Micro foundations of Decision-making

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Abstract

Decision-making is primarily a mental activity of the decision-maker even when the decision-maker is confronted with the decision environment of data and context. This aspect of the psychological process is delineated into the intra-individual sub-systems of cognition, affect, motivation and personality traits. The sub-systems influence the decision-making process in interactive and integrative ways thereby the choice of the decision-maker become an outcome of cognition, affect and personality traits wherein it becomes interacting and intervening variables of significance. The mechanisms of cognition in the form of information-processing and knowledge structures, affect in the ways of the emotional processes of the decision-maker, motivation in the form of the pursuit of goals and personality traits in its constellation.

Keywords: Decision-making, Cognition, Affect, Motivation, Personality traits

Introduction

Decision-making can be considered the single most managerial core behaviour that tilts the effectiveness, the efficiency and ultimately the success of the manager and the firm in either way. Decision-making becomes a pivotal variable in firm performance and successful firms can be characterised by the quality of decisions made (Jones, 2022). The literature and the empirical studies in decision-making covers a wide range of topics such as rational models, utility models, mathematical models, artificial intelligence models, behavioural models and intuitive models wherein it is implied that models can be categorised in terms of focus on objective and data-driven decisions and models that place greater emphasis on the inner world of the decision-maker. In the behavioural analysis of decision-making, the decisions are loaded with the intra-individual subsystems of cognition, affect, motivation and personality processes over and above the rational or utility models that suggest profit maximisation (Etzioni, 2001; Karimi, Holland, & Papamichail, 2018; Jones, 2022). The cognitive-affective-personality system theory proposed by Mischel and Shoda (1995) presents an interactive and integrative perspective on these intra-individual subsystems in explaining individual behaviour. This paper specifically examines the facets of the decision-maker's intra-individual subsystems, namely cognition, affect, motivation, and personality traits.

Conceptual Background of the Study: An Explanatory Literature Review

Decision-making which is evidently the selection of the best alternative from a number of competing alternatives is primarily an outcome of the managers' own cognitive processes, personality processes, emotional processes and motivational dynamics, all of which interact at different levels in the selection of the best alternative (Etzioni,2001; Mohammed & Schwall,2009; Daood, Calluso, & Giustiniano, 2020). It is the intra-individual processes of the individual decision-maker that significantly matter in the decision-making process allowing for the influence of the environmental variables and processes (Christauskas & Stunguriene, 2007; Franken & Muris, 2005). Unavoidably the decision made turns out to be an outcome of three significant factors that influence the predecision-making phase, the actual decision-making process and the post decision-making phase (Mohammed & Schwall, 2009). The task characteristics, the environmental characteristics and individual characteristics influence the entire decision-making process in varying ways depending on the decision problem itself, the decision-marker, and the context of decision wherein the exact nature of influence of a factor may be mathematically determined (for e.g.) (Mohammed & Schwall, 2009). It may be contended that of the three factors, the least factor that is interactively and otherwise studied is the individual processes (Mohammed & Schwall, 2009). It can be argued that the individual process is dynamic, unstable, and inconsistent across different situations. Consequently, studying these intra-individual processes becomes challenging as they are not easily quantifiable, unlike task characteristics and environmental variables. However, within the realm of behavioral methodology, it is possible to rely on conceptual and empirical research methods. In this study, the conceptual method is employed.

Decision-makers are influenced by their "inner world" of cognitions, motivation, affect/emotion and personality processes, negating the influence of which no decision can be taken in the theoretical and empirical sense and the way the intra-individual sub-systems play a mediating role differs across individuals and situations (Stoker & Moseley, 2013; Mohammed & Schwall, 2009).

Deciphering the intra-individual subsystems, the cognition of the decision-maker, as it relates to information processing and knowledge development, reduces the uncertainty of the situation as it also broadens the availability of alternatives. The cognitive structures and processes involved in the representation and development of knowledge, (the cognition, be it strategic or problem solving), of decision-makers show varying patterns (Schneider & Angelmar,1993; Narayanan, et al., 2011). The cognitive structures and processes are differentiated in the functional aspect of cognitive complexity defined as the differentiation and integration of information processing (Gupta & Govindarajan, 2002; Mohammed & Schwall, 2009). The need for cognition is "the tendency to be engaged in and to enjoy effortful cognitive endeavours" that differs across individuals (Mohammed &

Schwall, 2009, p.255). Individuals with greater cognitive complexity and/or individuals with high need for cognition, are prone to process greater levels of information than individuals with low cognitive complexity and low need for cognition (Mohammed & Schwall, 2009). Decision-makers with a high need for cognition tend to be processors of much information as they enjoy complex cognitive structures and the way they process information markedly differ (Schneider & Anmgelmar,1993; Mohammed & Schwall, 2009).

