What Beer's Theory of Viability (VSM) can offer to the field of Workforce Emotions?

Abstract

The study of emotions is the most densely populated field of organizational behaviour academic research. However, the application of systemic approaches to the field of workforce emotions is marginal. The current theoretical study intends to reveal the suitability of a systemic approach -the theory of viability (i.e. Viable System Model -VSM)- for comprehending, diagnosing and managing employees emotions. The conceptual basis of the study is that the realm of emotions management research can be enriched by the using VSM criteria, e.g. its structural categories and the principles of law of requisite variety and recursivity for managing the complexity to guide and organize existing research on emotions management. In this paper we present the conceptual framework developed to conduct a recent PhD project based on this approach.

Keywords: Viable System Model, Workforce Emotions, Multi-level Emotions, Affective Work Environment, Positive Work-Climate.

INTRODUCTION

Despite non-negligible significance of the emotional aspects of the workforce, the availability of methods for comprehending and handling them are marginal (Fisher, 2000). Scholars and practitioners in organizational behavior discipline are constantly faced with challenging questions of the means utilization to best investigate the emotional phenomena. Brief and Weiss (2002, p.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, p.300).

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. One of the systems approaches, 'organizational cybernetics' is a science dedicated to the domain of social systems exhibiting high degrees of complexity (Schwaninger, 2004). Stafford Beer (1959), a pioneer of managerial cybernetics, concentrated on the application of the natural laws of cybernetics in organizations, enterprises and institutions. He introduced a theory of viability, known as Viable System Model (VSM) -a universally valid approach to the modeling and design of human organization (Beer, 1979, 1981, 1985) - in the field of cybernetics.

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). 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). 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 (Beer, 1985; Espejo and Schwaninger, 1993).

VSM was developed to better understand and improve efficiency and viability of human organizations. It has been extensively used by the researchers and professionals as a guiding framework to comprehend and revise the organizational structure both in public and private sector (Schwaninger, 2006); and most of them found it useful, innovative and effective reference framework for diagnosing and designing the structure of an organization from a variety of perspectives; and for facilitating managers in coping with complexity more efficiently (Gmur et al., 2010). It 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 increase understanding on workforce emotions management in the workplace (Espinosa and Walker, 2008, 2013).

Over the years, VSM researchers have gained insights into the strength of theory for dealing with humanistic aspects of the social organizations (Sabir, Espinosa, and Vidgen, 2014). Managing people and their soft issues within the organization for the achievement of viability is at the heart of VSM. Though earlier it was critiqued as a mechanistic approach more interested in technological than social aspects of organizations, which later turned out to be completely misleading (Espejo, 2003; Espejo and Gill, 1997). 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.

The prior research on workforce emotions is substantial, in terms of, employees' perceptions, attitudes and behaviors. However, there has been surprisingly minimal research on the application of systems theory –like the theory of viability- to the diagnosis and management of workforce emotions.Correspondingly, despite the growing research interest in Beer's theory of viability (i.e. Viable System Model), no study has been undertaken on the potential benefits that the researchers and practitioners of workforce emotions can draw from VSM framework.

The current theoretical study attempts to fill the gap and reflect the appropriateness of the Viable System Model for application in workforce emotions comprehension, investigation and management at different levels of organization (e.g. individual, dyadic, group, system, industrial, regional, and cross-cultural). It outlines the potential applications of the structural lens of VSM and its principles of law of requisite variety and recursivity for managing workforce emotions. The theoretical underpinnings open new horizons for the application of theory of viability in the field of workforce emotions, constituting the subtle softness of human systems (Ivanov, 1991; Wang and Ahmed, 2002).

VSM'S STRUCTURAL FUNDAMENTALS – FOR HOLISTIC VIEW OF WORKING ENVIRONMENT

The study of workplace emotions is narrow in its research on the causes which trigger emotions within 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 attempts made so far by the researchers for understanding the work environment features producing emotions (e.g. Bash and

Fisher, 1998; Erol-Korkmaz, 2010; Weiss and Brief, 2002) remained incapable of giving the comprehensive view of the affect-oriented work settings. As Brief and Weiss (2002, p.299) stated that "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). The studies focus merely on few of the work aspects, which have been thought or found relevant to emotions elicitation. Specially, the internal working environment has remained the prime focus of researchers in isolation of external environment of the organization, whereas external events may impact on employee's emotions and consequently their attitudes and behaviors as well (Ashton-James and Ashkanasy, 2004). Also, 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. Thus, the investigation of the antecedents of emotions needs to be broadened; including 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) 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). 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). They (S2 to S5) encompass 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 1). The functions performed by each of the system are as follows:

Insert Figure 1about here

System 1 (S1)

It carries the primary activities of the business (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). S1 is connected to the present working environment and implements the purpose of the system.

System 2 (S2)

It is often described as coordination function 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, e.g. common standards, protocols, policies, procedures, guidelines and so on.

System 3 (S3)

It is synergy optimization channel, which regulated the overall functioning of the operational units (S1). It negotiates and allocates the resources to (S1) working units who in turn, report their performance to the management on regular intervals (Espejo and Gill, 1997).

System 3* (S3*)

It works together with S3 as an accountability channel (Espinosa and Walker, 2011). It monitors the activities of operational units (S1) directly at sporadic intervals to audit the accuracy of the information provided by them.

System 4 (S4)

It performs 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.

System 5 (S5)

It expresses the identity and purpose of the system through its policy making function. It gives closure to the whole organization (Leonard, 2007).

VSM structural lens offers a guiding framework for ascertaining the interrelated aspects of the working environment (i.e. work, management functions, external environment and social relations) and categorizing the related affect-oriented work events.

The work-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 undertake a more holistic research design in the field of workforce emotions. This holistic account of the work-events related to workforce emotions will help to determine how employee's emotional experiences influence their work attitudes and behaviors. Similarly, the basic components of VSM, i.e. (a)

operations, (b) management, and (c) environment - provide a useful framework to consolidate an account of the typologies of relations inherent to the functioning of the social organizations, useful for analyzing recurrent interactions of the different types of agents, as well as the influence of organizational relations on employee's emotions.

Proposition 1: The categorization of affective work-events following VSM -functional and social- distinctions offers 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.

VSM'S LORV–FOR BALANCING INHIBITING and ENABLING EMOTIONS

The prior literature pertaining to organizational behavior suggests that people experience a large variety of emotions and affects due to personal and work related factors (e.g. Basch and Fisher, 1998; Fisher, 2000), having far-reaching repercussions on their behavioral response (Weiss and Cropanzano, 1996). These 'unmanaged' emotional and behavioral responses may increase the organizational complexity. It is imperative for the management to deal effectively with the affect oriented attitudes and behaviors of employee in order to manage the organizational complexity.

Beer's theory of viability states that the existing complexity in the organization can overpower its regulator and make its management problematic (Beer, 1979). To deal with ever increasing complexity in social organizations, his work incorporated the basic laws of variety management and recursivity (Espinosa, Harnden, and Walker, 2007). Ashby's (1964) Law of Requisite Variety (LORV) i.e. 'only variety can destroy variety', in order words 'only variety can absorb variety', was embedded as a cornerstone in his work (Espejo and Howard, 1982; Beer, 1981). The term 'variety' (coined by Ashby, 1964) explains the possible number of

possible states in a situation, so it is used to measure complexity (Espejo, 1997; Beer, 1985). The law of requisite variety 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 Ashby says: 'only variety can absorb variety' (Ashby, 1964; Espejo, 2003; figure 2).

Insert Figure 2about here

This variety amongst the operations, management and environment can be achieved at a desirable level of performance, by designing and implementing 'attenuators' and 'amplificators' (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); hence equating managerial, operational and environmental varieties (Beer, 1985).

Hence forth, the LORV embedded within Beer's viability theory may be adopted for the effective handling of complexity created due to employee's affect-oriented behavioral variety. Employees felt emotions can be broadly classified 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 negative emotions (hatred, anger, depression etc.) which decreases the cognitive efficiency (Weick, 1990) leading to negative work attitudes and counterproductive behaviors. Based on

these criteria, 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 his/her co-workers) can be achieved through the implicit and explicit norms of the organization – its culture or climate, values, and policies- which may facilitate the amplification of enabling (positive) emotions and attenuation of inhibiting (negative) emotions (figure 3).

Insert Figure 3about here

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). 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) might impact positively on the work-related attitudes of job satisfaction and commitment 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: a) one who actually does the action to achieve goals (i.e. operations), b) others who provide services to make this goal achievement possible (i.e. 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 support (Ashkanasy and Daus, 2002; figure 4).

Insert Figure 4 about here

 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, 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, Dick, Fisher, Michael, and Dawson, 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 also be taken into consideration by the management (figure 5).

Insert Figure 5 about here

Though organization exercises little or no control on the actors prevailing in the environment but despite of this deadlock, system needs to devise strategies 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).

Proposition 2: The VSM principle of the Law of Requisite Variety amplifies 'enabling' emotions and attenuates 'inhibiting' emotions amongst the main organizational components - operations, management and environment- for achieving positive emotional climate within workplace.

VSM'S RECURSIVITY – FOR DIAGNOSING EMOTIONS AT MULTI-LEVELS

Earlier studies mainly focused on intrapersonal aspect of emotions concerned with determinants and responses of emotions with respect to an individual. However, the investigation of affect and its subsequent impact has not remained confined to the individual level of analysis but has gone up to the aggregate level , i.e. dyadic (between two individuals), group (a set of individuals interacting directly with temporal continuity), and system or organizational level (within large group sharing norms, values and culture) (Keltner and Haidt, 1999). Last fewer decades have witnessed a new wave of research in organizational behavior 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 affective 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 behavior has been stressed by several researchers, e.g. Ashkanasy (2003), Barsade, Brief, and Spataro (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 a 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.

Beers viability theory is based on the Law of Recursiveness of the viable system i.e. 'every viable system contains and is contained in another viable system' (Beer, 1979). In recursive system, both sub-systems and 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; figure 6a). For example, a large corporate organization has 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. 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 (Schwaninger, 2000; figure 6b). It provides a way for looking at the system's complexity in manageable portions. The recursivity nature of the viable systems model can facilitate the multi-level investigation of workforce emotions within the work settings.

Insert Figure 6A and 6B about here

Proposition 3: The VSM principle of recursivity permits to investigate the emotions at the multiple levels -individual, dyadic, group, organizational and/or higher level (industrial, regional or cross-cultural)- based on the observes requirement.

CONCLUSION

The qualitatively rich theory of viability i.e. Viable System Model (VSM) has been proposed in the current study as a guiding framework for better understanding and managing of the emotional phenomenon within working environment. It 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. 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.

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; helpful for comprehensive analysis of the work environment and the affective antecedents of emotional experiences present within. Also, the Law of Requisite Variety-LORV embedded within VSM can help practitioners in making the work climate positive by attenuating negative emotions and amplifying positive emotions. VSM being recursive in nature can also be used for making the investigation of emotions at multiple levels (i.e. individual, dyadic, group, systems, industrial, regional and cross-cultural).

A fruitful empirical investigation on the utilization of VSM structural lens (in conjunction to Affective Events Theory by Weiss and Cropanzano, 1996) for comprehending the

affective work environment holistically and diagnosing the antecedents of employee's emotional experiences has already been made as a part of PhD thesis work. The study adopted hypothetico-deductive method through survey strategy. Partial least square structural equation modelling (PLS-SEM) was adopted to test the study hypotheses (for details read Sabir, Angela, and Vidgen, 2014). The study findings confirmed the affective utilization of suggested viable system model for diagnosing workforce emotions holistically. However, the empirical analysis on the use of VSM principles of LORV and recursivity are the directions for future research.

In essence, the cybernetic VSM model can provide a structured way for studying and handling the workforce emotional experiences within complex social systems as a whole.

REFERENCES

Achterbergh, J. and Vriens, D. (2009) *Organizations: Social systems conducting experiments.* Dordrecht: SpringerVerlag.

Ashby, W. (1964) *An introduction to cybernetics.* Methuen, London.

Ashkanasy, N. (2003) 'Emotions in organizations: A multilevel perspective', in F. Dansereau and F. Yammarino (Eds.), *Research in multi-level issues: Multi-level issues in organizational behavior and strategy*, Oxford, UK: Elsevier Science. vol. 2, pp. 9–54.

Ashkanasy, N. and Daus, C. (2002). 'Emotion in the workplace: The new challenge for managers', *Academy of Management Executive,* Vol. 16 No. 1, pp. 76-86.

Ashton-James, C. and Ashkanasy, N. (2004). 'Affect in strategic management: Debunking the myth of cold rationality'. Paper presented at the second Brisbane symposium on emotions and worklife, Australia.

Barsade, S., Brief, A. and Spataro, S. (2003). 'The affective revolution in organizational behavior: The emergence of a paradigm', in J. Greenberg (Eds.), *OB: The State of the Science,* Hillsdale, NJ: Lawrence Erlbaum and Associates, pp. 3–52.

Basch, J. and Fisher, C. (1998). 'Affective events - emotions matrix: a classification of work events and associated emotions'. Paper presented at the first conference on emotions in organizational life by Bond University, California.

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.

Brief, A. and Weiss, H. (2002). 'Organizational behavior: Affect in the workplace', *Annual Review of Psychology*, Vol. 53, pp. 279-307.

Corballis, M. (2011). *The recursive mind*. NJ, USA: Princeton University Press.

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.

Espejo, R. (1997). 'Giving Requisite Variety to Strategic and Implementation Processes: Theory and Practice'. Paper presented at the Seminar of London School of Economics, London.

Espejo, R. (2003). *The viable system model: a briefing about organizational structure.* http://www.syncho.com/ (Accessed 12th Dec, 2012).

Espejo, R. and Gill, A. (1997). *The viable system model as a framework for understanding organizations.* http://phrontis.com/vsm.htm (Accessed 1st Dec, 2012).

Espejo, R. and Howard, N. (1982). 'What is requisite variety? A re-examination of the foundation of Beer´s Method'. Working paper no. 242, The University of Aston Management Centre, Birmingham, UK.

Espinosa, A., Harnden, R. and Walker, J. (2007). 'A complexity approach to sustainability – Stafford Beer revisited', *European Journal of Operational Research,* Vol. 187, pp. 636-651.

Espejo, R. and Schwaninger, M. (1993). *Organisational fitness: Corporate effectiveness through management cybernetics.* Frankfurt and New York: Campus Verlag.

Espinosa, A. and Walker, J. (2011). *A complexity approach to sustainability: Theory and application.* UK: Imperial College Press.

Fineman, S. (1993). *Emotion in organizations* (1st ed.). New Delhi: Sage.

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,* Vol. 21, pp.185-202.

Gmür, B., Bartelt, A. and Kissling, R. (2010). 'Organization from a systemic perspective: Application of the viable system model to the Swiss Youth Hostel Association', *Kybernetes,* Vol. 39 No. 9/10, pp.1627–1644.

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,* Vol. 18, pp.39-55.

Keltner, D., and Haidt, J. (1999). 'Social Functions of Emotions at Four levels of Analysis', *Cognition and Emotion,* Vol. 13 No. 5, pp.505-521.

Leonard, A. (1999). 'A Viable System Model: Consideration of knowledge management', *Journal of Knowledge Management Practice*, Vol.1.

Leonard, A. (2007). 'Symbiosis and the viable system model', *Kybernetes,* Vol. 36 No. 5/6, pp. 571-582.

Leonard, A. (2008). 'Integrating sustainability practices using the viable system model', *Systems Research and Behavioral Sciences,* Vol. 25 No. 5, pp. 643-654.

Leonard, A. (2009). 'The viable system model and its application to complex organizations', *Systemic Practice and Action Research,* Vol. 22, pp. 223-233.

Lindebaum, D. and Fielden, S. (2011). 'It's good to be angry: Enacting anger in construction project management to achieve perceived leader effectiveness', *Human Relations,* Vol. 64 No. 3, pp. 437-458.

Mesquita, B. and Frijda, N. (1992). 'Cultural variations in emotions: A review', *Psychological Bulletin,* Vol. 112, pp. 179-204.

Robbins, S., Judge, T. and Sanghi, S. (2009). *Organizational Behavior* (13th ed.)*.* Pearson.

Schwaninger, M. (1989). 'Embodiments of organizational fitness: The Viable System Model (VSM) as a guide', *Systems Practice*, Vol. 3 No. 3, pp.249-264.

Schwaninger, M. (2000). 'Managing Complexity—The Path Toward Intelligent Organizations', *Systemic Practice and Action Research,* Vol 13 No. 2, pp 207-241.

Schwaninger, M. (2004). 'Methodologies in conflict: Achieving synergies between system dynamics and organizational cybernetics', *Systems Research and Behavioral Science,* Vol. 21, pp. 411-431.

Schwaninger, M. (2006). 'Design for viable organizations – the diagnostic power of the viable system model', *Kybernetes,* Vol. 35 No. 7/8, pp. 955-966.

Walker, J. (2006). *Viable System Model Guide* (Version 3). http://www.esrad.org.uk/resources/vsmg_3 (Accessed 14th Sep, 2013).

Wang, C. and Ahmed, P. (2002)*. Tapping into the'softness' of soft systems,* Management Research Centre, Wolverhampton University Business School, UK.

Wegge, J., Dick, R., Fisher, G., Michael, W. and Dawson, J. (2006). 'A test of basic assumptions of Affective Events Theory (AET) in call centre work', *British Journal of Management,* Vol. 17, pp. 237-254.

Weick, K. (1990). 'The vulnerable system: An analysis of the Tenerife air disaster', *Journal of Management,* Vol.16, pp.571-593.

Weiss, H. (2002). 'Antecedents of emotional experiences at work', *Motivation and Emotion,* Vol. 26 No.1–2.

Weiss, H. and Brief, A. (2002). 'Affect at work: A historical perspective', in R. L. Payne and C. L. Cooper (Eds.), *Emotions at Work: Theory, Research, and Applications in Management***,** Chichester, UK: Wiley, pp. 133–172.

Weiss, H. and Cropanzano, R. (1996). 'Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work', *Research in Organizational Behavior,* Vol. 18, pp. 1-74.

Wilson, E. (1998). *Consilience: The unity of knowledge.* New York: Knopf.

Figure 1

Viable System Model Structure
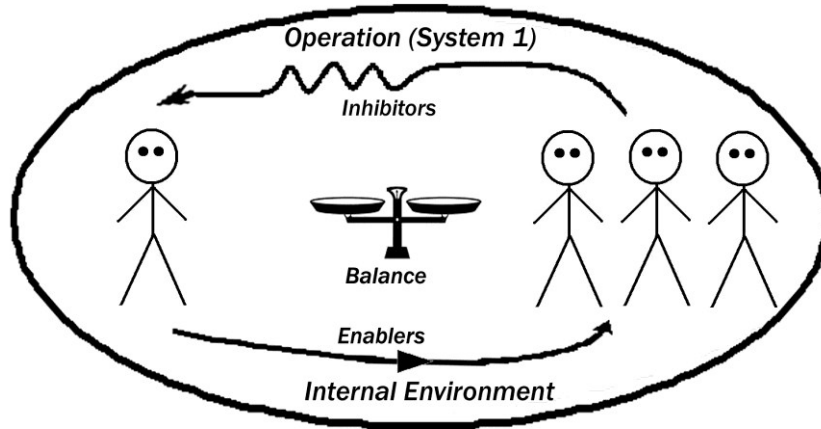
Source: Leonard, A. (1999)
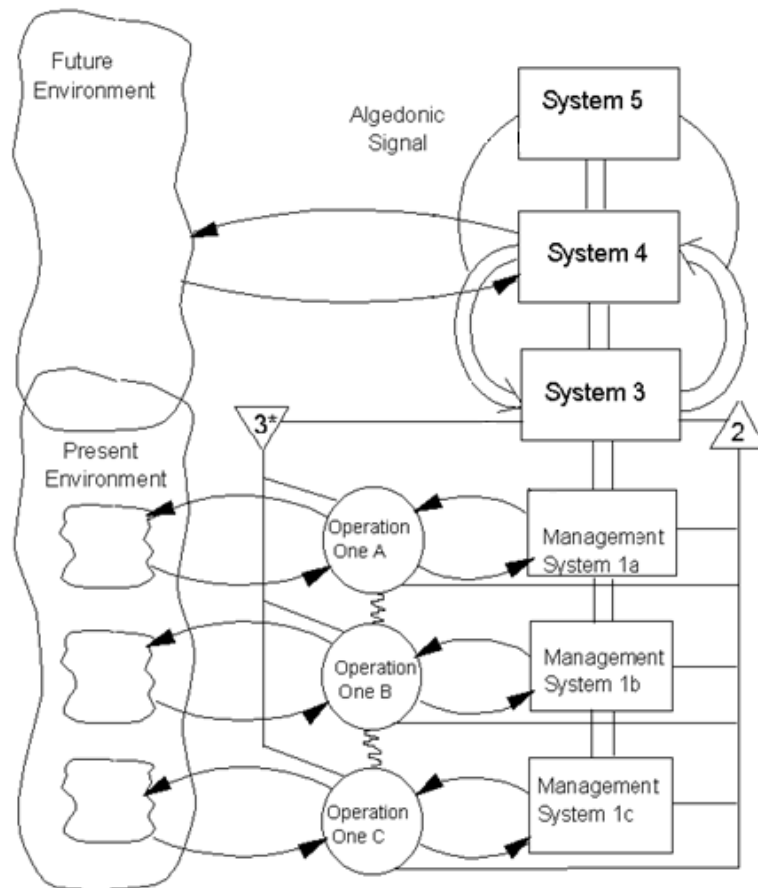
Figure 2

Law of Requisite Variety for Managing Affective Complexity at Workplace

Source: Espejo (2003)

$$V_E \gg V_S \gg V_M$$

Code: ◁ = Amplifier

〜〜〜 = Attenuator
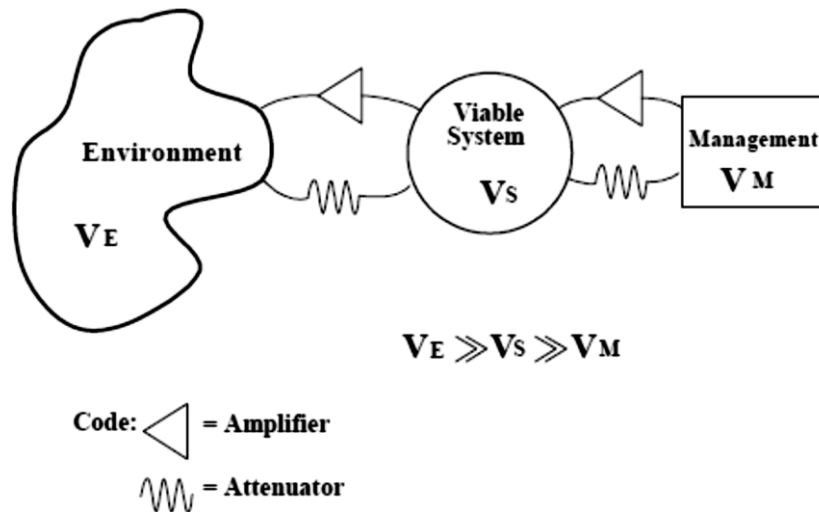
Figure 3

Balancing Emotions - Employee and Operations

Figure 4
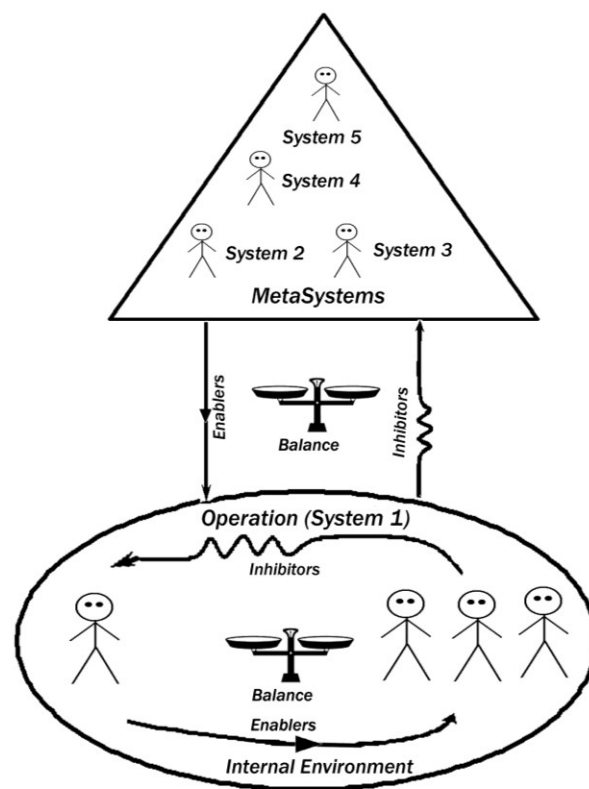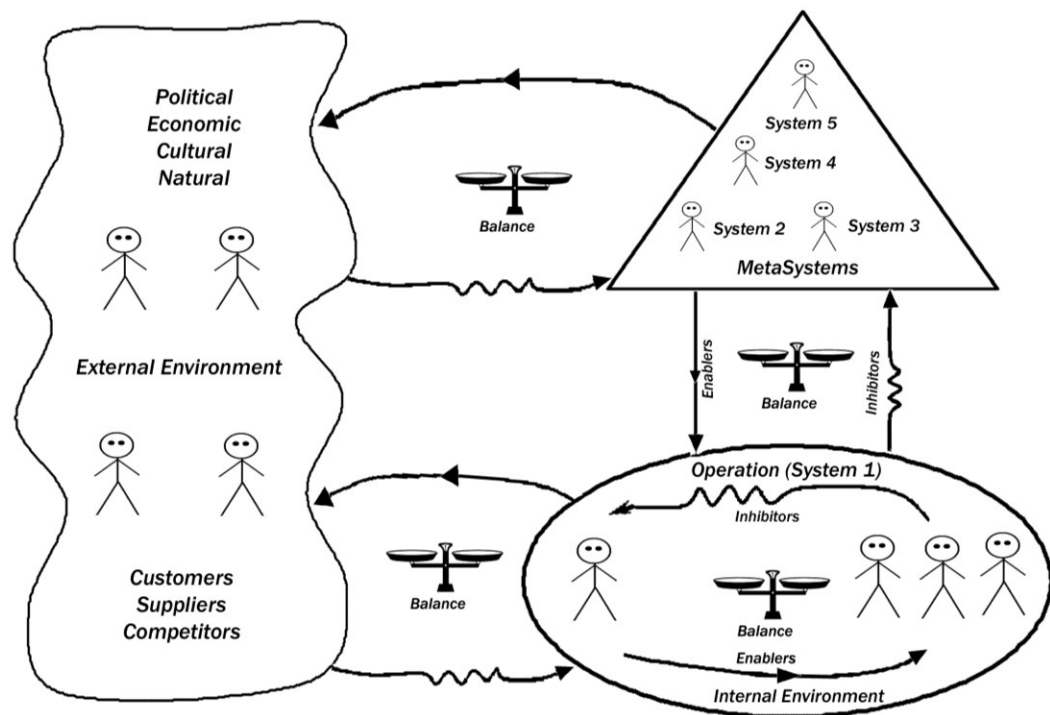
Balancing Emotions - Operation and Management

Figure 5

Balancing Emotions - System and Environment

Figure 6

Level of Recursions for Multi-level Investigation of Emotions

Source: (a) Corballis, M. (2011); (b) Leonard, A. (1999)

(a)

(b)