behavior Management, 24 (1–2)*, 111–131.

Mascolo, M., & Fischer, K. (1995). Developmental transformation in appraisals for pride, shame and guilt. In J. Tangney, & K. Fischer, *Self-conscious emotions: The psychology of shame, guilt, embarrassment and pride* (pp. 64-113). New York: Guilford Press.

Mateos-Aparicio, G. (2011). Partial least squares (PLS) methods: Origins, evolution, and application to social sciences. *Communications in Statistics-Theory and Methods, 40(13)*, 2305-2317.

Mathieu, J., & Zajac, D. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin, 108*, 171–194.

Matthews, G., Jones, D., & Chamberlain, A. (1990). Refining the measurement of mood: the UWIST Mood Adjective Checklist. *British journal of psychology, 81(1)*, 17-42.

Maturana, H., & Varela, F. (1980). *Autopoiesis and Cognition: the Realization of the Living.* D. Reidel, Dordrecht, Holland.

Matzler, K., & Renzl, B. (2007). Personality traits, employee satisfaction and affective commitment . *Total Quality Management & Business Excellence, 18(5)*, 589-598.

Mayer, J., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey, & D. J. Sluyter, *Emotional Development and Emotional Intelligence: Educational Implications* (pp. 3-31). New York: Basic Books.

McCrae, R., & Costa, P. (1991). Adding liebe und arbeit: The full five-factor model and well-being. *Personality and Social Psychology Bulletin, 17*, 227–232.

McNeely, B., & Meglino, B. (1994). The role of dispositional and situational antecedents in pro-social organizational behavior: An examination of the intended beneficiaries of pro-social behavior. *Journal of Applied Psychology, 79*, 836-844.

Medina, E. (2006). Designing freedom, regulating a nation: socialist cybernetics in Allende's Chile. *Journal of Latin American Studies, 38(3)*, 571-606.

Meijman, T., & Mulder, G. (1998). Psychological aspects of workload. In P. Drenth, H. Thierry, & C. de Wolff, *Handbook of Work and Organisational Psychology* (pp. 5–33). Hove, UK: Erlbaum.

Mesquita, B., & Frijda, N. (1992). Cultural variations in emotions: A review. *Psychological Bulletin, 112*, 179-204.

Meuer, J. (2009). Smart Business Network in Non-Modular Industries: China's Biopharmaceutical R & D and the Viable Systems Model. *The Network Experience*, 211-228.

Meyer, J., & Allen, N. (1991). A Three-Component Conceptualization of Organizational Commitment . *Human Resource Management Review, 1 (1)*, 61-89.

Meyer, J., & Allen, N. (2004). *TCM Employee Commitment Survey Academic Users Guide.* London, Ontario: The University of Western Ontario.

Meyer, J., Stanley, D., Herscovitch, L., & Topolnytsky, L. (2002). Affective, Continuance and Normative Commitment to the Organization: A Meta-analysis of Antecedents, Correlates, and Consequences. *Journal of Vocational Behavior, 61*, 20-52.

Meyers, L., Gamst, G., & Guarino, A. (2013). *Performing Data analysis using IBM SPSS.* Hoboken, New Jersey: John Wiley & Sons Inc.

Michael, A. (1998). *A handbook of Personnel Management Practice, (6th ed.).* London: Kogan Page Limited.

Midgley, G., Munlo, I., & Brown, M. (1998). The theory and practice of boundary critique: developing housing services for older people. *Journal of the Operational Research Society, 49(5)*, 467-478.

Mignonac, K., & Herrbach, O. (2004). Linking work events, affective states, and attitudes: An empirical study of managers' emotions. *Journal of Business and Psychology, 19*, 221-240.

Miles, D., Borman, W., Spector, P., & Fox, S. (2002). Building an integrative model of extra role work behaviors: a comparison of counterproductive work behavior with organizational citizenship behavior. *International Journal of Selection and Assessment, 10*, 51-57.

Miller, A. (2004). A work domain analysis framework for modeling intensive care unit patients. *Cognition Technology and Work, 6*, 207-222.

Miller, K. (2000). Common ground from the post-positivist perspective: from 'staw person' argument to collaborative coexistence. In S. Corman, & M. Poole, *Perspectives on Organizational Communication: Finding Common Grounds* (pp. 46-67). New York: Guildford.

Mingers, J. (2001). Combining IS research methods: towards a pluralist methodology. *Information Systems Research, 12(3)*, 240-259.

Mingers, J., & Gill, A. (1997). *Multimethodology: The theory and practice of combining management science methodologies.* Chichester: Wiley.

Ministry of Finance. (2012). Pakistan Economic Survey (2012-2013). Islamabad: Govt. of Pakistan. Retrieved from http://www.finance.gov.pk/survey_1213.html

Mintzberg, H., & Westley, F. (2001). Decision-making: It's not what you think. *MIT Sloan Management Review, 42 (3)*, 89-93.

Mitra, A., Duffy, M., & Bowler, W. (2008). Consequences of social undermining and social support: A meta-analysis. *Annual Conference of the Society for Industrial & Organizational Psychology (SIOP).* San Francisco, CA.

Mooradian, T., & Olver, J. (1997). "I can't get no satisfaction:" The impact of personality and emotion on postpurchase processes. *Psychology & Marketing, 14(4)*, 379-393.

Morlidge, S. (2010). *The Application of Organisational Cybernetics to the Design and Diagnosis of Financial Performance Management Systems.* Unpublished Doctoral Dissertation, University of Hull, UK.

Morlidge, S. (2009). Money, time and variety engineering: the application of cybernetics to the diagnosis and design of financial performance management systems. *Systemic Practice and Action Research, 22(4)*, 235-247.

Morrison, E., & Robinson, S. (1997). When employees feel betrayed: A model of how psychological contract violation develops. *Academy of Management Review, 22(1)*, 226-256.

Morrison, R. (2009). Are Women Tending and Befriending in the Workplace? Gender Differences in the Relationship Between Workplace Friendships and Organizational Outcomes. *Sex Roles, 60*, 1-13.

Mowday, R., Porter, L., & Steer, R. (1982). *Employees organization linkages.* New York: Academic Press.

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Mowday, R., Steers, R., & Porter, L. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*, 224–247.

Mumby, D., & Putnam, L. (1992). The politics of emotion: A feminist reading of bounded rationality. *Academy of Management Review, 17(3)*, 465-478.

Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences, (7th ed).* New York: Worth.

Newland, S. (2012). *Organizational Citizenship Behavior- Individual or Organizational Citizenship Behavior- Organization: Does the Underlying Motive Matter?* Masters Thesis & Specialist Projects, Paper 1159.

Nicholson, N. (1998). How hardwired is human behavior? . *Harvard Business Review, July/August*, 135–147.

Nikolaou, J., Gouras, A., Vakola, M., & Bourantas, D. (2007). Selecting Change Agents: Exploring traits and skills in a simulated environment. *Journal of Change Management, 7(3)*, 291-313.

Nowlis, V., & Green, R. (1957). *The experimental analysis of mood.* Technical Report No. Nonr-668(12). Washington DC: Office of Naval Research.

Nunnally, J. (1978). *Psychometric Theory* . New York: McGraw-Hill.

O'Donoghue, T., & Punch, K. (2003). *Qualitative educational research in action: Doing and reflecting.* London: Routledge Falmer.

O'Connor, L., Berry, J., Weiss, J., M, B., & Sampson, H. (1997). Interpersonal guilt: The development of a new measure. *Journal of Clinical Psychology, 53 (1)*, 73-89.

Oppenheim, A. (2000). *Questionnaire Design, Interviewing and Attitude Measurement.* Buckingham UK: Open University Press.

Organ, D. (1988). A restatement of the satisfaction- performance hypothesis. *Journal of Management, 14*, 547–557.

Organ, D., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 48*, 775–802.

Ormel, J., & Wohlfarth, T. (1991). How neuroticism, long term difficulties and life situation change influence psychological distress: A longitudinal model. *Journal of Personality and Social Psychology, 60(5)*, 744-755.

Ortony, A., & Turner, T. (1990). What's basic about basic emotions? *Psychological Review, 97*, 315-331.

Ozcelik, H., Langton, N., & Aldrich, H. (2008). Doing well and doing good: The relationship between leadership practices that facilitate a positive emotional climate and organizational performance. *Journal of Managerial Psychology, 23(2)*, 186 – 203.

Pallant, J. (2001). *SPSS Survival Manual 2001, (2nd ed.).* Chicago, Illinois USA: SPSS Inc. S.Wacker Drive .

Paradissopoulos, I. (1991). Diagnosing problems in the structuring of operational activities in a railway enterprise in terms of Beer's mode of the viable system. *Cybernetics & Systems, 22(1)*, 57-88.

Parasuraman, A., Grewal, D., & Krishnan, R. (2004). *Marketing research.* Boston: Houghton Mifflin.

Patterson, M., Warr, P., & West, M. (2004). Organizational climate and company performance: the role of employee affect and employee level. *Journal of Occupational and Organizational Psychology, 77*, 193–216.

Patton, M. (1990). *Qualitative Evaluation and Research Methods, (2nd ed.).* Newbury Park: Sage.

Payne, R. (2001). Measuring emotions at work. In R. Payne, & C. Cooper, *Emotions at Work.* New York: Wiley.

Pekrun, R., & Frese, M. (1992). Emotions in work and achievement. *International Review of Industrial and Organizational Psychology, 7*, 154-200.

Penney, L., & Spector, P. (2005). Job stress, incivility, and counterproductive work behavior (CWB): the moderating role of negative affectivity. *Journal of Organizational Behavior, 26, *, 777–796.

Peppard, J. (2005). The application of the viable systems model to information technology governance. *Presented in Twenty-Sixth International Conference on Information systems*, (pp. 11-24).

Pescosolido, A. (2002). Emergent leaders as managers of group emotion. *Leadership Quarterly, 13*, 583-599.

Peters, T. (2005). *Design – innovate, differntiate, communicate.* New York: DK Publishing.

Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *MIS Quarterly, 31(4)*, 623-656.

Pettigrew, A. (1992). The character and significance of strategy process research. *Strategic Management Journal, 13*, 5-16.

Pfiffner, M. (2010). Five experiences with the viable system model. *Kybernetes, 39(9/10)*, 1615–1626.

Phillips, D. (1990). Postpositivistic Science: Myths and Realities. In E. (. Guba, *The paradigm dialog* (pp. 31-45). Newbury Park, CA: Sage.

Pickering, A. (2002). The science of the unknowable: Stafford Beer's cybernetic informatics. *Kybernetes, 33(3/4)*, 499-521.

Plutchik, R. (1980). *Emotion: Theory, research, and experience: Vol. 1. Theories of emotion.* New York: Academic.

Plutchik, R., & Kellerman, H. (1980). *Emotion: Theory, research, and experience, Vol. 1. Theories of emotion.* New York: Academic Press.

Podsakoff, N., Whiting, S., Podsakoff, P., & Blume, B. (2009). Individual- and Organizational-Level Consequences of Organizational Citizenship Behaviors: A Meta-Analysis. *Journal of Applied Psychology, 94(1)*, 122–141.

Podsakoff, P., & MacKenzie, S. (1997). Impact of organizational citizenship behavior on organizational performance: A review and suggestions for future research. *Human Performance, 10*, 133–151.

Pollock, T., Whitbred, R., & Contractor, N. (2000). Social information processing and job characteristics: A simultaneous test of two theories with implications for job satisfaction. *Human Communication Research, 26*, 292-330.

Pratt, M., & Ashforth, B. (2003). Fostering meaningfulness in working and at work. In K. Cameron, J. Dutton, & R. Quinn, *Positive organizational scholarship* (pp. 309–327). San Francisco: Berrett-Koehler Publishers, Inc.

Raadt, J. (1990). Information Transmission in viable Systems. *Journal of American Society for Information Science, 41(2)*, 111-120.

Rafaeli, A., & Sutton, R. (1987). Expression of emotion as part of the work role. *Academy of Management Review, 12(1)*, 23-37.

Rafaeli, A., & Sutton, R. (1990). Busy stores and demanding customers: How do they affect the display of positive emotions. *Academy of Management Journal, 33(3)*, 623-637.

Ramiez, G. (2007). Societal Learning And Knowledge Management: Diagnosing And Enhancing Their Potential. *Journal of Knowledge Management Practice, 8(1)*.

Ramo, S., & St. Clair, R. (1998). *The Systems Approach: Fresh Solutions to Complex Civil Problems Through Combining Science and Practical Common Sense.* KNI.

Rastgar, A., Pourebrahimi, N., & Davoudi, S. (2012). Leader-member exchange and organizational citizenship behavior: a survey in Iran's food industry. *Pacific Business Review International, 5(5)*, 13-18.

Remenyi, D., Williams, B., Money, A., & Swartz, E. (1998). *Doing Research in Business and Management. An Introduction to Process and Method.* London: Sage.

Renn, R., & Vandenberg, R. (1995). The critical psychological states: An underrepresented component in job characteristics model research. *Journal of Management, 21*, 279–303.

Repetti, R. (1993). Short-Term Effects of Occupational Stressors on Daily Mood and Health Complains. *Health Psychology, 12(2)*, 125-131.

Reynolds, M. (2002). In defence of knowledge constitutive interests. A comment on 'What is this thing called CST?' (Midgley, 1996). *Journal of the Operational Research Society, 53(10)*, 1162–1164.

Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization. *Journal of Applied Psychology, 86*, 825–836.

Richards, D., & Schat, A. (2007). Attachment and customer aggression: an affective events theory model. *In proceedings of ASAC 2007*, (pp. 253-269). Ottawa, Ontario.

Ringle, C., Sarstedt, M., & Straub, D. (2012). Editors comments: a critical look at the use of PLS-SEM in MIS Quarterly. *MIS Quarterly, 36(1)*, iii-xiv.

Ringle, C., Wende, S., & Will, A. (2005). *SmartPLS 2.0 (Beta).* Hamburg. Retrieved from http://www.smartpls.de

Rios, J. (2010). Models of organziational cybernetics for diagnosis and design. *Kybernetes, 39(9/10)*, 1529–1550.

Rios, J. (2012). *Design and Diagnosis for Sustainable Organizations-the Viable System Method.* Heidelberg, Germany: Springer-Verlang Berlin .

Robbins, S., Judge, T., & Sanghi, S. (2009). *Organizational Behavior (13th ed).* Pearson.

Robinson, S., & Bennett, R. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal, 38*, 555–752.

Robinson, S., & O'Leary-Kelly, A. (1998). Monkey see monkey do: the influence of work groups on the antisocial behavior of employees. *Academy of Management Journal, 41*, 658–672.

Rosenkranz, C., & Feddersen, C. (2010). Managing viable virtual communities: an exploratory case study and explanatory model. *International Journal of Web Based Communities, 6(1)*, 5-23.

Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcement. *. Psychological Monographs, 80 (1, Whole No. 609)*.

Saari, L., & Judge, T. (2004). Employee Attitudes and Job Satisfaction. *Human Resource Management, 43(4)*, 395-407.

Saavedra, R., & Kwun, S. (2000). Affective states in job characteristics theory. *Journal of organizational Behavior, 21*, 131-146.

Salami, S. (2010). Job Stress and Counterproductive Work Behaviour: Negative Affectivity as a Moderator. *The Social Science, 5(6)*, 486-492.

Salancik, G., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly, 23*, 224–252.

Saunder, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students, (5th ed.).* Pearson Education.

Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research methods for business students.* London: Prentice Hall.

Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students, (4th ed.)* Harlow: Prentice Hall Financial Times.

Schappe, S. (1998). The infleunce of job satisfaction, organizational commitment and fairness perceptions on organizational behavior citizenship. *Journal of Psychology: Interdisciplinary and Applied, 132(3)*, 277-290.

Schaufeli, W., & van Rhenen, W. (2006). About the role of positive and negative emotions in managers' well-being: A study using the job-related affective well-being scale (JAWS). *Gedrag und Organisatie, 19*, 323–244.

Scherer, K. (1993). Neuroscience projections to current debates in emotion psychology. *Cognition and Emotion, 7*, 1-41.

Scherer, K. (2005). What are emotions? and how can they be measured? . *Social Science Information, 44 (4)*, 695-729.

Scherer, K., Shorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion: theory, methods, research.* Canary, NC: Oxford University Press.

Scherer, K., Shorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion: theory, methods, research.* Canary, NC: Oxford University Press.

Schiffman, L., & Kanuk, L. (1997). *Consumer Behaviour.* London: Prentice Hall.

Schleicher, D., Watt, J., & Greguras, G. (2004). Reexamining the Job Satisfaction– Performance Relationship: The Complexity of Attitudes. *Journal of Applied Psychology, 89(1)*, 165-177.

Schwaninger, M. (1989). Embodiments of Organizational fitness: The Viable System Model (VSM) as a guide. *Systems Practice, 3(3)*, 249-264.

Schwaninger, M. (2000). Managing Complexity—The Path Toward Intelligent Organizations. *Systemic Practice and Action Research, 13(2)*, 207-241.

Schwaninger, M. (2004). Methodologies in Conflict: Achieving Synergies between System Dynamics and Organizational Cybernetics. *Systems Research and Behavioral Science, 21*, 411-431.

Schwaninger, M. (2006). Design for viable organizations – the diagnostic power of the viable system model. *Kybernetes, 35(7/8)*, 955-966.

Schwaninger, M. (2009). *Intelligent Organizations - Powerful Models for Systemic Management.* Heidelberg, Germany: Spinger-Verlang Berlin .

Schwaninger, M., & Rios, J. (2008). System dynamics and cybernetics: a synergetic pair. *System Dynamics Review, 24(2)*, 145-174.

Scott, B., & Judge, T. (2009). The popularity contest at work: Who wins, why, and what do they receive? . *Journal of Applied Psychology, 94*, 20- 33.

Seddon, J. (2003). *Freedom for command and control: a better way to make the work work.* Buckingham: Vanguard Education Ltd.

Segal, J., Smith, M., Robinson, L., & Segal, R. (2013, August). *Stress at Work: Tips to reduce and manage job and workplace stress*. Retrieved from http://www.helpguide.org/mental/work_stress_management.htm

Senge, P. (1990). *The Fifth Discipline: the art and practice of the learning organization.* London: Century Business .

Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology, 52*, 1061-1086.

Shaw, D., Snowdon, B., Holland, C., Kawalek, P., & Warboys, B. (2004). The viable systems model applied to a smart network: the case of the UK electricity market. *Journal of Information Technology, Special Edition I-II*.

Sheykhshabani, S. (2011). Validity and Reliability of Core Self-Evaluations Scale in Iranian Employees. *Procedia - Social and Behavioral Sciences, 15*, 1561–1565.

Simon, H. (1957). *Administrative Behavior: a Study of Decision-Making Processes in Administrative Organization (2nd ed.).* New York: Macmillan.

Simon, H. (1967). Motivational and emotional controls of cognition. *Psychological Review, 74*, 29-39.

Smith, C., & Ellsworth, P. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology, 48*, 813–838.

Smith, C., & Ellsworth, P. (1987). Patterns of cognitive appraisal and emotion related to taking an exam. *Journal of Personality and Social Psychology, 52*, 475-488.

Smith, R., Parrott, W., Diener, E., Hoyle, R., & Kim, S. (1999). Dispositional envy. *Personality and Social Psychology Bulletin, 25(8)*, 1007-1020.

Sokoya, K. (2000). Personal predictors of job satisfaction for the public sector managers: implications for management practice and development in a developing company. *Journal of Business in Developing Nations, 4(1)*.

Song, S., & Olshfski, D. (2008). Friends at Work: A Comparative Study of Work Attitudes in Seoul City Government and New Jersey State Government. *Administration and Society, 40(2)*, 147-169.

Spector, P., & Fox, S. (2005). A stressor-emotion model of counterproductive work behavior. In S. Fox, & P. Spector, *Counterproductive work behavior: Investigations of actors and targets* (pp. 151–174). Washington, DC: APA.

Spector, P., Fox, S., Penney, L., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior, 68*, 446–460.

Spielberger, C. (1996). *State-trait anger expression inventory manual.* Palo Alto, CA: Mind Garden.

Staw, M., & Barsade, G. (1993). Affect and managerial performance: a test of the sadder-but-wiser vs. happier and smarter hypotheses. *Administrative Science Quarterly, 38*, 304-331.

Staw, M., Sutton, R., & Pelled, L. (1994). Employee positive emotion and favorable outcomes at the workplace. *Organization Science, 5 (1)*, 51-71.

Stemmler, G. (2003). Methodological Considerations in the Psychophysiological Study of Emotion. In R. Davidson, K. Scherer, & H. Goldsmith, *Handbook of Affective Sciences* (pp. 225-255). New York and Oxford: Oxford University Press.

Stoetzer, U. (2010). *Interpersonal Relationships at work: organization, working conditions and health.* Stockholm, Sweden: Karolinska Institutet.

Sturdy, A. (2003). Knowing the Unknowable?—A Discussion of Methodological and Theoretical Issues in Emotion Research and Organisational Studies. *Organization, 10(1)*, 81–105.

Svensson, S. (2001). Developing a command structure within the fire services – from enlistment to a viable system. *In proceedings of International Conference on Improving Firefighter Safety: Human Behavior and Organizational Aspects, Indianapolis, March.*

Tabachnick, B., & Fidell, L. (2001). *Using multivariate statistics (4th ed.).* Needham Heights, MA: Allyn & Bacon.

Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social & behavioral research.* Thousand Oaks, CA: Sage.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research, 1*, 77-100.

Tenhiälä, A., & Lount, R. (2012). Affective reactions to a pay system reform and their impact on employee behaviour. *Journal of Occupational and Organizational and Psychology, 86(1)*, 100-118.

Thayer, R. (1967). Measurement of activation through self-report. *Monograph Supplement 1-V20. Psychological reports, 20(2)*, 663-678.

Thayer, R. (1986). Activation-Deactivation Adjective Check List: Current overview and structural analysis. *Psychological Reports, 58*, 607-614.

Thoits, P. (1989). The sociology of emotions. *Annual Review of Sociology, 15(1)*, 317–342.

Thomas, J., & Griffin, R. (1983). The social information processing model of task design: A review of the literature. *Academy of Management Review, 8*, 672-682.

Tsuchiya, Y. (2007). Autopoietic Viable system Model. *Systems Research and Behavioral Science, 24(3)*, 333-346.

Ulrich, W. (1983). *Critical Heuristics of Social Planning: A new approach to practical philosophy.* Chichester: Wiley.

Ulrich, W. (1987). Critical heuristics of social systems design. *Europen Journal of Operational Research, 31* , 276-283.

Umpleby, C. (2006). *The viable system model.* Research Program in Social and Organizational Learning, the George Washington University, Washington DC. Retrieved from www.guv.edu/www,indigodev.com

University of Maryland Medical Center. (2013). *An indepth report on the causes, diagnosis, treatment, and prevention of stress.* Retrieved from http://umm.edu/health/medical/reports/articles/stress

Van Dyne, L., Cummings, L., & McLean Parks, J. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity. In L. Cummings, & B. Staw, *Research in organizational behavior* (pp. 215-285). Greenwich, CT: JAI Press.

Vidgen, R. (1998). Cybernetics and business processes: using the viable system model to develop an enterprise process architecture. *Knowledge and Process Management, 5(2)*, 118-131.

Vince, R. (2006). Being taken over: Manager's emotions and rationalizations during a company takeover. *Journal of Management Studies, 43*, 343-365.

Von Glinow, M., Shapiro, D., & Brett, J. (2004). Can we talk and should we? Managing emotional conflict in multicultural teams. *Academy of Management Review, 29(4)*, 578-592.

Vriens, D., & Achterbergh, J. (2011). Cybernetically sound organizational structures I: de Sitter's design theory. *Kybernetes, 40(3/4)*, 405-424.

Walker, J. (2006). *Viable System Model Guide (Verion 3).* Retrieved from http://www.esrad.org.uk/resources/vsmg_3

Walter, F., & Bruch, H. (2009). An Affective Events Model of Charismatic leadership behavior: A review, theoretical integration and research agenda. *Journal of Management, 35(6)*, 1428-1452.

Wang, C., & Ahmed, P. (2002). *Tapping Into the'softness' of Soft Systems.* United Kingdom: Management Research Centre, Wolverhampton University Business School.

Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of occupational Psychology, 63(3)*, 193-210.

Watson, D. (2000). *Mood and temperament.* New York: Guilford Press.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*, 219-235.

Watson, D., Clark, L., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Waugh, C., & Fredrickson, B. (2006). Nice to know you:positive emotions,self-other overlap,andcomplex understanding in the formation ofnew relationships. *Journal of Positive Psychology, 1(2)*, 93–106.

Wegge, J., Dick, R., Fisher, G., Michael, W., & Dawson, J. (2006). A test of basic assumptions of Affective Events Theory (AET) in call centre work. *British Journal of Management, 17*, 237-254.

Weiss, H. (2002). Antecedents of emotional experiences at work. *Motivation and Emotion, 26*, 1–2.

Weiss, H., & Beal, D. (2005). Reflections on Affective Events Theory. *Research on Emotion in Organization, 1*, 1-21.

Weiss, H., & Brief, A. (2002). Affect at Work: A Historical Perspective. In R. L. Payne, & C. L. Cooper, *Emotions at Work: Theory, Research, and Applications in Management* (pp. 133–172). Chichester, UK: Wiley.

Weiss, H., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior, 18*, 1-74.

Weiss, H., Nicholas, J., & Daus, C. (1999). An examination of the joint effects of affective experiences and job beliefs on job satisfaction and variations in affective experiences over time. *Organizational Behavior and Human Decision Processes, 78*, 1-24.

Weiss, H., Suckow, K., & Cropanzano, R. (1999). Effects of justice conditions on discrete emtoions. *Journal of Applied Psychology, 84(5)*, 786-794.

Wetzels, M., Odekerken-Schreoder, G., & van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly, 33(1)*, 177-195.

Wilderom, C., Glunk, U., & Maslowski, R. (2000). Organizational culture as a predictor of organizational performance. In N. Ashkanasy, C. Wilderom, & M. Peterson, *Handbook of Organizational Culture and Climate* (pp. 193-209). London: Sage.

Williams, L., & Anderson, S. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*, 601–617.

Williams, M., & May, T. (1996). *Introduction to the Philosophy of Social Research.* London: UCL Press.

Williams, S. (2001). *Emotions and Social Theory.* London: Sage.

Wilson, A. (2006). *Marketing research: An integrated approach, (2nd ed.).* Gosport: Prentice Hall.

Wilson, B., & Henseler, J. (2007). Modeling Reflective Higher-order Constructs Using Three Approaches with PLS Path Modeling: A Monte Carlo Comparison. *Australian and New Zealand Marketing Academy Conference*, (pp. 791-800). Otago, Australia.

Wilson, E. (1998). *Consilience: The unity of knowledge.* New York: Knopf.

Wold, H. (1982). Soft modeling: the basic design and some extensions. In K. Jeoreskog, *Systems under Indirect Observation: Causality, Structure, Prediction, vol. 2. (Eds.)* (pp. 1-54.). North Holland, Amsterdam.

Wright, K. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10(3), Article no. 11*.

Wrzesniewski, A., & Dutton, J. (2001). Crafting a job:revisioning employees as active crafters oftheir work. *Academy ofManagement Review, 26 (2)*, 179–201.

Xanthopoulou, D., Bakker, B., Demerouti, E., & Schaufeli, W. (2012). A diary study on the happy worker: How job resources relate to positive emotions and personal resources. *European Journal of Work and Organizational Psychology, 21(4)*, 489-517.

Yagil, D., Luria, G., & Gal, I. (2008). Stressors and resources in customer service roles: Exploring the relationship between core self-evaluations and burnout. *International Journal of Service Industry Management, 19*, 575- 595.

Yalcin, A. (2010). *Emotional Labor: Dispositional Antecedents and The Role Of Affective Events.* Unpublished Doctoral Dissertation, Middle East Technical University, Ankara.

Yang, C., & Yen, H. (2007). A viable systems perspective to knowledge management. *Kybernetes, 36(5/6)*, 636-651.

Yang, J., & Diefendorff, J. (2009). The Relations Of Daily Counterproductive Workplace Behavior With Emotions, Situational Antecedents, And Personality Moderators: A Diary Study In Hong Kong. *Personnel Psychology, 62*, 259–295.

Yolles, M. (2000). Organizations, complexity, and viable knowledge management. *Kybernetes, 29(9/10)*, 202-1222.

Yolles, M. (2001). Viable boundary critique. *Journal of the Operational Research Society, 52*, 35-47.

Yukl, G. (2002). *Leadership in organizations.* Upper Saddle River, NJ: Prentice Hall.

Zagenczyk, T., Scott, K., Gibney, R., Murrell, A., & Thatcher, J. (2010). Social influence and perceived organizational support: A social networks analysis. *Organizational Behavior and Human Decision, 11(2)*, 127-138.

Zerbe, W., Härtel, C., & Ashkanasy, N. (2006). *Individual and organizational perspectives on emotion management and display.* Oxford, UK: Elsevier Science/JAI.

Zhao, X., Lynch, J., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*, 197-206.

Zhi-hong, R., & Yi-duo, Y. (2009). The Chinese Version of Core Self-evaluation Scale. *Journal of Fujian Normal University(Philosophy and Social Sciences Edition), 4*.

Zhu, C., & Dowling, P. (1994). The impact of the economic system upon human resource management practices in China. *Human Resource Planning, 17(4)*, 1-21.

Zuckerman, M., & Lubin, B. (1965). *The multiple affect adjective checklist.* San Diego: Educational and Industrial Testing Service.

GLOSSARY

Term	Definition
AFFECT	"Used as a generic label to refer to both moods and emotions" (Forgas and George, 2001, 5).
ANTI-OSCILLATORY	Dealing with the task of removing conflicts erupting amongst operational units.
AUTONOMY	Freedom given to the worker in determining the way of task accomplishment.
BASE THEORY OF VSM	Human Nervous System.
COMPLEXITY	"A potentiality of a system to exhibit different states or behaviours" (Espinosa and Walker, 2011).
CORE SELF-EVALUATION	"Core self-evaluations are fundamental evaluations that individuals hold about themselves and their functioning in the environment" (Judge *et al*., 1998).
COUNTERPRODUCTIVE WORK BEHAVIOUR	"Volitional acts that harm or intends to harm organizations or people in organizations" (Yang and Diefendorff, 2009, 260).
EMOTIONS	"Affective States which are more intense, short-lived and usually have a definite cause and clear cognitive content" (Forgas, 1992, 230).

Term	Definition
JOB CHARACTERISITCS	Aspects specific to job
JOB SATISFACTION	"Pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976, 134).
LIFE EVENTS	e.g. illness, marriage, illness (Clark and Oswald, 2002).
MOODS	"Low-intensity, diffuse and relatively enduring affective states without a salient antecedent cause and therefore little cognitive content (feeling good or feeling bad)" (Forgas, 1992, 230).
ORGANZIATIONAL CITIZENSHIP BEHAVIOUR	Extra-role behaviour not included in the formal job responsibilities of the employee, benefitting organization and its members.
ORGANIZATIONAL COMMITMENT	"An identification with the goal's and values of the organization, a desire to belong to the organization and a willingness to display effort on behalf of the organization" (Mowday *et al*., 1979).
SELF-REGULATION	Self-regulation concerns the ability of systems to maintain themselves towards the achievement of goals regardless of environmental disturbances.
SKILLS VARIETY	Variety of skills and talents of employee used for task completion.

Term	Definition
SYSTEM 1 – S1	'Operations' containing primary activities (Espinosa and Walker, 2011).
SYSTEM 2 – S2	'Damping Oscillations' i.e. dealing with conflicts in S1 units (Espinosa and Walker, 2011).
SYSTEM 3- S3	'Optimization' i.e. providing synergy & ensuring better performance of system as a whole (Espinosa and Walker, 2011).
SYSTEM 3*- S3*	'Accountability Channel' (Espinosa and Walker, 2011).
SYSTEM 4 – S4	'Environmental Scanning & Adaption' (Espinosa and Walker, 2011).
SYSTEM 5 – S5	'Policy making, organizational closure, identity and ethos' (Espinosa and Walker, 2011).
TASK FEEDBACK	Information given to worker pertaining to his performance as a result of carrying out his tasks.
TASK IDENTITY	Job requiring completion of identifiable piece of work.
TASK SIGNIFICANE	Impact of job on lives and work of other people.
THEORY OF VIABILITY	Viable System Model

Term	Definition
VARIETY	Measure of perceived complexity, both in mechanical and social dynamic systems (Espinosa and Walker, 2011).
VIABILTIY	"Being capable to maintain an independent existence in the long term" (Brocklesby and Cummings, 1996).
WORK ATTITUDES	The viewpoints of the employees towards their job, organization etc.
WORK EVENTS	"An incident that stimulates appraisal of an emotional reaction to a transitory or ongoing job-related agent, object or event" (Basch and Fisher, 1998).

Questionnaire

Academic Survey

This survey is being carried out as a part of PhD. Research titled, '**Holistic Emotions Measurement Model**'.

The purpose of the questionnaire is to determine the impact of emotions management on workforce emotions and their work attitudes and behaviors.

ALL THE INFORMATION YOU PROVIDE SHALL BE TREATED IN STRICTLY CONFIDENTIAL MANNER

The questionnaire should take you about 15 minutes to complete. Please answer the questions in the space provided. All the questions must be answered as they are essential in drawing the right conclusion.

When You Have Completed the Questionnaire Please Keep It With You In The Safe Place Till Collected From You. Questionnaires filled online must be emailed on the address given below.

I hope you find completing the questionnaire enjoyable and thank you for the precious time given. If you have any queries or would like further information about this research, please feel free to contact on ch.iffat@yahoo.com

Thank you for your support.

Iffat S. Chaudhry
PhD. Candidate
Hull University Business School (HUBS)
University of Hull, United Kingdom

[1]

SECTION 1 - Please tick the appropriate box

Gender: ☐ Male ☐ Female

Age: ☐ 18-25 years ☐ 26-35 years
☐ 36-45 years ☐ 46 years & above

Education: ☐ Higher School ☐ Bachelors
☐ Vocational Training ☐ Masters & above

Marital Status: ☐ Single ☐ Married
☐ Separated/Widow

Work Experience: ☐ Less than 3 years ☐ 4-9 years
☐ 10-14 years ☐ 15 years & above

Current Position: ☐ Entry-level/Operations ☐ Mid-level Manager
☐ Supervisor ☐ High-level Management

Industry Type: ☐ Manufacturing ☐ Services

SECTION 2 - Instructions: Different events which you may come across in your organization have been given below. Considering the given example:

a. Indicate how frequently each event occurred in last three weeks by selecting the appropriate option from the scale ('Never', 'Rarely', 'Sometimes', 'Often', 'Always'; where 'Never' is indicating no occurrence of the event at work and 'Always' is indicating the constant occurrence of the event at work).

b. Identify the emotion you experienced due to this event by selecting the appropriate option: Negative, Neutral or Positive. 'Neutral' option depicts that no emotion is felt counter to the given work event.

Example:

Work Event	Frequency of Occurrence					Emotions Experience		
	NEVER	RARELY	SOMETIMES	OFTEN	ALWAYS	NEGATIVE	NEUTRAL	POSITIVE
I had a dispute with my coworker	1	2	3	④	5	x	☐	☐

[2]

Work Events	Frequency of Occurrence					Emotions Experience		
	NEVER	RARELY	SOMETIMES	OFTEN	ALWAYS	NEGATIVE	NEUTRAL	POSITIVE
1. I worked closely with other people (clients or employees)	1	2	3	4	5	☐	☐	☐
2. I decided on my own how to do the work	1	2	3	4	5	☐	☐	☐
3. I completed piece of work that has an obvious beginning and end	1	2	3	4	5	☐	☐	☐
4. I did many different things at work using a variety of my skills and talents	1	2	3	4	5	☐	☐	☐
5. My work significantly effected on other people's performance in the organization	1	2	3	4	5	☐	☐	☐
6. Availability of common policies & procedures helped me in managing routine transactions	1	2	3	4	5	☐	☐	☐
7. Availability of common information on continuous basis helped in coordinating activities with those of other units & departments	1	2	3	4	5	☐	☐	☐
8. Lack of coordination among units or departments created conflicts & work deadlocks	1	2	3	4	5	☐	☐	☐
9. Individual and/or group performance was reported to the higher management	1	2	3	4	5	☐	☐	☐
10. The management provided the required resources to operate successfully well in time	1	2	3	4	5	☐	☐	☐
11. Biased distribution of resources was done on the basis of personal relations & favoritisms	1	2	3	4	5	☐	☐	☐
12. The management provided feedback on individual and/or group performance	1	2	3	4	5	☐	☐	☐
13. The performance assessment criteria was good & reward distribution was fair	1	2	3	4	5	☐	☐	☐
14. The clear policies, guidelines, principles and values were provided to deal with situations by self instead of coursing to the management	1	2	3	4	5	☐	☐	☐
15. In case of an emergency or unusual situation in unit/department direct alert was sent to the senior management	1	2	3	4	5	☐	☐	☐
16. I suggested improvements to the existing products/services &technologies on the basis of changing trends in environment	1	2	3	4	5	☐	☐	☐

Work Events	Frequency of Occurrence					Emotions Experience		
	NEVER	RARELY	SOMETIMES	OFTEN	ALWAYS	NEGATIVE	NEUTRAL	POSITIVE
17. New line of products/services was introduced to cope up with the growing competition detected in market	1	2	3	4	5	☐	☐	☐
18. Markets, products, strategies & plans were reviewed to account for changes in the environment including my views	1	2	3	4	5	☐	☐	☐
19. Decisions or organizational changes were discussed with us	1	2	3	4	5	☐	☐	☐
20. New organizational policies were introduced fairly after being consulted with us	1	2	3	4	5	☐	☐	☐
21. My coworker/s helped me on a task	1	2	3	4	5	☐	☐	☐
22. I had pleasant time with coworkers on the job	1	2	3	4	5	☐	☐	☐
23. I had a dispute with my coworker	1	2	3	4	5	☐	☐	☐
24. My operational manager / supervisor resolved my conflicts with coworkers	1	2	3	4	5	☐	☐	☐
25. My operational manager/supervisor put in practice a work relevant suggestion of mine	1	2	3	4	5	☐	☐	☐
26. My operational manager / supervisor built my morale despite a mistake of mine	1	2	3	4	5	☐	☐	☐
27. My operational manager/ supervisor supported me in front of top management	1	2	3	4	5	☐	☐	☐
28. My operational manager/supervisor helpfully guided me through the work	1	2	3	4	5	☐	☐	☐
29. I have had a dispute with my operational manager/ supervisor	1	2	3	4	5	☐	☐	☐
30. I had good and respectful interaction with customers	1	2	3	4	5	☐	☐	☐
31. I received positive feedback from the customer about my performance	1	2	3	4	5	☐	☐	☐

[4]

SECTION 3 (a) - Instructions: Below are several statements about you with which you may agree or disagree. Please indicate the degree of your agreement or disagreement with each statement by selecting the given option that best represents your point of view.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1.	Sometimes I feel depressed	1 2 3 4 5
2.	I complete tasks successfully	1 2 3 4 5
3.	When I try, I generally succeed	1 2 3 4 5
4.	Overall, I am satisfied with myself	1 2 3 4 5
5.	I am filled with doubts about my competence	1 2 3 4 5
6.	I am capable of coping with most of my problems	1 2 3 4 5
7.	There are times when things look pretty bleak and hopeless to me	1 2 3 4 5
8.	I feel self-determined & responsible for own success	1 2 3 4 5
9.	I feel fairly well satisfied with my present job	1 2 3 4 5
10.	I consider my job rather unpleasant	1 2 3 4 5
11.	I feel enjoyment & enthusiasm in my work	1 2 3 4 5
12.	I feel emotionally attached & loyal to this organization	1 2 3 4 5
13.	I would like to spend the rest of my career with this organization	1 2 3 4 5

SECTION 3 (b) - Instructions: Below are several statements about you which you may never or always indulge in. Please indicate how frequently you adopt the following behaviors within the organization by selecting the given option that best represents your behavior.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

14.	I willingly give my time to help others who have work or non-work related problems	1 2 3 4 5
15.	I adjust my work schedule to accommodate other employees' requests for time off	1 2 3 4 5
16.	I show genuine concern and courtesy toward coworkers, even under difficult situation	1 2 3 4 5
17.	I defend the organization when other employees criticize it	1 2 3 4 5
18.	I take action to protect the organization from potential problems	1 2 3 4 5
19.	I demonstrate concern about the image of the organization & defend it in case of criticism (outside organization)	1 2 3 4 5
20.	I contribute as much as possible to the organizational development	1 2 3 4 5
21.	I had been nasty or rude to a client or customer	1 2 3 4 5
22.	There has been a situation in which I started an argument with someone at work and reacted badly to him/her	1 2 3 4 5
23.	I started or continued a damaging or harmful rumor at work	1 2 3 4 5
24.	I often come late to work without permission	1 2 3 4 5
25.	I have acted with bitterness to the organization by purposely wasting employer's resources & not doing work on time	1 2 3 4 5
26.	I reacted aggressively towards authority	1 2 3 4 5

[5]

Work Events Scale (Functional)

Instructions: Different events which you may come across in your organization have been given below. Considering the given example:

1. Indicate how frequently each event occurred in last three weeks by selecting the appropriate option from the scale ('Never', 'Rarely', 'Sometimes', 'Often', 'Always'; where 'Never' is indicating no occurrence of the event at work and 'Always' is indicating the constant occurrence of the event at work).

2. Identify the emotion you experienced due to this event by selecting the appropriate option: Negative, Neutral or Positive. 'Neutral' option depicts that no emotion is felt counter to the given work event.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

Categories		Items	Authors
S1	1.	I worked closely with other people (clients or employees)*	Hackman & Oldham (1975)
	2.	I decided on my own how to do the work*	Hackman & Oldham (1975)
	3.	I completed piece of work that has an obvious beginning and end*	Hackman & Oldham (1975)
	4.	I did many different things at work using a variety of my skills and talents*	Hackman & Oldham (1975)
	5.	My work significantly effected on other people's performance in the organization*	Hackman & Oldham (1975)
S 2	6.	Availability of common policies & procedures helped me in managing routine transactions	Self-Developed
	7.	Availability of common information on continuous basis helped in coordinating activities with those of other units & departments**	Basch & Fisher (1998)
	8.	Lack of coordination among units or departments created conflicts & work deadlocks **	Basch & Fisher (1998)

S3	9.	Individual and/or group performance was reported to the higher management	Self-Developed
	10.	The management provided the required resources to operate successfully well in time*	Basch & Fisher (1998)
	11.	Biased distribution of resources was done on the basis of personal relations & favoritisms	Self-Developed
	12.	The management provided feedback on individual and/or group performance*	Basch & Fisher (1998)
	13.	The performance assessment criteria was good & reward distribution was fair	Self-Developed
	14.	The clear policies, guidelines, principles and values were provided to deal with situations by self instead of coursing to the management**	Basch & Fisher (1998)
S3*	15.	In case of an emergency or unusual situation in unit/department direct alert was sent to the senior management	Self-Developed
S 4	16.	I suggested improvements to the existing products/services &technologies on the basis of changing trends in environment*	Basch & Fisher (1998)
	17.	New line of products/services was introduced to cope up with the growing competition detected in market	Self-Developed
	18.	Markets, products, strategies & plans were reviewed to account for changes in the environment including my views*	Basch & Fisher (1998)
S 5	19.	Decisions or organizational changes were discussed with us*	Erol-Korkmaz (2010)
	20.	New organizational policies were introduced fairly after being consulted with us*	Erol-Korkmaz (2010)

* Adapted
** Based on

Work Events Scale (Relational)

Instructions: Different events which you may come across in your organization have been given below. Considering the given example:

1. Indicate how frequently each event occurred in last three weeks by selecting the appropriate option from the scale ('Never', 'Rarely', 'Sometimes', 'Often', 'Always'; where 'Never' is indicating no occurrence of the event at work and 'Always' is indicating the constant occurrence of the event at work).

2. Identify the emotion you experienced due to this event by selecting the appropriate option: Negative, Neutral or Positive. 'Neutral' option depicts that no emotion is felt counter to the given work event.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

Categories		Items	Authors
In O	21.	My co-worker/s helped me on a task	Erol-Korkmaz (2010)
	22.	I had pleasant time with co-workers on the job	Erol-Korkmaz (2010)
	23.	I had a dispute with my co-worker	Erol-Korkmaz (2010)
O-M	24.	My operational manager / supervisor resolved my conflicts with co-workers*	Erol-Korkmaz (2010)
	25.	My operational manager/supervisor put in practice a work relevant suggestion of mine	Erol-Korkmaz (2010)
	26.	My operational manager / supervisor built my morale despite a mistake of mine	Erol-Korkmaz (2010)
	27.	My operational manager/ supervisor supported me in front of top management	Erol-Korkmaz (2010)
	28.	My operational manager/supervisor helpfully guided me through the work	Erol-Korkmaz (2010)
	29.	I have had a dispute with my operational manager/	Erol-Korkmaz

		supervisor	(2010)
O-E	30.	I had good and respectful interaction with customers	Self-Developed
	31.	I received positive feedback from the customer about my performance	Basch & Fisher (1998)

* Adapted

Events adapted from:

Basch, J., & Fisher, C. (1998). Affective events - emotions matrix: a classification of work events and associated emotions. *Presented at the First Conference on Emotions in Organizational Life , August* (Discussion Paper no. 65). San Diego, California: Bond University, School of Business.

Erol-Korkmaz, H. (2010). *The relationship of categories of work events to affective states and attitudes in the workplace: A test of the Affective Events Theory.* Unpublished Doctoral Dissertation, Middle East Technical University, Ankara.

Hackman, J., & Oldham, G. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology, 60*, 159-170.

Core Self-Evaluations Scale

Instructions: Below are several statements about you with which you may agree or disagree. Please indicate the degree of your agreement or disagreement with each statement by selecting the given option that best represents your point of view.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Variable		Items	References
CSE	1.	Sometimes I feel depressed. ®	Judge *et al*. (2003)
	2.	I complete tasks successfully.	Judge *et al*. (2003)
	3.	When I try, I generally succeed.	Judge *et al*. (2003)
	4.	Overall, I am satisfied with myself.	Judge *et al*. (2003)
	5.	I am filled with doubts about my competence. ®	Judge *et al*. (2003)
	6.	I am capable of coping with most of my problems.	Judge *et al*. (2003)
	7.	There are times when things look pretty bleak and hopeless to me. ®	Judge *et al*. (2003)
	8.	I feel self-determined & responsible for own success.	Self-Developed

Scale adapted from Judge, T., Erez, A., Bono, J., & Thoresen, C. (2003). The core self-evaluation scale: Development of a measure. *Personnel Psychology, 56*, 303–331.

Appendix 2(c)

Job Satisfaction Scale

Instructions: Below are several statements about you with which you may agree or disagree. Please indicate the degree of your agreement or disagreement with each statement by selecting the given option that best represents your point of view.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Variable		Items	References
	1.	I feel fairly well satisfied with my present job	Judge *et al*. (1998)
JS	2.	I consider my job rather unpleasant ®	Judge *et al*. (1998)
	3.	I feel enjoyment & enthusiasm in my work	Judge *et al*. (1998)

Scale adapted from Judge, T., Locke, E., Durham, C., & Kluger, A. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*, 17-34.

Organizational Commitment Scale

Instructions: Below are several statements about you with which you may agree or disagree. Please indicate the degree of your agreement or disagreement with each statement by selecting the given option that best represents your point of view.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Variable		Items	References
OC	1.	I feel emotionally attached & loyal to this organization	Meyer & Allen (1991)
	2.	I would like to spend the rest of my career with this organization	Meyer & Allen (1991)

Scale adapted from Meyer, J., & Allen, J. (1991). A three-Component Conceptualization of Organizational Commitment. *Human Resource Management Review, 1 (1),* 61-89. The original scale was measured on 6 point scale ranging from strongly disagree (1) to strongly agree (6).

Organizational Citizenship Behaviour Scale

Instructions: Below are several statements about you which you may never or always indulge in. Please indicate how frequently you adopt the following behaviours within the organization by selecting the given option that best represents your behaviour.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

Dimension		Items	References
OCB-I	1.	I willingly give my time to help others who have work or non-work related problems	Lee & Allen (2002)
	2.	I adjust my work schedule to accommodate other employees' requests for time off	Lee & Allen (2002)
	3.	I show genuine concern and courtesy toward co-workers, even under difficult situation	Lee & Allen (2002)
OCB-O	4.	I defend the organization when other employees criticize it	Lee & Allen (2002)
	5.	I take action to protect the organization from potential problems	Lee & Allen (2002)
	6.	I demonstrate concern about the image of the organization & defend it in case of criticism (outside organization)	Lee & Allen (2002)
	7.	I contribute as much as possible to the organizational development	Lee & Allen (2002)

Scale adapted from Lee, K., & Allen, N. (2002). Organizational Citizenship Behaviour and Workplace Deviance: The Role of Affect and Cognitions. *Journal of Applied Psychology, 87(1)*, 131–142.

Appendix 2(f)

Counter Productive Work Behaviour Scale

Instructions: Below are several statements about you which you may never or always indulge in. Please indicate how frequently you adopt the following behaviours within the organization by selecting the given option that best represents your behaviour.

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

Dimension		Items	References
CPWB-I	1.	I had been nasty or rude to a client or customer	Spector *et al.* (2006)
	2.	There has been a situation in which I started an argument with someone at work and reacted badly to him/her	Spector *et al.* (2006)
CPWB-O	3.	I started or continued a damaging or harmful rumor at work	Spector *et al.* (2006)
	4.	I often come late to work without permission	Spector *et al.* (2006)
	5.	I have acted with bitterness to the organization by purposely wasting employer's resources & not doing work on time	Spector *et al.* (2006)
	6.	I reacted aggressively towards authority	Self-Developed

Scale adapted from Spector, P., Fox, S., Penney, L., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviours created equal? *Journal of Vocational Behaviour, 68*, 446–460. The CWB-C is Copyright Suzy Fox and Paul E. Spector, All rights reserved 2003.

Appendix 3 (a)

Descriptive Statistics (Pilot Testing)

Items	Mean	Std. Dev.
1. I worked closely with other people (clients or employees)	4.10	1.047
2. I decided on my own how to do the work	3.97	1.052
3. I completed piece of work that has an obvious beginning and end	3.72	.996
4. I did many different things at work using a variety of my skills and talents	3.59	1.323
5. My work significantly effected on other people's performance in the organization	4.03	1.017
6. Availability of common policies & procedures helped me in managing routine transactions	3.38	.903
7. Availability of common information on continuous basis helped in coordinating activities with those of other units & departments	3.38	.903
8. Lack of coordination among units or departments created conflicts & work deadlocks	3.00	.954
9. Individual and/or group performance was reported to the higher management	4.21	1.013
10. The management provided the required resources to operate successfully well in time	3.45	1.121
11. Biased distribution of resources was done on the basis of personal relations & favoritisms	2.72	1.360
12. The management provided feedback on individual and/or group performance	3.28	.996
13. The performance assessment criteria was good & reward distribution was fair	2.76	1.244
14. The clear policies, guidelines, principles and values were provided to deal with situations by self instead of coursing to the management	3.31	1.105
15. In case of an emergency or unusual situation in unit/department direct alert was sent to the senior management	4.10	1.145

Items	Mean	Std. Dev.
16. I suggested improvements to the existing products/services &technologies on the basis of changing trends in environment	3.14	1.302
17. New line of products/services was introduced to cope up with the growing competition detected in market	3.10	1.263
18. Markets, products, strategies & plans were reviewed to account for changes in the environment including my views	2.90	1.291
19. Decisions or organizational changes were discussed with us	2.48	1.056
20. New organizational policies were introduced fairly after being consulted with us	2.07	1.067
21. My co-worker/s helped me on a task	3.46	1.048
22. I had pleasant time with co-workers on the job	4.03	1.267
23. I had a dispute with my co-worker	3.28	1.099
24. My operational manager / supervisor resolved my conflicts with co-workers	2.69	1.198
25. My operational manager/supervisor put in practice a work relevant suggestion of mine	2.90	1.372
26.My operational manager / supervisor built my morale despite a mistake of mine	2.52	1.056
27. My operational manager/ supervisor supported me in front of top management	2.86	1.093
28. My operational manager/supervisor helpfully guided me through the work	3.66	1.078
29. I have had a dispute with my operational manager/ supervisor	3.14	.953
30. I had good and respectful interaction with customers	3.48	1.124
31. I received positive feedback from the customer about my performance	3.10	1.056

Items	Mean	Std. Dev.
1. Sometimes I feel depressed	3.90	.976
2. I complete tasks successfully	4.41	.780
3. When I try, I generally succeed	2.86	1.246
4. Overall, I am satisfied with myself	3.86	.953
5. I am filled with doubts about my competence	3.38	1.208
6. I am capable of coping with most of my problems	3.52	1.353
7. There are times when things look pretty bleak and hopeless to me	3.24	1.300
8. I feel self-determined & responsible for own success	3.14	1.382
9. I feel emotionally attached & loyal to this organization	3.97	1.052
10. I would like to spend the rest of my career with this organization	3.14	1.093
11. I feel fairly well satisfied with my present job	3.24	1.091
12. I consider my job rather unpleasant	3.48	1.022
13. I feel enjoyment & enthusiasm in my work	3.38	1.321
14. I willingly give my time to help others who have work or non-work related problems.	3.90	1.081
15. I adjust my work schedule to accommodate other employees' requests for time off	3.69	.967
16. I show genuine concern and courtesy toward co-workers, even under difficult situation	3.90	.939
17. I defend the organization when other employees criticize it	3.69	.967
18. I take action to protect the organization from potential problems	3.10	1.081
19. I demonstrate concern about the image of the organization & defend it in case of criticism (outside organization)	3.28	1.066
20. I contribute as much as possible to the organizational development	3.31	1.228
21. I had been nasty or rude to a client or customer	1.72	.841
22. There has been a situation in which I started an argument with someone at work and reacted badly to him/her	2.76	1.272
23. I started or continued a damaging or harmful rumor at work	2.10	1.047
24. I often come late to work without permission	2.38	1.425
25. I have acted with bitterness to the organization by purposely wasting employer's resources & not doing work on time	2.38	1.208
26. I reacted aggressively towards authority	1.79	1.207

Appendix 3 (b)

Factor Analysis Results (Pilot Testing)

Scale Items	Communalities	Scale Items	Communalities
fwe_ ind.1	**.793**	*cse_ind.1*	**.794**
fwe_ ind.2	**.667**	*cse_ind.2*	**.803**
fwe_ ind.3	**.769**	*cse_ind.3*	**.818**
fwe_ ind.4	**.531**	*cse_ind.4*	**.880**
fwe_ ind.5	**.775**	*cse_ind.5*	**.807**
fwe_ ind.6	**.708**	*cse_ind.6*	**.609**
fwe_ ind.7	**.870**	*cse_ind.7*	**.705**
fwe_ ind.8	**.693**	*cse_ind.8*	**.815**
fwe_ ind.9	**.502**	*js_ind.1*	**.644**
fwe_ ind.10	**.761**	*js_ind.2*	**.525**
fwe_ ind.11	**.535**	*js_ind.3*	**.728**
fwe_ ind.12	**.824**	*oc_ind.1*	**.518**
fwe_ ind.13	**.707**	*oc_ind.2*	**.518**
fwe_ ind.14	**.762**	*ocb_ind.1*	**.501**
fwe_ ind.15	**.699**	*ocb_ind.2*	**.336**
fwe_ ind.16	**.568**	*ocb_ind.3*	**.755**
fwe_ ind.17	**.750**	*ocb_ind.4*	**.677**
fwe_ ind.18	**.798**	*ocb_ind.5*	**.841**
fwe_ ind.19	**.762**	*ocb_ind.6*	**.716**
fwe_ ind.20	**.755**	*ocb_ind.7*	**.532**
rwe_ ind.21	**.513**	*cwb_ind.1*	**.752**
rwe_ ind.22	**.784**	*cwb_ind.2*	**.713**
rwe_ ind.23	**.529**	*cwb_ind.3*	**.497**
rwe_ ind.24	**.561**	*cwb_ind.4*	**.866**
rwe_ ind.25	**.686**	*cwb_ind.5*	**.807**
rwe_ ind.26	**.675**	*cwb_ind.6*	**.532**
rwe_ ind.27	**.676**		
rwe_ ind.28	**.684**		
rwe_ ind.29	**.502**		
rwe_ ind.30	**.827**		
rwe_ ind.31	**.767**		

FUNCTIONAL WORK EVENTS
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.868	24.341	24.341	4.868	24.341	24.341
2	3.201	16.005	40.346	3.201	16.005	40.346
3	2.303	11.513	51.859	2.303	11.513	51.859
4	1.439	7.194	59.053	1.439	7.194	59.053
5	1.297	6.487	65.541	1.297	6.487	65.541
6	1.102	5.511	71.052	1.102	5.511	71.052
7	1.001	5.007	76.058			
8	.891	4.454	80.512			
9	.852	4.258	84.769			
10	.575	2.873	87.643			
11	.526	2.630	90.273			
12	.431	2.157	92.430			
13	.349	1.743	94.173			
14	.321	1.604	95.777			
15	.281	1.405	97.182			
16	.245	1.223	98.404			
17	.110	.550	98.955			
18	.091	.455	99.410			
19	.066	.328	99.737			
20	.053	.263	100.000			

Extraction Method: Principal Component Analysis.

RELATIONAL WORK EVENTS

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.705	33.678	33.678	3.705	33.678	33.678
2	2.218	20.164	53.842	2.218	20.164	53.842
3	1.211	11.013	64.855	1.211	11.013	64.855
4	.993	9.028	73.883			
5	.778	7.072	80.955			
6	.637	5.794	86.749			
7	.499	4.538	91.287			
8	.382	3.475	94.762			
9	.266	2.417	97.179			
10	.160	1.454	98.633			
11	.150	1.367	100.000			

Extraction Method: Principal Component Analysis.

CORE SELF-EVALUATION

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.868	35.854	35.854	2.868	35.854	35.854
2	1.377	17.215	53.069	1.377	17.215	53.069
3	1.050	13.129	66.198	1.050	13.129	66.198
4	.934	11.678	77.876	.934	11.678	77.876
5	.743	9.287	87.163			
6	.504	6.303	93.466			
7	.279	3.485	96.951			
8	.244	3.049	100.000			

Extraction Method: Principal Component Analysis.

EMOTIONS EXPERINCES
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.675	21.534	21.534	6.675	21.534	21.534
2	3.937	12.700	34.234	3.937	12.700	34.234
3	3.397	10.957	45.191	3.397	10.957	45.191
4	3.098	9.993	55.184	3.098	9.993	55.184
5	2.049	6.610	61.794	2.049	6.610	61.794
6	1.715	5.531	67.325	1.715	5.531	67.325
7	1.514	4.884	72.209	1.514	4.884	72.209
8	1.338	4.316	76.525	1.338	4.316	76.525
9	1.171	3.777	80.302	1.171	3.777	80.302
10	1.005	3.243	83.545			
11	.936	3.019	86.564			
12	.780	2.516	89.080			
13	.632	2.040	91.120			
14	.489	1.579	92.699			
15	.460	1.484	94.182			
16	.404	1.304	95.486			
17	.356	1.147	96.633			
18	.264	.852	97.485			
19	.199	.641	98.126			
20	.181	.582	98.708			
21	.121	.391	99.099			
22	.110	.355	99.454			
23	.058	.187	99.641			
24	.041	.133	99.774			
25	.031	.101	99.876			
26	.028	.091	99.967			
27	.009	.028	99.994			
28	.002	.006	100.000			
29	$2.151E\text{-}016$	$6.940E\text{-}016$	100.000			
30	$-3.706E\text{-}017$	$-1.196E\text{-}016$	100.000			
31	$-2.770E\text{-}016$	$-8.934E\text{-}016$	100.000			

Extraction Method: Principal Component Analysis.

JOB SATISFACTION

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.896	63.216	63.216	1.896	63.216	63.216
2	.675	22.491	85.707			
3	.429	14.293	100.000			

Extraction Method: Principal Component Analysis.

ORGANIZATIONAL COMMITMNET

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.035	51.768	51.768	1.035	51.768	51.768
2	.965	48.232	100.000			

Extraction Method: Principal Component Analysis.

ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.225	46.069	46.069	3.225	46.069	46.069
2	1.278	18.257	64.326	1.278	18.257	64.326
3	.848	12.111	76.437			
4	.638	9.108	85.545			
5	.446	6.368	91.913			
6	.332	4.747	96.660			
7	.234	3.340	100.000			

Extraction Method: Principal Component Analysis.

COUNTERPRODUCTIVE WORK BEHAVIOUR
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.622	43.701	43.701	2.622	43.701	43.701
2	1.545	25.752	69.453	1.545	25.752	69.453
3	.840	14.003	83.456			
4	.588	9.802	93.257			
5	.251	4.189	97.446			
6	.153	2.554	100.000			

Extraction Method: Principal Component Analysis.

Frequency Tables of Items

Section 1 Demographic Info.	Categories			
Gender	Male	Female		
	61.6%	**38.4%**		
Marital status	Single	Married	Separated/Widow	
	53.7%	41.8%	4.5%	
Industry type	Manufacturing	Services		
	33.3%	66.7%		
Age	18-25 years	26-35 years	36-45 years	46 years & above
	32.2%	46.3%	17.5%	4%
Education	Voc. Training	High Sch.	Bachelors	Masters & above
	3.4%	9%	45.8%	41.8%
Current position	Entry Level/Ops	Supervisor	Mid-Level M18	High-Level M
	38.4%	22.6%	32.2%	6.8%
Work experience	<3 years	4-9 years	10-14 years	15 years & above
	44.1%	33.3%	18.1%	4.5%

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18 Manager

Section 2	Occurrence Scale					Emotions Scale		
Items	Never	Rarely	Sometimes	Often	Always	Negative	Neutral	Positive
fwe_ ind.1	4%	6.8%	20.9%	29.9%	38.4%	2.8%	10.2%	87%
fwe_ ind.2	5.6%	13.6%	24.3%	36.7%	19.8%	12.4%	8.5%	79.1%
fwe_ ind.3	3.4%	7.9%	25.4%	32.2%	31.1%	5.1%	21.5%	73.4%
fwe_ ind.4	10.7%	11.9%	23.7%	28.2%	25.4%	14.7%	15.3%	70.1%
fwe_ ind.5	7.9%	5.6%	23.7%	30.5%	32.2%	4.5%	22%	73.4%
fwe_ ind.6	5.6%	16.9%	22%	30.5%	24.9%	7.3%	22.6%	70.1%
fwe_ ind.7	1.7%	14.7%	27.7%	37.9%	18.1%	6.8%	18.1%	75.1%
fwe_ ind.8	11.9%	27.1%	29.9%	25.4%	5.6%	75.7%	19.8%	4.5%
fwe_ ind.9	2.3%	7.3%	19.2%	31.6%	39.5%	10.7%	16.4%	72.9%
fwe_ ind.10	1.1%	12.4%	22.6%	42.9%	20.9%	10.7%	15.8%	73.4%
fwe_ ind.11	12.4%	26.6%	23.7%	23.2%	14.1%	76.8%	10.2%	13%
fwe_ ind.12	2.3%	11.3%	33.3%	35%	18.1%	14.7%	28.8%	56.5%
fwe_ ind.13	6.8%	20.9%	20.3%	35.6%	16.4%	15.8%	8.5%	75.7%
fwe_ ind.14	2.8%	18.1%	26%	30.5%	22.6%	11.3%	16.4%	72.3%
fwe_ ind.15	1.7%	10.7%	23.7%	24.3%	39.5%	14.1%	27.7%	58.2%
fwe_ ind.16	4%	11.9%	32.2%	29.9%	22%	9.6%	19.2%	71.2%
fwe_ ind.17	11.3%	13.6%	28.2%	23.2%	23.7%	14.7%	27.1%	58.2%
fwe_ ind.18	11.3%	16.9%	27.1%	22.6%	22%	16.9%	26%	57.1%
fwe_ ind.19	9%	19.2%	26%	29.4%	16.4%	15.3%	16.4%	68.4%
fwe_ ind.20	11.9%	17.5%	22.6%	24.9%	23.2%	21.5%	13.6%	65%
rwe_ ind.21	2.8%	7.9%	23.7%	28.8%	36.7%	4.5%	9.6%	85.9%
rwe_ ind.22	3.4%	9.6%	22.6%	31.6%	32.8%	2.8%	5.6%	91.5%
rwe_ ind.23	7.9%	14.1%	36.7%	33.3%	7.9%	65%	22.6%	12.4%
rwe_ ind.24	5.1%	14.7%	26.6%	32.2%	21.5%	11.3%	19.8%	68.9%
rwe_ ind.25	6.2%	11.3%	35.0%	33.3%	14.1%	7.9%	13%	79.1%
rwe_ ind.26	10.2%	15.8%	29.9%	29.9%	14.1%	10.7%	7.9%	81.4%
rwe_ ind.27	4%	6.2%	26.6%	31.6%	31.6%	7.9%	7.3%	84.7%
rwe_ ind.28	2.8%	10.7%	14.7%	37.3%	34.5%	5.1%	13%	81.9%
rwe_ ind.29	9%	15.8%	26%	27.7%	21.5%	43.5%	24.3%	32.2%
rwe_ ind.30	1.1%	2.8%	8.5%	26%	61%	1.7%	10.7%	87.6%
rwe_ ind.31	6.8%	9%	10.8%	36.7%	36.7%	1.7%	7.9%	90.4%

Section 3 (a) Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
cse_ind.1	1.1%	5.1%	13.6%	40.1%	40.1%
cse_ind.2	0%	6.2%	11.9%	37.9%	44.1%
cse_ind.3	11.9%	26.6%	35.6%	19.8%	6.2%
cse_ind.4	2.3%	6.2%	16.4%	39.5%	35.6%
cse_ind.5	2.3%	7.9%	22%	44.6%	23.2%
cse_ind.6	11.3%	22%	27.7%	23.2%	15.8%
cse_ind.7	2.3%	13.6%	22%	42.9%	19.2%
cse_ind.8	9.6%	35%	23.7%	22%	9.6%
js_ind.1	2.3%	16.9%	32.2%	29.4%	19.2%
js_ind.2	4%	6.2%	35%	33.3%	21.5%
js_ind.3	9%	13.6%	35.6%	24.9%	16.9%
oc_ind.1	1.7%	9%	17.5%	35.6%	36.2%
oc_ind.2	5.6%	20.3%	23.2%	32.8%	18.1%

Section 3 (b) Items	Never	Rarely	Sometimes	Often	Always
ocb_ind.1	3.4%	10.2%	19.8%	33.9%	32.8%
ocb_ind.2	3.4%	8.5%	29.9%	36.7%	21.5%
ocb_ind.3	1.1%	9.6%	19.2%	35%	35%
ocb_ind.4	1.7%	4%	24.3%	35.6%	34.5%
ocb_ind.5	2.8%	11.9%	32.2%	29.9%	23.2%
ocb_ind.6	2.8%	10.2%	31.6%	31.6%	23.7%
ocb_ind.7	6.8%	9.6%	29.9%	24.3%	29.45
cwb_ind.1	42.45	31.6%	16.9%	5.6%	3.45
cwb_ind.2	24.9%	38.4%	22.6%	9%	5.1%
cwb_ind.3	46.3%	24.3%	15.3%	10.2%	4%
cwb_ind.4	39.5%	29.9%	16.9%	9.6%	4%
cwb_ind.5	48.6%	23.7%	17.5%	7.3%	2.8%
cwb_ind.6	66.7%	18.6%	10.2%	4%	.6%

Appendix 4 (b)

Data Distribution

Items	Mean	Std. Dev.	Skewness	Kurtosis
fwe_ ind.1	3.92	1.105	-.864	.070
fwe_ ind.2	3.51	1.124	-.510	-.460
fwe_ ind.3	3.80	1.073	-.646	-.186
fwe_ ind.4	3.46	1.283	-.484	-.780
fwe_ ind.5	3.73	1.198	-.798	-.105
fwe_ ind.6	3.52	1.197	-.409	-.818
fwe_ ind.7	3.56	1.005	-.318	-.584
fwe_ ind.8	2.86	1.101	.000	-.801
fwe_ ind.9	3.99	1.044	-.855	.052
fwe_ ind.10	3.70	.974	-.485	-.404
fwe_ ind.11	3.00	1.152	.053	-.985
fwe_ ind.12	3.55	.988	-.294	-.368
fwe_ ind.13	3.34	1.177	-.327	-.870
fwe_ ind.14	3.52	1.113	-.263	-.869
fwe_ ind.15	3.89	1.100	-.588	-.700
fwe_ ind.16	3.54	1.082	-.342	-.499
fwe_ ind.17	3.34	1.288	-.312	-.902
fwe_ ind.18	3.27	1.290	-.214	-.993
fwe_ ind.19	3.25	1.204	-.234	-.865
fwe_ ind.20	3.30	1.221	-.268	-.879
rwe_ ind.21	3.89	1.081	-.700	-.253
rwe_ ind.22	3.81	1.101	-.670	-.299
rwe_ ind.23	3.19	1.038	-.393	-.269
rwe_ ind.24	3.50	1.134	-.397	-.621
rwe_ ind.25	3.38	1.060	-.401	-.221
rwe_ ind.26	3.22	1.178	-.290	-.704
rwe_ ind.27	3.81	1.075	-.691	-.035

Items	Mean	Std. Dev.	Skewness	Kurtosis
rwe_ ind.28	3.90	1.082	-.856	-.026
rwe_ ind.29	3.37	1.237	-.329	-.852
rwe_ ind.30	4.14	.909	-.941	.926
rwe_ ind.31	4.03	.916	-.605	-.534
cse_ind.1	4.20	.879	-.956	.216
cse_ind.2	4.13	.911	-.937	.852
cse_ind.3	2.82	1.077	.091	-.571
cse_ind.4	4.00	.989	-.964	.183
cse_ind.5	3.79	.965	-.708	.253
cse_ind.6	3.10	1.239	-.050	-.532
cse_ind.7	3.63	1.014	-.532	-.336
cse_ind.8	2.87	1.153	.257	-.867
js_ind.1	3.46	1.055	-.137	-.770
js_ind.2	3.62	1.016	-.467	.008
js_ind.3	3.27	1.165	-.240	-.599
oc_ind.1	3.95	1.027	-.800	-.069
oc_ind.2	3.37	1.161	-.281	-.858
ocb_ind.1	3.82	1.102	-.730	-.223
ocb_ind.2	3.64	1.019	-.512	-.094
ocb_ind.3	3.93	1.015	-.688	-.328
ocb_ind.4	3.97	.950	-.707	.169
ocb_ind.5	3.59	1.058	-.306	-.567
ocb_ind.6	3.63	1.042	-.374	-.435
ocb_ind.7	3.60	1.198	-.487	-.576
cwb_ind.1	1.96	1.063	1.057	.564
cwb_ind.2	2.31	1.097	.714	-.049
cwb_ind.3	2.01	1.177	.950	-.141
cwb_ind.4	2.08	1.142	.873	-.111
cwb_ind.5	1.92	1.100	1.013	.147
cwb_ind.6	1.53	.873	1.641	2.01

TWO-STAGE APPROACH
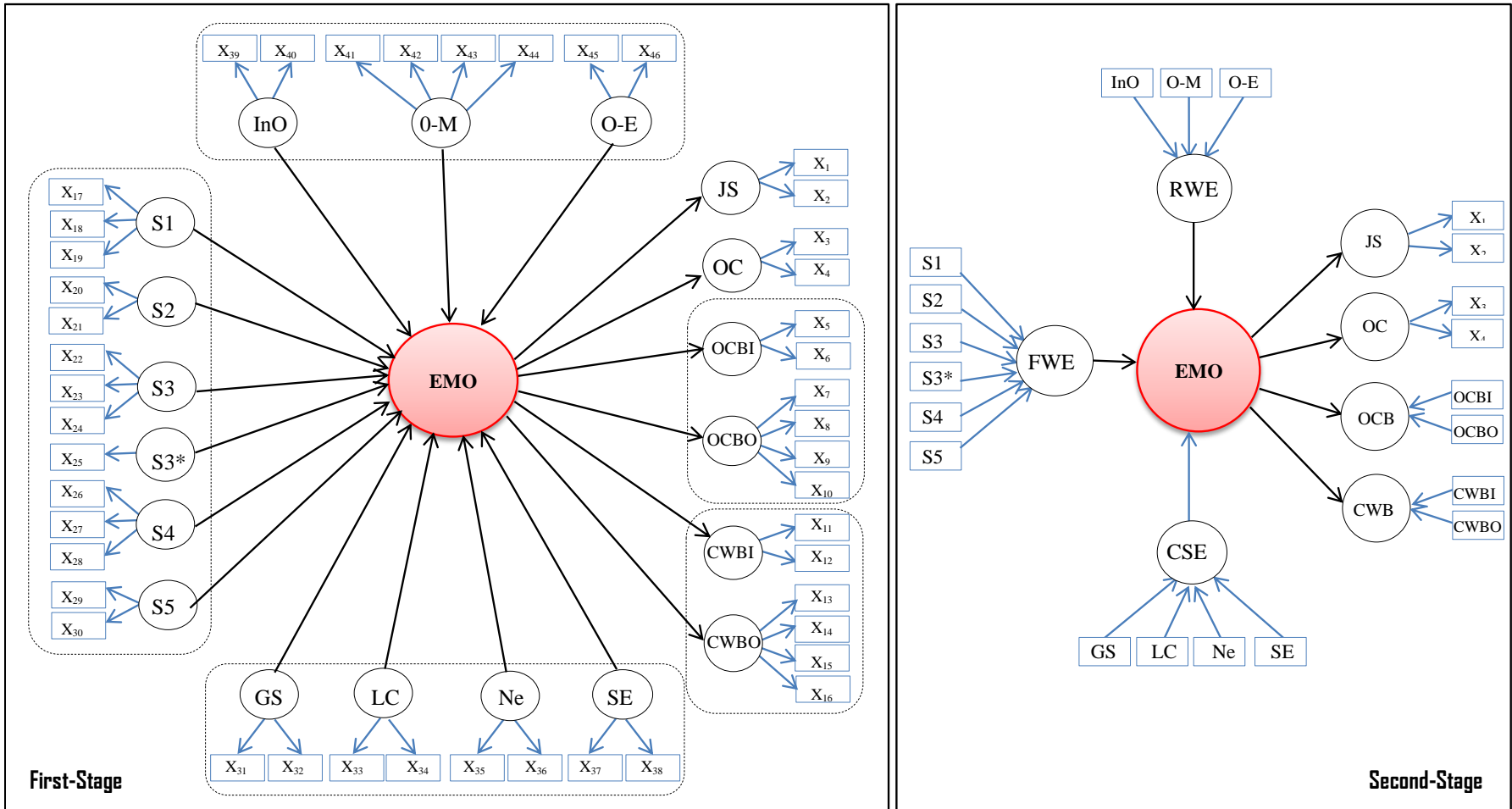
Appendix 4 (d)

F-Test (R^2 values)

F-test formula:

$$\frac{R^2/k}{(1-R^2) / (n - k - 1)}$$

Where
k = number of items used for measuring construct, and
n = sample size

Construct	R^2	F-Test	P value	Sig. level
Emotion Experiences	0.551	= 0.551/22 (1-0.551)/(177-22-1) = 0.250 = **8.5902** 0.003	0.00	***
Job Satisfaction	0.121	= 0.121/2 (1-0.121)/(177-2-1) = 0.060 = **11.9761** 0.005	0.00	***
Org. Commitment	0.113	= 0.113/2 (1-0.113)/(177-2-1) = 0.056 = **11.0839** 0.005	0.00	***
Org. Citizenship Behaviour	0.145	= 0.145/7 (1-0.145)/(177-7-1) = 0.021 = **4.0944** 0.005	0.00	***
Counterproductive WB	0.033	= 0.033/6 (1-0.033)/(177-6-1) = 0.005 = **0.9669** 0.006	0.33	n.s.

Appendix 4 (e)

f^2 Effect Size Calculation

Formula Used:

$$\frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

Construct	R^2 Included	R^2 Excluded	f^2 Effect Size
Functional Work Events	0.551	0.411	$= \frac{0.551 - 0.411}{1 - 0.551}$ $= \frac{0.14}{0.449}$ = **0.312**
Relational Work Events	0.551	0.472	$= \frac{0.551 - 0.472}{1 - 0.551}$ $= \frac{0.079}{0.449}$ = **0.176**
Core Self-Evaluation	0.551	0.526	$= \frac{0.551 - 0.526}{1 - 0.551}$ $= \frac{0.025}{0.449}$ = **0.056**

Appendix 4 (f)

Mediation Test

Functional Work Events	Direct Effect	Indirect Effect	Total Effect
Job Satisfaction	0.426***	0.1522**	0.5782
Organizational Commitment	0.3406***	0.1471**	0.4877
Citizenship Behaviour	0.528***	0.167**	0.695
Counter-productive WB	-0.2962***	-0.0801*	-0.3763

Relational Work Events	Direct Effect	Indirect Effect	Total Effect
Job Satisfaction	0.3383***	0.1134***	0.4517
Organizational Commitment	0.2808***	0.1096***	0.3904
Citizenship Behaviour	0.4081***	0.1244**	0.5325
Counter-productive WB	-0.2303*	-0.0597*	-0.29

Core Self-Evaluation	Direct Effect	Indirect Effect	Total Effect
Job Satisfaction	0.4726***	0.0591*	0.5317
Organizational Commitment	0.3966***	0.0571*	0.4537
Citizenship Behaviour	0.3873***	0.0648*	0.4521
Counter-productive WB	-0.379***	-0.031119	-0.4101

*** p<0.001   **p<0.01   *p<0.05

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19 Not significant

Appendix 4 (g)

VAF (Variance Accounted For)

Formula Used:

$$\frac{a * b}{a * b + c}$$

Where
a = Path between exogenous and mediating variable
b = Path between mediating variable and endogenous variable
c = Direct path between exogenous and endogenous variable

Functional Work Events	VAF value	
Job Satisfaction	0.26	26%
Organizational Commitment	0.30	30%
Citizenship Behaviour	0.24	24%
Counter-productive WB	0.21	21%

Relational Work Events	VAF value	
Job Satisfaction	0.25	25%
Organizational Commitment	0.28	28%
Citizenship Behaviour	0.23	23%
Counter-productive WB	0.21	21%

Core Self-Evaluation	VAF value	
Job Satisfaction	0.11	11%
Organizational Commitment	0.13	13%
Citizenship Behaviour	0.14	14%

Appendix 5

List of VSM Applications

Authors	Diagnosis	Designing	Both Diagnosis & Designing
Khosrowjerdi (2011)		Viable Scientific Communication Model (VSCM) for scholarly communication system	
Golnam *et al*. (2011)			Designing and analyzing the service systems using SEAM with VSM
Ben-Ali (2011)		Information system of Libya's Youth and Sports Ministry, capable of handling real-time information in turbulent and ever-changing environment.	
Barile and Polese (2010)		Smart Service Systems	
Morlidge (2009)		Budgeting system by describing the cybernetic regulation of the flow of financial resources using the mechanism of variety engineering	
Gregory (2007)		System-based model for control and performance measurement system in business school by integrating Lean System Approach (developed by Seddon, 2003)	
Hoverstadt and Searles (2007)		Governance structure to deal with range of different governance issues	

Authors	Diagnosis	Designing	Both Diagnosis & Designing
Haslett and Sara (2006)		Structure and the process of the project pertaining to policy design using System Dynamics in the Australian Taxation Office.	
Schwaninger (2006)			Five different organizations varying in industry, size, main business for solving problems related to structuring & functioning of organization
Peppard (2005)			Information Technology Governance structure
Miller (2004)			For analyzing information display design in the intensive care units and representing the patient system in medical setup
Svensson (2001)		Swedish fire services command structure to make fire and rescue operations efficient, safer and well-organized.	
Vidgen (1998)		Pharmaceutical company for re-organization of business processes in accordance to cybernetic rules of management	
Bititci *et al*. (1997)			Performance measurement system
Brocklesby and Cummings (1996)		Telecommunication company through a period of wide-ranging restructuring and economizing for anticipating, planning and implementing large scale organizational changes	
Britton and Parker (1993)			Project management system

Authors	Diagnosis	Designing	Both Diagnosis & Designing
Paradissopoulos (1991)	Structural problems in the implementation function of Greek Railway and identifying the reasons for its incompetence		
Raadt (1990)	The sources and the destinations of information during the adaptation process and the effect of information transmission on system's cohesion		