Due to variations in cognitive structures and processes among individuals, one specific type of cognitive structure that warrants attention is cognitive schemata. These schemata consist of organized knowledge structures that serve different purposes and are characterized by their interrelation with the decision-maker's cognitive complexity and need for cognition. Decision-makers who possess diverse and integrated schemata, representing various aspects of the decision problem, tend to excel in their decision-making abilities.

In the same way human life cannot do without affect, the second intra-individual sub-system, the decision-making process is not free from the individual dynamics of emotion that play its role in the pre-decisional, the decision-making process and the post decisional phases (Loewenstein & Lerner, 2003; Mailliez, et al., 2020). In the dynamics of emotion, the appraisal theory, the most accepted theory of emotional experiences among other explanations, states that the nature of the emotional experiences is determined by the evaluation/judgement of the internal and the external stimuli that the individual is confronted with (Roseman & Smith, 2001). In the way the interpretation changes the emotional experiences also change signalling the fact that what *matters* is the individual's own subjective interpretation. The appraisal of what is going on produce the affective reactions and it is the "information processing basis of affect" that hold the key to the experience of emotion (Carver, Sutton, & Scheier, 2000, p.744). Considering the fact that emotional experiences are processes rather than states and that it is continuous, the emotional experiences of the decision-maker are significant in all the phases of decision (Ellsworth, 2013).

The way the emotions colour the decision-making process is brought out in studies that demonstrate the way emotion can change the same. The influence of discrete emotions, the specific emotional experiences experienced by the individual following specific cognitive appraisals, in the decision-making process is corroborated (Achar, et al., 2016). Moreover researchers have also examined the influence of specific emotion-related (ability-related) process in decision-making (Hess & Bacigalupo, 2011).

The third intra-individual sub-system of the decision-making process is the motives which are the driving forces of behaviour and the motivational processes are

generally explained by the pursuit of goals that are relevant, that has some value for the person and the possibility of accomplishing the goals, given the situation. The choice and the pursuit of goals are mediated by different psychological mechanisms and it assumes complex proportions in varying ways (Larrick,1993). The individuals' dispositions, environmental factors and the person-environment interaction shape the choice/decision that the individual makes which point to the fact that all decisions involve motivational tendencies and processes (Naatanen & Summala,1974; Sell & Dejong,1978; Larrick,1993). Focusing on the individual processes, it has been identified that the goals that the individual pursues are also the product of related intra-individual constructs like values, beliefs, and even cognition and affect (Eccles & Wigfield, 2002). Values can activate a goal directed behaviour as these are more to do with the incentives or the reason for doing an activity (Verplanken & Holland, 2002; Eccles & Wigfield, 2002). Expectancies are beliefs regarding the possibility of achieving the outcome wherein it is implied that absence of motivational beliefs desist the person from pursuing a task and having the beliefs motivate the person to do the task. In other words, the decision is influenced by the individua's own motives, expectancy, and the value that the individual place on the outcome.

The fourth intra-individual sub-system of the decision-making process entails the personality processes of the decision-maker which can be understood at different interpretative schools of psychoanalytic, behavioural, learning, trait, social cognitive phenomenological and even transpersonal. Be that as it may, a parsimonious and a popular way of explaining the personality is the trait approach which interprets personality in terms of a unique constellation of traits, which are enduring stable dispositions. Cervone and Pervin (as cited in Colbert, et al., 2012, p.671), define personality traits as "psychological qualities that contribute to an individual's enduring and distinctive patterns of feeling, thinking, and behaving". It is evident in this definition of traits its interactive nature as these stable dispositions are in a process of inter-relationship with cognition, affect and motivation (Mischel & Shoda, 1995).

As a significant predictor of behaviour, trait approach to the study of personality and its relationship with the decision-making process involves examining the way a single trait or a cluster of traits influence the behaviour (Novikova, 2013). Traits are continuous individualised processes that influence the behaviour across situations with cross-situational consistency. The scientific and the neuropsychic basis of traits are evidenced in empirical studies that analyse different dispositional tendencies (Costa & Mc Crae,1998). This differential way of identifying theses sable tendencies have resulted in a number of trait theories that started with the Allport theory of trait and further refinements continue even today (Novikova, 2013). Among all these different classifications of the stable neuro-psychological tendencies the widely discussed and researched is the Big-Five Factor Model of

Personality. The decision-making process of the managers are analysed using this and similar frameworks (Busic-Sontic, Czap & Fuersta , 2017).

It is evident that the intra-individual sub-systems discussed become the foundational structure and function of decision-making process. The line of thinking in the contemporary literature is to "look inward and downward" to understand the foundational mechanisms that lead to specific behaviours or a phenomenon in question rather than searching for macro variables to explain a phenomenon, and these fundamental processes are termed micro foundations (Ployhart & Hale, 2014; Helfat & Peteraf, 2015). In the analytical process a micro foundation or a set of interacting micro-foundations can become causative explanations of a phenomenon and it is in this sense that the intra-individual sub-systems of cognition, affect, motivation and trait-related process become causative and influential in the decision-making process, hence these become the micro-foundations of the decision-making process (Felin, Foss, Heimeriks, & Madsen, et al., 2012). It is to be observed that the micro foundational approach go with the "notions of "reduction" or "decomposition" in science and with "methodological individualism" in the philosophy of social science" (Felin et al.,2012 p.3). In the management literature, it is found that individual level processes like cognition and related inner behavioural processes are treated as micro foundations of molar behaviour like managerial capability (Helfat & Peteraf, 2015).

Having reviewed the literature that throws light on the intra-individual sub-systems that influence the decision-making process, further examination of it leads to greater understanding of the way each of these sub-systems individually and interactively influence the decision-making of a decision-maker.

The Micro-foundations: Cognition, Affect, Motivation and Personality Traits

The interaction and integration of the intra-individual subsystems of cognition, affect, motivation, and traits form the micro foundations of decision-making. The reciprocal interactions between these subsystems are represented by double-headed arrows, and their nature will be examined after discussing each subsystem individually.

The Cognitive underpinnings

The cognition of decision-making can be the pattern that involves the cognitive structures and processes of constructing, refining, "coercing", and deriving a "reasonable interpretation" about the decision-environment that culminates in the identification of an alternative that become the decision in the problem-context (Daft & Weick, 1984, p.287). Interpretation is the process that involves understanding the environment (decision-environment), making sense of the

situation thereby a coherent picture of the situation is framed, laying bare its meaning and the implications, and developing the conceptual schemes of bringing out meaning, and of assembling the conceptual schemes of the problem (Daft & Weick, 1984). It is the specific patterns of the cognitive structures and processes of the decision-maker that becomes the cognitive representations of the decision-environment that can be labelled the cognitive anchors of the decision-maker (Narayanan, et al., 2011).

By definition and by actual operation, representations of organised knowledge are cognitive structures which can be otherwise represented as organised storehouse of knowledge whereas cognitive process "refer to how knowledge is selected, organized, transformed, stored and utilized" (Schneider & Angelmar, 1993, p.351). In the information processing terminology, information received is the input, selection, organisation, transformation, storing and utilization of information is through the cognitive processes and once the information is transformed it becomes the outcome that is the cognitive structures of decision0maker that differs across induvials reflecting the quality of the decision (Schneider & Angelmar, 1993; Narayanan, et al., 2011). The cognitive complexity of the decision-maker is expressed in the differentiation and in the integration of the cognitive processes and the structures wherein it is implied that the higher the complexity the higher the knowledge load and the lower the knowledge load, the lower the cognitive complexity (Gupta & Govindarajan, 2002).

In the theory of cognitive structures, representations of knowledge can be in the form of "categories, construct systems, causal systems and scripts" which are ways of organising the knowledge (Schneider & Angelmar, 1993, p.349). Categories are nothing but formation of delineated knowledge in relation to the similarity or the underlining relations between attributes or phenomena wherein different categories of knowledge, referring to the different levels of complexity, are formed by the individual. In the increasing structures of cognitive complexity of knowledge differentiation and integration, categories give rise to construct systems, causal systems, and scripts and these are differing and varying conceptual elaborations of abstract to concrete relationships (construct systems), cause-effect relationships (causal systems) and procedural relationships (schemata and scripts) (Schneider & Angelmar, 1993).

Of these differing cognitive structures, categories and construct systems are rather general that are functional in almost all the cognitive operations like reasoning, analytical thinking and the like. However, researchers specifically identify the role of causal systems or cognitive maps (Nadkarni & Barr, 2008) and decision-schemata in the decision-making process (Imbrogno,1997).

Schemata that steer the individual in the process of perception, problem-solving, inferences and most importantly decision-making are subjective theories-in- use, which are also nucleuses to make sense out of a situation (data packets or application-based data repository). Decision-schemata are cognitive structures of organised, differentiated, integrated, and purified knowledge structures that aid the decision-maker in unravelling the complexity of the problem. These are also "conceived as expectation systems with invariant knowledge about the specificity of the situation" (Rulence-Paques, et al., 2005). As repositories of action-packed knowledge, the decision-schemata can enable the decision-maker to make effective and efficient decisions in ways like mapping of experiences, application of information derived from memory, heightening of the information processing, providing the decision-maker, confronted with new situation, the missing details to draw the big picture, construction of templates that aid in problem-solving, easy interpretation of experiences and goal setting and execution (Taylor & Crocker, as cited by Harris,1994; Mathews, 2022).

When it comes to content of the schemata, it is evidenced that individual possesses myriad schemas as they encounter differing and varying stimuli across different interactional situations (Harris, 1994). Schemata are generally divided into stimuli-domain ones and context-specific ones wherein the former are dominated by the stimulus properties (for e.g., a car schemata) and the latter ones take in much of the information from the situation around which schemata are formed (for e.g., leadership or decision-making schemata) (Harris, 1994). In relation to this Harris (1994) identifies five categories of in-organisation schemata: self, person, object/concept, organisation, and event. Self-schemata define an individual's own personality, roles, values, and organisational interactional situations, person schemata revolve around significant others in the organisation, their identifications, behavioural patterns and importance in the organisation, organisation schemata are concerned with the characteristics, culture and everything that is central as far as it goes with the organisation, object/concept schemata are differentiated as it provides conceptual/ object support to participants to interpret aspects of organisational life and event schemata are for events like staff meetings, departmental meetings, etc., (Harris, 1994).

Decision-schemata which are specifically operative in the decision-making process can be related to self, person, object/ concept, organisation, and event. The decision-makers' own evaluation and knowledge about himself/herself play a significant role in making timely, independent, and effective decisions. Person schemata becomes relevant when group decisions are made and/or when implementation of decisions become significant or when expertise of individuals is required to make correct decisions. The process of decision-making and the related organisational variables are contained in the object/concept schemata. Object/concept decision-schemata facilitate the decision process, and the

decision-maker can identify the hurdles and think of the way of overcoming the hurdles. Organisation decision-schemata provide the decision-maker with information about the way things are conducted in the organisation and event schemata is a source of information that supplies the decision-maker with greater clarity as to how decisions are made, the procedures to be followed and the other dos' and donts'.

A variant tool of cognitive mapping or causal system is called decision tree that maps out the "choices, risks, objectives, monetary gains, and information needs involved" in decision-making (Magee, 1964). It portrays in the form of a tree with its branches and sub-branches the different possibilities or probabilities of different occurrences with its payoffs or success rate that go with each decision alternative. A decision tree consists of a series of nodes and branches where nodes are decision points and branches are the chance events open to the decision-maker. The root nodes are the decision choice points, the internal nodes are the chance points available to the decision-maker and leaf nodes are the end nodes representing the combination of results (Song & Lu, 2015). Branches are the chance outcomes or occurrences that originate from the nodes and at the end of each branch or alternative course is another node representing a choice point. By adding more nodes and branches the tree grows and becomes complex as the problem and alternatives also become complex.

Affective processes in decision-making

Decision-making, heavily loaded with the cognitive processes, has been recently studied with reference to the impact of emotion as to the efficacy of the decision-maker and the quality of the decisions made (Hess & Bacigalupo, 2011). Research has shown in three significant ways that emotion greatly influences the decision-making process not easily explicated and evident at the outset (Loewenstein & Lerner, 2003). It is shown that, firstly emotion even unrelated to the decision task influence the judgement taken and the choices made, secondly emotional deficits poorly affect the quality of decisions and thirdly the explanatory and the predictive power of affect in models of decision-making has been greatly recognised by researchers (Loewenstein & Lerner, 2003).

The two streams of research available to evaluate the influence of emotions in decision-making is that of considering the influence of the experience of discrete emotions in decision-making and the relation between specific emotional abilities like emotional intelligence in decision-making (Mailliez, et al., 2020; Brown, George-Curran, & Smith, 2003). About the influence of discrete emotions in decision-making, Loewenstein and Lerner (2003) differentiate two paths by which emotion enters the decision-making process. The first influence is that of expected emotions and the second path is that of immediate emotion wherein in the case of former, the decision-makers anticipate the probable positive and/or negative

emotions in relation to each decision alternative and select an alternative that minimise negative emotions and maximise positive emotions (Loewenstein & Lerner, 2003). Regarding the influence of immediate emotions in decision-making, in the case of direct impact, the experience of positive emotions like happiness can improve the quality of decisions and negative emotions like fear can lower the quality of decisions (Mailliez, et al., 2020). When it comes to indirect impact, the experience of certain immediate emotions can lead the decision-maker to alter the probability or the desirability of future consequences or by changing the way these consequences are assessed. The experience of immediate emotions can colour the way the consequences are perceived and/ or they are expected in a different way so that the immediate emotion continues to play a significant role in the way decisions are taken.

However, the way affect influences decisions are not so straightforward and simple as involved in these valence-based approaches wherein it is implied that the effect of emotion is in accordance with the valence, positive or negative emotion positively or negatively influence the judgement behaviour (Lerner & Keltner, 2000; Bachkirov, 2015). Labelled appraisal tendency framework (ATF) (Lerner & Keltner, 2000), it implies that two emotions of the same valence could lead to different outcomes on decisions as appraisal mediates the relation between emotion and its effect on judgement (Mailliez, et al., 2020). In accordance with this emotion-specific framework the cognitive dimensions that differentially change the impact of emotion on decisions are certainty (the extent to which future events are predictable or unpredictable), anticipated effort (the required level of low or high physical or mental effort), control (whether the event is under the control of the individual or the situation) responsibility (the locus of responsibility, oneself or not oneself, as to something or someone), attentional activity (greater or lower attentional activity on one's part) and pleasantness (the degree to which one feels pleasure or displeasure or at home or not at home) (Lerner & Keltner, 2000; Mailliez, et al., 2020). ATF theory states that emotions of same valence with different appraisal dimensions determine the way emotions influence judgement behaviour. A corollary to the theory is that regardless of the valence positive or negative what is important in the influence of emotion on judgement is the central cognitive dimensions of appraisal and where the decision-maker or the object is placed.

Considering the second stream of research interrelating emotion and decision-making, the construct of emotional intelligence that identifies an inextricable relationship between emotion and rationality "can serve as the necessary bridge between the two" (Hess & Bacigalupo, 2011, p.711). The three key approaches to understanding emotional intelligence are the ability model, the trait, and the mixed approaches (Hess & Bacigalupo, 2011). The ability model posits that individuals differ in their ability to process emotion-related stimuli and to enact adaptive

behaviours. The trait model depicts emotional intelligence along the pattern of behavioural dispositions and a cluster of personality traits which are fundamental to emotional intelligence. The celebrated Goleman's mixed approach delineates emotional intelligence as learned social competencies and skills that characterise high emotional intelligence and low emotional intelligence among individuals (Hess & Bacigalupo, 2011).

In the explication of the nature and the components of emotional intelligence it is evident that the decision-maker's own perception, use, understanding and management of their own as well as the emotion of others are in a better position to contain the ill effects of negative emotions and to ward off the effects of irrational and unfounded emotions (Hess & Bacigalupo, 2011). In accordance with the theorisation of emotional intelligence, the cognitive brain and the emotional brain work in a coordinated way that there is the optimum processing of emotional experiences and decision-related information (Brown et al., 2003). In the Goleman characterisation of emotional intelligence, self-awareness, self-regulation, social awareness, and social relationship skills provide the decision-maker with adequate leverage to take effective and efficient decision (Hess & Bacigalupo, 2011).

Motivational processes of the decision-maker

The decision-making process is not without the motivational underpinnings as all decisions involve the pursuit of goals and the dominance of individual (and group processes) processes that influence the selection of an alternative. The selection of an alternative is determined by the individual's own motives that are active and dominant at the time of doing so (Naatanen & Summala,1974). The individual's motive influence the decision-making process by its effect on perception, expectancy, subjective risk and the desired action (Naatanen & Summala,1974). The perception of the meaningfulness of the task and its relevance accompanied by ego-involvement and intrinsic interest facilitates the decision-making process (Butler, 1987). Individuals intrinsically motivated "have chosen to do so voluntarily and because the activity represents a challenge to their existing competencies and requires them to use their creative capabilities" (Noels, Clement & Pelletier,1999,p.24). In the conceptualisation of Deci et al. (Radovan, & Makovec, 2015) the three factors which are important in developing and miniating intrinsic motivation are autonomy, competence, and relatedness . The implication is that decisiosn-makers intrinsically motivated are less influenced by external/contextual factors apparently unrelated to the core process of decision-making.

A significant motivational theory that has implications in decision-making is the valence-instrumentality-expectancy theory which states that "people's actions and choices are lawfully related to the preferences and affective reactions they have for certain outcomes (i.e., valences), their beliefs about whether certain actions lead to particular outcomes or performance levels (i.e., expectancies), and their

perception of the association between primary and secondary outcomes (i.e., instrumentalities)" (Lord, Hanges & Godfrey, 2003, p.22). In the decision-making process, the individuals are motivated to act in an optimal way thereby they consider the impact of valence, instrumentality and expectancy. In the elaboration of this process motivational theory of decision-making, it is contended that it is the effort-performance expectancy that is positively correlated with performance and the inference is that decision-makers with high-effort-performance expectancy are better decision-makers than those with low effort-performance expectancy (Fudge, & Schlacter, 1999). The second factor of importance in the theory is that of the relationship between performance-outcome wherein the decision-maker must have the expectancy that the decision would lead to a favourable outcome and finally the decision-maker must value the outcome than anything else which in other words mean that the decision-outcome must be greatly rewarding to the decision-maker to make the decision.

Yet another motivational theoretical input that explains decision-making is the self-regulatory focus theory derived from the fundamental hedonic principles of approaching pleasure and avoiding pain (Higgins,1997). "It implies that differences in performance, emotions, decision making, and so on could occur as a function of regulatory focus…"(Higgins,1997,p.1282). The two regulatory focus of individuals are promotion -focused and prevention-focused wherein the former self-regulation goes with the achievement of rewards and promotion of goals (individuals are inclined to approach positive outcomes) and the latter focuses on avoidance of punishments where the goal is one of prevention rather than promotion (individuals are inclined to avoid pain) (Kark & Dijk, 2007). Self-regulatory theory states that these are two distinctive motivational states that guide the induvial in their seeking of goals. Promotion-focused individuals are focused on achieving goals and prevention focused individuals are focused on avoiding negatives, criticism, or punishments (Higgins, 1998).

Decision-making and the personality processes

The way personality is conceptualised, researched, and practiced is also true of the way the decision-making process of the decision-maker is understood. The key approach used in the study of personality is the trait approach wherein personality is interpreted in the way of fundamental traits determining the consistent pattern of behaviour of individuals across situations. In this analysis, researchers can follow either the variable-centred approach or the person-centred approach (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013). In the variable centred approach, the focus is on the relationship between isolated traits like proactive personality and the corresponding behaviour like the decision-making. In the person-centred approach, the researcher takes the position of "a more configural approach, focusing on the effects of intra-individual constellations of personality traits…" (Obschonka, et al., p.8). It can be surmised that the

decision-making styles and the decision-making processes are not free from the influence of the personality processes like any other organisational behaviour (Bayram & