

Brief Communication: Phronesis Knowledge as Enabler of Intuitive Decision Making

Sami Ullah Bajwa,* Naveda Kitchlew,**
Khuram Shahzad***, Khaliq Ur Rehman****

School of Business and Economics, University of Management and Technology,
C-II Johar Town Lahore, Pakistan,

*<sami.bajwa@umt.edu.pk>, **<naveda.kitchlew@umt.edu.pk>,
<khuram.shahzad@umt.edu.pk>, *<khaliqcheema@gmail.com>

Bajwa, Sami Ullah, Kitchlew, Naveda, Shahzad, Khuram, and Ur Rehman, Khaliq. **Brief Communication Phronesis Knowledge as Enabler of Intuitive Decision Making.** *Knowledge Organization*. 42(1), 40-49. 67 references.

Abstract:: Drawing on Nonaka and colleagues' recent concept of phronesis, as a third type of knowledge that is connoted with practical wisdom, the present article proposes that intuitive decision making ability propels with phronesis. Furthermore, it proposes that cognitive adaptability—as the ability to quickly make sense of changing and complex situations – along with personality, as consistent patterns of behaviors based on social learning, are antecedents of phronesis. The article furnishes a conceptual frame based on contemporary literature on intuition, phronesis, cognitive adaptability, situated cognition, metacognition, and social learning theory of personality.

Received: 27 January 2015; Revised: 24 February 2015; Accepted: 13 February 2015.

Keywords: cognitive, cognition, personality, adaptability, knowledge, individuals, social theory, phronesis, decision-making

1.0 Introduction

Recently, Nonaka and colleagues (Nonaka et al. 2014) have proposed that knowledge is of three types, namely tacit, explicit and phronesis. While tacit and explicit forms of knowledge are prevalent and widely accepted in literature, the notion of phronesis as practical wisdom has opened a new foray of discussion in the field of knowledge management. Based on theoretical foundations of a new branch of cognition research, namely cognitive adaptability, it is construed that practical wisdom comes from the ability to quickly and correctly understand complex, dynamic and novel contexts, and accordingly take appropriate actions. Cognitive adaptability is defined here as the ability to make sense of the dynamic and complex situations and devise viable solutions for it. This conceptualization begets two important points. One that practical wisdom is about understanding complex and dynamic contexts and making effective decisions. In complex and dynamic situations, where critical factors for a decision are rapidly changing

and information about them is insufficient, managers make intuitive decisions. Practical wisdom, in this sense, enables intuitive decision making. Secondly, phronesis—practical wisdom as explicated by Nonaka et al. (2014) —is propelled by cognitive adaptability skills of individuals. In this backdrop, this article suggests that cognitive adaptability is the antecedent of phronesis, which enables intuitive decision making.

There is almost universal agreement among organizational scientists that decision making is the essence of management; and its importance for short, medium or long term success of an organization cannot be overemphasized. Decision making, however, often occurs in situations where information, regarding the varying factors which could affect the effectiveness of that decision, is very limited, thus making it a complex and non-linear process (Jonassen 1997; Mason and Mitroff 1981). This situation, in the terminology of management sciences, is referred as a complex and uncertain business environment (Morgan 1986; Stacey 1995). The choice of the

right option in such uncertain and complex situations is tricky and becomes even more difficult if factors that have potential to affect the efficacy of choice are changing on a high pace (MacIntosh et al. 2006; Stacey 2007).

Contemporary literature suggests that managers rely on their intuition to make decisions, in such dynamic and complex situations (Burke and Miller 1999). Intuition here is connoted with previous experiences, sixth sense and gut feelings of decision makers. Given that today's business environment is insistently getting uncertain and complex (Daft 2009), scholars have pointed out that there is pressing need to move ahead of this fuzzy connotation of intuition with feelings and sixth sense and postulate more rational explanation of this important phenomenon. Intuitive decisions inextricably require ability to correctly and quickly make sense of the changing contexts and accordingly take appropriate actions. In their recent paper Nonaka et al. (2014) have suggested that the value judgments of the context and action oriented practical wisdom emanates from *phronesis*—a third type of knowledge, in addition to traditionally known tacit and explicit forms of knowledge. Drawing on this conception, the present article proposes that intuitive ability of managers is not merely a gut feeling or dubious sixth sense; rather it is an ability that stems out of their *phronetic* knowledge. It also furnishes that cognitive adaptability—defined as ability to quickly make sense of the changing contexts and act accordingly—in juxtaposition of personality traits paves way to the development of *phronesis* in individuals that enable them to make effective decisions under complex and uncertain situations.

The paper is structured as follows. To begin with, it describes the underpinnings of the concept of *phronesis* and explicates certain conceptual nodes of the concept that relate to the emerging theory of cognitive adaptability. The second section, discusses emergence of the concept of cognitive adaptability and its theoretical roots. The third section highlights the significance of person-environment fit for making decisions under uncertainty, and drawing on social learning theory of personality concludes that certain personality traits serve as antecedents of cognitive adaptability and hence *phronetic* knowledge that enables individual's ability to make effective intuitive decisions.

2.0 The concept of *phronesis* as source of intuition, and its relationship with cognitive adaptability

Intuition has been conceptualized as a “sixth sense, a paranormal power, a gut instinct, an evaluative affect, an innate personality trait, and an accumulation of experience” (Langan-Fox and Shirley 2003). Though intuition, in its general connotation, has been referred a subconscious process with no apparent intrusion of rational thinking

and reasoning (Sadler-Smith and Shefy 2004), some scholars, especially belonging to the field of human psychology, have argued that intuition is embedded in social cognition of individuals and is a manifestation of tacit knowledge of the individuals. These conceptualizations call for a deeper analysis of this important decision-making frame. Social cognition theory suggests that individuals learn from their social interaction and the better they understand social contexts, the better they would be in making decisions. Social interactions propel ethical codes as well as innate boundaries for individuals in which they interpret the context they are faced by. In this sense, intuition is constrained by ethical principles and frames of references for defining realities and understanding contexts which individuals acquire from their social settings. Inextricably, importance of exposure, experience and mentorship remain pertinent in developing the said ethical boundaries and frames of reference. Thus, in the absence of clear information about important variables, decisions are made with the help of accumulated knowledge, social interaction based ethical consideration and frame of reference for defining context, and innate personality traits. The better the decision maker understands context, the more effective decision he would make and hence more wisdom he would be believed to have. Recently, Nonaka et al. (2014) have proposed that tacit and explicit knowledge exist mutually as there are no pure forms of either of these. Hence, when we say that intuition is a manifestation of tacit knowledge, it should rather be said that intuition is an outcome of both the tacit and explicit knowledge and above noted other factors. Furthermore, the authors have proposed that action-oriented practical wisdom and value judgments of the situational context are another form of knowledge, namely *phronesis*, which is not covered in tacit or explicit types. Since conceptualization of *phronesis* includes ethics, value judgments of the context and practical wisdom, it can be construed that intuition stems out of the *phronetic* knowledge of individuals.

The postulation of *phronesis* criticizes the traditional information-processing model of the Carnegie school of thought. Two main assumptions of the subject thought are flawed. One, there is no pure tacit and explicit forms of knowledge (every knowledge has both forms existent), and similarly “creation and utilization of knowledge occur simultaneously and cannot be separated” (Osono, Kodama, Yachi, & Nonaka 2006). This proposition asserts that while making intuitive decisions individuals not only use their existing knowledge but also generate new knowledge out of their interaction with environmental factors and context. As discussed in the later section, this assertion is consistent with the theory of situated cognition, which is primary constituent of the concept of cognitive adaptability. Secondly, knowledge is not merely the

processing of information, which is already out there and hence there is no room for individual subjectivity in knowledge creation process. In negation to this, the authors propose that “knowledge is information in context” and individuals define context in lieu of their subjective understanding of the situation, previous tacit and explicit knowledge, and teleology – or in other words the values. The authors argue that “with the triad relationship among tacit knowledge, explicit knowledge, and phronesis we are now able to incorporate value judgments into the knowledge creation process as they are embedded in phronesis. These value judgments help interpret contexts, grasp the essence, and create meaning out of the contexts.” This stance is consistent with cognitive research which demonstrates that influence of the environmental characteristics, like uncertainty, on cognition is subjective, perceptual and dynamic (Hilton 1995; Neuberg 1989; Schwarz 1996; Tetlock 1990).

The central point of both of the noted conceptual assumptions of the concept of phronesis is focused on

context and an individual’s ability to apply his subjective knowledge for understanding the context and accordingly take actions. Contemporary cognition and entrepreneurial research suggest that individuals make use of cognitive adaptability skills for understanding context and applying their subjective knowledge to devise action plan for that (Hyne 2005). Cognitive adaptability is an emerging concept in entrepreneurship and cognition literature. Increasing amounts of research tend to posit cognitive adaptability as a source of effective decision making (Laureiro-Martínez et al. 2009) and performance in dynamic environments (Reder and Schunn 1999). Especially, in dealing with uncertain situations where decisions have to be made without prior comprehensive knowledge, it is observed that entrepreneurs rely on their cognitive adaptability skills (Haynie et al. 2010). Cognitive adaptability is thus an ability which is essential for every decision maker; but its significance is immense for entrepreneurs, in particular, because the entrepreneurial task itself and the environment surrounding it has been studied fundamentally

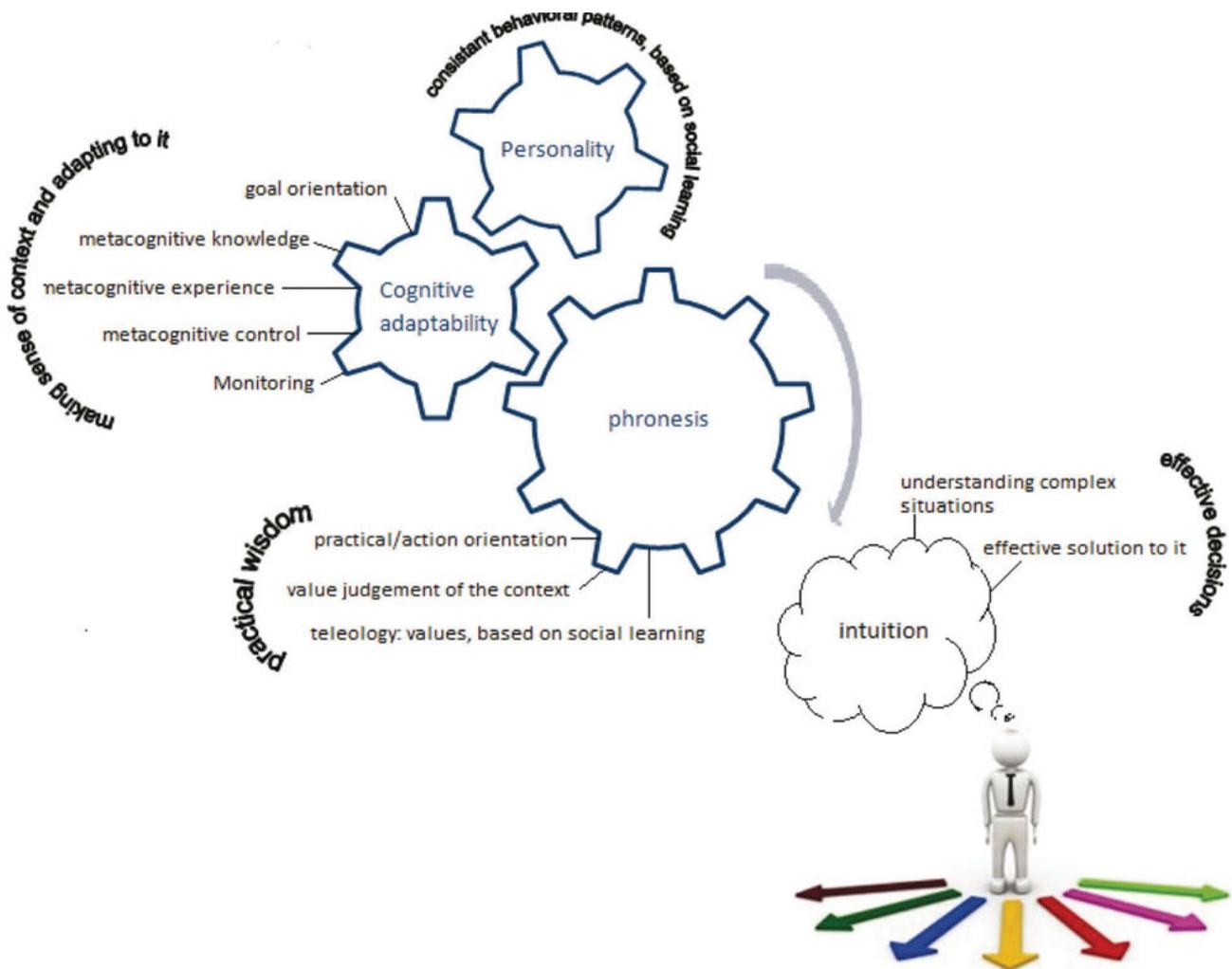


Figure 1. Phronesis as Enabler of Intuitive Decision Making.

dynamic, risky, and uncertain (Knight 2012; McGrath 1999; Zahra et al. 2002). Research on sense-making substantiates this notion by explaining, in detail, that cognitive process to make sense of the environment, and capability to do so, varies among individuals and consequently some decision-makers are intrinsically better than others in performing under uncertain situations (Weick et al. 2005). The proposition is also consistent with the conception that an organization can be construed as an 'evolving organism' which is subjective to its key decision-makers' identification and management of emerging patterns of the forces of change (Morgan 1986).

Since Nonaka et al. (2014) didn't described the ontological position of phronesis and connoted it with practical wisdom, value judgments for subjective understanding of context; it is cogent to propose that cognitive adaptability—the ability to make subjective sense of context, better than others, and accordingly take actions—is antecedent of phronesis. It is thus cognitive adaptability that dovetails individual's phronetic ability to demonstrate practical wisdom by better understanding of the dynamic and complex contexts. Based on this phronetic knowledge, individuals make effective intuitive decisions. Besides cognitive adaptability, personality is also an important antecedent of phronesis, as discussed in the later section. The following section, discusses emergence and theoretical support of the concept of cognitive adaptability.

3.0 Concept of cognitive adaptability: emergence and theoretical foundations

A human being is a thinking creature. The statement sounds simple and is generally accepted, but has been the underlying subject of many unsettled philosophic debates and scientific inquiries since the ancient times. It has propelled a foray of striking questions like – are the sources of inputs for 'thinking' internal or external to an individual (Maturana et al. 1995); does the mind have innate capacity to comprehend the external realities or what we believe true is merely our perception about truth (Gallagher and Frith 2003); do people have different thinking patterns and are these patterns static or evolving (Kelso 1995), and so on and so forth. The field which attempts to answer these and many other similar questions—by studying mental processes like sense making, perception and thinking—is referred to as cognition (Estes 1975). It is concerned with describing comprehensive mental processes including perception, ideas, acquiring and organizing information in the mind etc., to explain the process of knowing, thinking and solving problems (Koseoglu and Onder 2011).

Neisser (1967) defined cognition as "all processes by which sensory input is transformed, reduced, elaborated, stored, recovered and used." The definition is consistent

with the two established streams of cognition research; namely cognitive psychology and social cognition. The stream of cognitive psychology is predominantly centric to explore the internal mechanisms of the mind which enable human beings to make sense of the inputs received from sensory organs, interpret, and structure these cues for onward usage (Sampson 1981). Whereas, theory of social cognition is specifically concerned with explaining processes of mind that take place within individuals in their interaction with other people (Fiske and Taylor 2013). The difference between these two branches of cognition studies, therefore, is of focus on two different parts, one of which we would argue is more explicit and the other one rather implicit, of the aforementioned definition proposed by Neisser (1967). The definition explicitly emphasizes that field of cognition outlines the study of configuration of the human mind and its processes; and thus dovetails with the cognitive psychology which also lays emphasis on patterns and functioning of the human mind. Nonetheless, the definition also states that cognition is all about processing the sensory inputs which individuals acquire from their environment through their sensory organs. Therefore, the definition also highlights, though implicitly, that cognition is about making use of the inputs that human acquire, through their sensory organs, in their interaction with environment surrounding them. Since the environment around individuals primarily pivots on their fellow human beings, this implicit part of definition is perfectly aligned with the field of social cognition.

Scholars have suggested that traditionally study of cognition has been overwhelming centric to the mechanisms of mind (cognitive psychology) rather than interaction of human mind with the environment surrounding him (Amodio and Frith 2006). Even the strand of social cognition has been focusing, to a great extent, on 'brain' rather than the 'social context in which the brain works.' Some authors have suggested that this tendency was further augmented with the invention of computers and emergence of information technology (Clancey 1997). The mind was seen akin to the processor of a computer which takes input through input devices and processes it to produce final output; and resultant, an enormous amount of research has been focused on studying the process of perception, storing information and making connection of it in mind, and then retrieving it to make decisions (Rumelhart 1998). The computer metaphor continues to become popular to the extent that lately it has been postulated that even organizations could be interpreted as brains or information processing systems (Morgan 2006).

The aforementioned gap emerged with the relative neglect of cognitive psychology on the context in which mind works, and invited the attention of researchers to recognize the need of developing more inclusive models to

study social psychology and appreciate the influence of environmental conditions on mental processes of individuals (Operario and Fiske 1999). Especially, psychologists – involved in cognition research – argued that despite having its roots in cognition research, the field of social cognition has excessively incorporated computer metaphor as underlying assumption while framing research context (Schneider 1991). Furthermore, this metaphor is inadequate to encapsulate the effects of emotions and motivations on human cognition, and is somewhat insensitive to embrace the social context under which individuals do perform their thinking (Bransford and Schwartz 1999). This reorientation of the cognition paradigm with increased realization that patterns of individual's thinking, or in other words cognition, develop and evolve in response to the environmental context led to the emergence of a new, and a rather broad, branch of cognition research namely, situated cognition (Tetlock and Lerner 1999).

In a major divergence from the old computer metaphor, which has had dominated cognition research during the decades of seventies and eighties, situated cognition advocates that human cognition is heavily influenced by the individual's motivations and that his cognitive patterns are adaptive, rather than being static, to the environmental context around him. Situated cognition describes an individual as a fully mindful thinker who develops assorted cognitive strategies and based on his needs, goals and motivations—selects among available strategies (Operario and Fiske 1999). The situated cognition perspective, therefore, advanced the field of cognition sciences by conceptualizing that a human as thinking creature was a rather complicated entity who performs his thinking function in a broad context of his knowledge, desires, motives, perception, experiences and personal values (Operario and Fiske 1999). The perspective impelled researchers to contemplate that cognition is not only to study the structure and innate capacity of mind and its thinking functions; it also fosters the insights that cognition, to a certain extent, is a function of the environment. Particularly, it brought forward three important features of human cognition. First of all, there are multiple strategies available to individuals and those who are better than others in identifying and understanding important cues from environment will opt for effective strategies. Secondly, instead of being helpless and a passive-subject of the environment, individuals are mindful and able to control themselves in acquisition and interpretation of cues from the environment. Thirdly, in incidents of rapidly changing environments, those individuals will remain advantageous who demonstrate a flexible and adaptive thinking pattern.

Situated cognition theory, thus, provides a theoretical base to cognitive adaptability. Likewise, the theory of metacognition is another theory that lends to the development

of cognitive adaptability concept. Metacognition is referred to individual's ability to be aware of and control his learning patterns (Schraw and Dennison 1994), which makes him more adaptive in dynamic and uncertain contexts (Earley and Ang 2003). In a simple definition, metacognition is described as knowing about knowing (Haynie 2005). While defining cognitive adaptability, Haynie and Shepherd and McMullen (2009) suggested that this ability is an aggregate of “goal orientation, metacognitive knowledge, metacognitive experience, metacognitive control, and monitoring.” The following section briefly discusses these five dimensions.

3.1 Goal Orientation

Scholars suggest that there exists a two way relationship between situation (context) and motives of individuals. The context of an individual influences formation of his or her motives (Wyer Jr. and Srull 1989b); whereas, at the same time motives influence one's perception and interpretation of the context (Griffin and Ross 1991). Accordingly, Haynie and Shepherd (2009) suggested that goals of entrepreneurs are emerged in interaction of their multiple motives and context surrounding them, both having a reciprocal effect on each other, and that consciously knowing the process of goal formation serves as origins of cognitive adaptability.

3.2 Metacognitive Knowledge

Metacognitive knowledge is referred to as the conscious consideration of the cognition functions performed in one's mind in interaction with people, tasks and strategies (Von Wright 1992). Consideration includes both – one understands his or her own preference, personal style of dealing with environment, weakness, and strengths; as well as concern about how others look at various situations. Metacognitive knowledge about tasks, strategies, other people and oneself facilitates an individual to generate multiple frameworks for decisions to manage the changing environment (Haynie 2005).

3.3 Metacognitive Experience

The mental orientation of an individual towards the emotions, memories and experience which he or she has endured is referred to as metacognitive experience (Flavell et al. 1985). Such affective-based assessment serves as hunches or intuition of entrepreneurs while making decisions (Miller and Ireland 2005) and enable individuals to effectively figure out their social context (Earley and Ang 2003). More individuals rely on their hunches, or in other words guts, while managing their environment, more than

they would be using their metacognitive experience (Haynie and Shepherd 2009).

3.4 Metacognitive Choice

While attempting to cope with the changing environment, individuals make use of metacognitive knowledge and experience (Wyer Jr. and Srull 1989a) to select that decision framework out of the available alternatives, which best fits their goal orientation (Haynie 2005). In this sense, metacognitive choice is the extent to which individuals select choice from the generated alternatives, while being conscious to select alternatives which most appropriately matches their goal orientation (Haynie and Shepherd 2009).

3.5 Monitoring

Selection of an appropriate alternative leads towards implementation of the choice, and subsequently engaging into the post implementation cognitive processes—which provides feedback on the effectiveness of the decisions (Flavell et al. 1985). Monitoring the extent to which actual performance matches with the goal orientation helps an individual to make an evaluation of his or her motives (Nelson and Narens 1994), metacognitive knowledge, metacognitive experience, and selection of the particular decision framework (Haynie and Shepherd 2009).

4.0 Cognitive adaptability as antecedent of phronesis

Cognitive adaptability has been defined as the ability to quickly understand complex and dynamic situations and accordingly take effective actions. Postulation of practical wisdom as the ability to make sense of the complex and dynamic tasks and make effective intuitive decisions, therefore, is consistent with emerging stream of cognitive adaptability research. The concept of cognitive adaptability has been emerged on the theoretical grounds of situated cognition (thinking about thinking) and situated cognition (situation specific cognition). Based on the above discussion, it is furnished that cognitive adaptability is antecedent of phronesis.

4.1 Personality as antecedent of cognitive adaptability and phronesis

In organizational studies, personality has been mostly described in terms of measurable traits. With the increasing popularity of organizational behavior perspective (Pfeffer 2007) for competitiveness and performance of organizations, subjects like behavior and personality etc. got growing attention from researchers and practitioners. Unlike

complex description of personality theories, organizational studies employ a relatively simple definition and give more emphasis on measuring personality traits, or dimensions, and studying the relationship of these dimensions/traits with other facets of organizational life. Accordingly, the definition proposed by Cattell and Tregaskis (1965), which described personality as combination of behavioral and cognitive patterns that are consistent for a long time period, is frequently used. This definition offers a lead to conceptualize a relationship of personality with cognitive adaptability. To begin with, definition suggests that personality is an outcome of cognitive patterns, which essentially means that a person having flexible and adaptive cognitive patterns would have different personality traits than those who would have less adaptive cognitive patterns. Moreover, the second part of definition connotes personality as consistent behavioral patterns; and behavior has been studied as an outcome of attitude—which is constituted with cognitive, behavioral and affective components (Ajzen and Fishbein 1977). Therefore, behavioral patterns of individuals also stem, partially, out of his or her cognitive patterns. In addition to this, it is by and large accepted that personality traits are inherited, to a certain extent, as well as developed in individual's interaction with the environment (Davidson et al. 2006). Cognition is thus a common thread between personality and cognitive adaptability and the process of personality development is influenced by the environment of the individual. In view of this strong relationship between personality, cognition, and environment, it is reasonable to assume that personality would have a relationship with those cognitive patterns which enable an individual to adapt the changing environment, or in other words cognitive adaptability. Theories of personality shed better light on this postulation.

Theories of personality, having roots in philosophy and psychology, are characterized by hundreds of definitions and complex propositions regarding the construct and development process of personality. Hall and Locke (1985) noted that in these definitions, personality has been termed in either evaluative or descriptive statements. For instance when we say that someone has an amazing personality, we present our evaluation about him or her, and when we describe someone as inspiring person, we tend to describe him or her. Furthermore, based on a meticulous analysis of various landmark theories, Hall and Lock also suggested that these personality theories can be grouped into following four broad classifications.

The first of these groups, hinges on the common point of “psychodynamic forces.” Starting from the classical theory of Sigmund Freud, this group includes contemporary work of Erik Erikson, analytical psychology of Carl Jung, interpersonal dynamics of Alfred Alder, Karen Horney, Erich Fromm and Harry Stack. The sec-

ond group centers on “experiencing person” and includes the work of Abraham Maslow, the existential psychology of Ludwig and Mederad, and the personal world as described by Kurt Lewin and George Kelly. The third group focuses on “enduring characteristics” of individuals and includes personality work of Murray, the person’s uniqueness of Allport, the genetic view of Sheldon and the factor analysis of Cattell. Finally the fourth group is focused on personality with a perspective of “learning & environment,” with the pioneering work of reinforcement theory of Skinner, stimulus theory of Miller, and personality as social learning by Bandura.

The theory of personality as social learning provides admissible explanation to cognitive adaptability. The theory builds upon the work of personality theorists like Skinner—who brought forward the notion of learning from environment as fundamental element of personality—and underlines that somehow these theorists have missed accounting for two main phenomena in postulating the relationship between personality and environment. First, human beings are not mere passive objects of environment; rather they can think of and regulate their behavior. Second, much of the personality development of an individual involves interaction with others; therefore to study personality the social context in which behavior is acquired and maintained becomes pertinent. Before going into the further details of this theory, especially how it relates to cognition, it is worth noting here that both of these phenomena, as underlined by Bandura, are related to two main cognition theories which has led to the emergence of the concept of cognitive adaptability, namely situated cognition and metacognition (as discussed in literature review). The proposition of the theory of social learning that human beings can think and regulate their behavior is consistent with the theory of metacognition—whereby metacognition is described as higher order thinking process which enables an individual to think about his thinking style and regulate his behavior. Whereas the second proposition of the theory of personality as social learning that personality should be studied in the social context, in which behavior is acquired and maintained, is in line with the theory of situated cognition—which emphasizes that cognitive patrons of individuals are developed in preview of the social context of that individual.

The social learning theory of personality explains human behavior in terms of a continuing reciprocal interaction between environment and cognition (Bandura 1977). For Bandura, this reciprocal relationship, called reciprocal determinism, led to the personality development whereby individuals influence the environment around them, and simultaneously are controlled by the environment. Furthermore, the central point of this reciprocal relationship between individual and environment is ‘self system’ –

which is referred as cognitive structure of an individual that serves as orientation for functions like perception, evaluation, and control of behavior (Bandura 1978). Social learning theory of personality, therefore, proposes that the behavior and change in the behavior of an individual is determined by his or her cognitive structures, called self system, which enable him or her to rethink and regulate behavior in the face of environment. Whereas, a similar postulation underpins theories of metacognition and situated cognition.

Like the social learning theory of personality, the theory of situated cognition suggests that the cognitive patterns of individuals are adaptive to the environmental actors (Taylor et al. 1997). Human behavior, as per situated cognition theory, is guided by how he or she makes sense of the environment; and this sense making process is influenced by environment as well as individual’s motivation. This postulation of situated cognition theory has offered two new exciting dimensions to the cognition research. At one side, it propels a considerable divergence from the computer metaphor of cognition studies which was focused on brain as information processing mechanism (Barron et al. 1998), by emphasizing the importance of social context which influences the development and adaptability of mechanisms of mind. While, on the other side, it posits a human a fully conscious and motivated being who think upon, generate multiple cognitive strategies and based on his goals, needs and motives selects the best suitable strategy (Showers and Cantor 1985). As noted by Operario and Fiske (1999), situated cognition theory has led to abandoning the one-dimensional way of looking at human cognition and emphasizing that humans are complex entities who incorporate their knowledge, values, motivations and experiences while interacting to the environmental actors. Human learning, therefore, comes out to be the ability to generate and use different resources for acquiring knowledge in the process of interaction of internal cognitive processes of an individual and in his/her environment (Greeno 1991). The first step of this process is called encoding—a cognitive processes which is held at a non-conscious level—whereby individuals create a mental orientation towards an environment, which then is linked to the previous knowledge and motivations for taking inferences of the environment and subsequently taking appropriate action (Brunsson 1982). The propositions of situated cognition, especially the view that individuals have multiple cognitive strategies in a given task, provide fundamental theoretical input to the emergence of the concept of cognitive adaptability. Similarly, it gives the clear idea that in addition to cognitive processes, there is a higher level of cognition, occurring at an unconscious level, which enables an individual to generate multiple strategies to take inferences from and deal with the environment.

The theory of metacognition, however, suggests that unlike the proposition of situated cognition theory – that higher level cognition process occurs at unconscious level – cognitive function are performed in a hierarchical system, where cognition is a lower order constituent which is mainly responsible for handling informational cues, and metacognition is a higher order process which organizes an individual's knowledge about himself, tasks and the environment around him. This higher order process, is fully conscious, and enables an individual to rethink his lower level cognition functions in a way which facilitates identifying multiple cognitive strategies for achieving the desired tasks. Haynie (2005) has suggested that this particular flexibility comes from 5 established metacognition dimensions and may collectively be termed cognitive adaptability. Metacognition, thus, focuses on that part of cognition which is concerned with studying how an individual deals with people and other environmental actors (Suchman 1993). (Baker-Brown et al. 1990) suggested that during this interaction, an individual's mental models are influenced and shaped with input received from environment. Whereas, other cognition scientists like Schacter et al. (2000) suggest that during this interaction between an individual and the environment, goals of individual play a central role as he/she comprehends environment in the backdrop of his or her goals and motives. The theory of metacognition, therefore, gives high consideration to interaction of an individual's motives and environmental actors, while suggesting that the more a person is metacognitively aware, the more he or she will reconsider his/her cognitive strategies to deal with the environment. Understandably, high metacognitive awareness—and resultantly more cognitive flexibility—will be crucial in a dynamic environment and the result of these metacognitive strategies will reflect in cognitive, behavioral, and emotional responses of individual. Since personality is described as a function of behavior, and behavior has been suggested as outcome of emotional, cognitive and behavioral components of individual's attitude (Rothbart et al. 2000), we can construe that the theory of metacognition suggests high correlation between personality and metacognition.

To sum up, the theory of situated cognition suggests that the cognition of an individual is influenced, and partially shaped, by the environment in which he or she operates; and at an unconscious level, human beings their motives, experiences and previous knowledge in interpreting and interacting with the environment. Theory of metacognition, however, suggests that instead of an unconscious level, the incorporation of motives and knowledge etc. is performed at a conscious and higher level of cognition, where individuals are not only aware of their own patterns of deploying their motives and knowledge etc, but can also reconsider these patterns according to the changing re-

quirements of environment. This flexibility of one's own cognitive patterns, termed as cognitive adaptability by Haynie (2005), reflects in one's behaviors, emotional and cognition. While personality is described as a function of behavior and behavior is articulated as an outcome of cognitive, emotional and behavioral components of one's attitude; clearly there is a theoretical concurrence that personality is a predictor of cognitive adaptability skills. Taking the flip side of it, different personalities would have different levels of cognitive adaptability skills.

5.0 Conclusion

Intuition is widely acknowledged as an important decision making frame in the face of complex and dynamic situations. This paper undertook review of literature on decision-making and cognition, and postulated that intuitive ability propels with practical wisdom of the individual. Accordingly, it explicated that practical wisdom lies in one's ability to understand the novel and complex contexts and take appropriate and admissible decisions. Recent assertion of the concept of phronesis by Nonaka et al. (2014), as a third type of knowledge which is practically oriented and encompasses value judgment of the context as we as value of decision maker, is consistent with abovementioned postulation of practical wisdom. It is, therefore, proposed that phronesis is an enabler of intuition. Furthermore, postulation of practical wisdom as ability to make sense of the complex and dynamic tasks and make effective intuitive decisions is consistent with emerging stream of cognitive adaptability research. The concept of cognitive adaptability has been emerged on the theoretical grounds of metacognition (thinking about thinking) and situated cognition (situation specific cognition). Cognitive adaptability has a strong correlation with personality types, and social learning theory of personality explicated how personality, as consistent patterns of behavior based on social learning, provides rational to the question that why some individuals possess more cognitive adaptability than others. The article thus concluded that personality and cognitive adaptability are antecedents of phronesis; and phronetic knowledge is an enabler of intuitive decision making.

References

- Ajzen, Icek and Martin Fishbein. 1977. "Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research." *Psychological Bulletin* 84: 888-918.
- Amodio, David M. and Chris D. Frith. 2006. "Meeting of Minds: The Medial Frontal Cortex and Social Cognition." *Nature Reviews Neuroscience* 7: 268-77.
- Baker-Brown, G., Ballard, E. J., Bluck, S., De Vries, B., Suedfeld, P., & Tetlock, P. E. 1990. Coding manual for

- conceptual/ integrative complexity. *University of British Columbia and University of California, Berkeley*.
- Bandura, Albert. 1978. "Social Learning Theory of Aggression." *Journal of communication* 28: 12-29.
- Bandura, Albert. 1977. *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Barron, B. J., D. L. Schwartz, N. J. Vye, A. Moore, A. Petrosino, L. Zech, et al. 1998. "Doing with Understanding: Lessons from Research on Problem- and Project-Based Learning." *Journal of the Learning Sciences* 7 nos. 3/4: 271-311.
- Bransford, J. D., and D. L. Schwartz. 1999. "Rethinking Transfer: A Simple Proposal with Multiple Implications." *Review of Research in Education* 24: 61-100.
- Brunsson, N. 1982. "The Irrationality of Action and Action Rationality: Decisions, Ideologies and Organizational Actions." *Journal of Management Studies* 19: 29-44.
- Burke, L. A., and M. K. Miller. 1999. "Taking the Mystery out of Intuitive Decision Making." *Academy of Management Executive* 13: 91-9.
- Cattell, R. B., & Tregaskis, D. V. G. (1965). *The scientific analysis of personality* (Vol. 27). Baltimore: Penguin Books.
- Clancey, W. J. 1997. *Situated Cognition: On Human Knowledge and Computer Representations*. Cambridge: Cambridge University Press.
- Daft, R. L. (2009). *Organization Theory and Design*: South-Western Cengage Learning.
- Davidson, K., J. Norrie, P. Tyrer, A. Gumley, P. Tata, H. Murray, et al. 2006. "The Effectiveness of Cognitive Behavior Therapy for Borderline Personality Disorder: Results from the Borderline Personality Disorder Study of Cognitive Therapy (BOSCOT) Trial." *Journal of Personality Disorders* 20: 450-65.
- Earley, P. Christopher and Soon Ang. 2003. *Cultural Intelligence: Individual Interactions Across Cultures*. Stanford, CA: Stanford University Press.
- Estes, W. 1975. "The State of the Field: General Problems and Issues of Theory and Metatheory." *Handbook of Learning and Cognitive Processes* 1: 1-24.
- Fiske, S. T. and Shelley E. Taylor. 2013. *Social Cognition: From Brains to Culture*. 2nd edition. London: Sage.
- Flavell, J. H., P. H. Miller and S. A. Miller. 1985. *Cognitive Development*. Englewood Cliffs, NJ: Prentice-Hall.
- Gallagher, H. L. and C. D. Frith. 2003. "Functional Imaging of 'Theory of Mind.'" *Trends in Cognitive Sciences* 7, no. 2: 77-83.
- Greeno, J. G. 1991. Number Sense as Situated Knowing in a Conceptual Domain. *Journal for Research in Mathematics Education* 22: 170-218.
- Griffin, D. W. and L. Ross. 1991. "Subjective Construal, Social Inference, and Human Misunderstanding." *Advances in Experimental Social Psychology* 24: 319-59.
- Hall, C. S. and V. O. Locke. 1985. *Introduction to Theories of Personality*. New York: Wiley.
- Haynie, J. M. (2005). *Cognitive Adaptability: The Role of Metacognition and Feedback in Entrepreneurial Decision Policies* (No. CI04-1113). COLORADO UNIV AT BOULDER.
- Haynie, J. M., Shepherd, D. A., & McMullen, J. S. (2009). An opportunity for me? The role of resources in opportunity evaluation decisions. *Journal of Management studies* 46: 337-61.
- Haynie, J. M., D. Shepherd, E. Mosakowski and P.C. Earley. 2010. "A Situated Metacognitive Model of the Entrepreneurial Mindset." *Journal of Business Venturing* 25: 217-29.
- Hilton, D. J. 1995. "The Social Context of Reasoning: Conversational Inference and Rational Judgment." *Psychological Bulletin* 118, no. 2: 248-71.
- Jonassen, D. H. 1997. "Instructional Design Models for Well-Structured and Ill-Structured Problem-Solving Learning Outcomes." *Educational Technology Research and Development* 45, no. 1: 65-94.
- Kelso, J. 1995. *Dynamic Patterns: The Self Organization of Brain and Behaviour*. Cambridge, MA: MIT Press.
- Knight, F. H. 2012. *Risk, Uncertainty and Profit*. New York: Courier Dover Publications.
- Koseoglu, E. and D. E. Onder. 2011. "Subjective and Objective Dimensions of Spatial Legibility." *Procedia-Social and Behavioral Sciences* 30: 1191-5.
- Langan-Fox, J. and D. A. Shirley. 2003. "The Nature and Measurement of Intuition: Cognitive and Behavioral Interests, Personality, and Experiences." *Creativity Research Journal* 15 nos. 2/3: 207-22.
- Laureiro-Martínez, D., S. Brusoni and M. Zollo. 2009. Cognitive Flexibility in Decision-Making: A Neurological Model of Learning and Change. *Proceedings of the Strategic Management Society 29th Annual International Conference 11-14 October 2009 Washington DC*. Bocconi University.
- MacIntosh, R., D. MacLean, R. Stacey and D. Griffin. 2006. *Complexity and Organization: Readings and Conversations*. London: Routledge.
- Mason, R. O. and I. I. Mitroff. 1981. *Challenging Strategic Planning Assumptions: Theory, Cases, and Techniques*. New York: Wiley.
- Maturana, H., J. Mpodozis, and J. C. Letelier. 1995. "Brain, Language and the Origin of Human Mental Functions." *Biological Research* 28: 15-26.
- McGrath, R. G. 1999. "Falling Forward: Real Options Reasoning and Entrepreneurial Failure." *Academy of Management Review* 24: 13-30.
- Miller, C. C. and R. D. Ireland. 2005. "Intuition in Strategic Decision Making: Friend or Foe in the Fast-Paced 21st Century?" *Academy of Management Executive* 19: 19-30.

- Morgan, G. 1986. *Images of Organization*. Beverly Hills: CA: Sage.
- Morgan, G. 2006. *Images of Organization: Updated Edition of the International Bestseller*. Thousand Oaks, CA: Sage.
- Neisser, U. 1967. *Cognitive Psychology*. New York: Appleton-Century-Crofts.
- Nelson, T. O. and L. Narens. 1994. "Why investigate meta-cognition?" In J. Metcalfe and A. P. Shimamura, eds., *Metacognition: Knowing about Knowing*. Cambridge: MIT Press, pp. 1-26.
- Neuberg, S. L. 1989. "The Goal of Forming Accurate Impressions during Social Interactions: Attenuating the Impact of Negative Expectancies." *Journal of Personality and Social Psychology* 56: 374-86.
- Nonaka, I., M. Kodama, A. Hirose and F. Kohlbacher. 2014. "Dynamic Fractal Organizations for Promoting Knowledge-Based Transformation—A New Paradigm for Organizational Theory." *European Management Journal* 32: 137-46.
- Operario, D. and S. T. Fiske. 1999. "Social Cognition Permeates Social Psychology: Motivated Mental Processes Guide the Study of Human Social Behavior." *Asian Journal of Social Psychology* 2: 63-78.
- Osono, E., M. Kodama, H. Yachi and I. Nonaka, 2006. Practice theory of innovation management (in Japanese). Tokyo: Hakuto Shobo.
- O'Reilly, C. and M. Tushman. 2004. The ambidextrous organization. *Harvard Business Review* 82(April): 74–82.
- Pfeffer, J. 2007. "Human Resources from an Organizational Behavior Perspective: Some Paradoxes Explained." *Journal of Economic Perspectives* 21, no. 4: 115-34.
- Reder, L. M. and C. D. Schunn. 1999. "Bringing together the psychometric and strategy worlds: Predicting adaptivity in a dynamic task." In D. Gopher and A. Koriat eds., *Attention and Performance XVII: Cognitive regulation of performance: Interaction of theory and application*. Cambridge, Mass.: MIT Press, pp. 315-42.
- Rothbart, M. K., S. A. Ahadi and D. E. Evans. 2000. "Temperament and Personality: Origins and Outcomes." *Journal of Personality and Social Psychology* 78, no. 1: 122-35.
- Rumelhart, D. E. 1998. "The Architecture of Mind: A Connectionist Approach." In P. Thagard, ed., *Mind Readings*. Cambridge, Mass.: MIT Press, pp. 207-37.
- Sadler-Smith, E. and E. Shefy. 2004. "The Intuitive Executive: Understanding and Applying 'Gut Feel' in Decision-Making." *Academy of Management Executive* 18, no. 4: 76-91.
- Sampson, E. E. 1981. "Cognitive Psychology as Ideology." *American Psychologist* 36, no. 7: 730-43.
- Schacter, D. L., K. A. Norman and W. Koutstaal. 2000. "The Cognitive Neuroscience of Constructive Memory." In D.F. Bjorklund, ed., *False-Memory Creation in Children and Adults: Theory, Research, and Implication*. Mahwah, NJ: Erlbaum, pp. 129-68.
- Schneider, D. J. 1991. "Social Cognition." *Annual Review of Psychology* 42, no. 1: 527-61.
- Schraw, G. and Sperling Dennison, R. 1994. "Assessing Metacognitive Awareness." *Contemporary Educational Psychology* 19: 460-75.
- Schwarz, N. 1996. *Cognition and Communication: Judgmental Biases, Research Methods, and the Logic of Conversation*. Mahwah, N.J.: L. Erlbaum Associates.
- Showers, C. and N. Cantor. 1985. "Social Cognition: A Look at Motivated Strategies." *Annual Review of Psychology* 36, no. 1: 275-305.
- Stacey, R. D. 1995. "The Science of Complexity: An Alternative Perspective for Strategic Change Processes." *Strategic Management Journal* 16, no. 6: 477-95.
- Stacey, R. D. 2007. *Strategic Management and Organisational Dynamics: The Challenge of Complexity to Ways of Thinking about Organisations*. Harlow: Financial Times Prentice Hall.
- Suchman, L. 1993. "Response to Vera and Simon's Situated Action: A Symbolic Interpretation." *Cognitive Science* 17, no. 1: 71-5.
- Taylor, P. C., B. J. Fraser and D. L. Fisher. 1997. "Monitoring Constructivist Classroom Learning Environments." *International Journal of Educational Research* 27, no. 4: 293-302.
- Tetlock, P. E. 1990. "Some Thoughts on Fourth-Generational Models of Social Cognition." *Psychological Inquiry* 1, no. 3: 212-14.
- Tetlock, P. E. and J. S. Lerner. 1999. "The Social Contingency Model: Identifying Empirical and Normative Boundary Conditions of The Error-And-Bias Portrait of Human Nature." In S. Chaiken and Y. Trope, eds., *Dual-process theories in social psychology*. New York: Guilford Press, pp. 571-85.
- Von Wright, J. 1992. "Reflections on Reflection." *Learning and Instruction* 2, no. 1: 59-68.
- Weick, Karl. E., Kathleen M. Sutcliffe and David Obstfeld. 2005. "Organizing and the Process of Sensemaking." *Organization Science* 16, no. 4: 409-21.
- Wyer Jr, R. S. and T. K. Srull. 1989a. *Memory and Cognition in Its Social Context*. Lawrence: Erlbaum Associates.
- Wyer Jr, R. S. and T. K. Srull. 1989b. *Social Intelligence and Cognitive Assessments of Personality*. Hillsdale, N.J.: L. Erlbaum Associates.
- Zahra, S. A., D. O. Neubaum and G. M. El - Hagrassy. 2002. "Competitive Analysis and New Venture Performance: Understanding the Impact of Strategic Uncertainty and Venture Origin." *Entrepreneurship: Theory and Practice* 27, no. 1: 1-28.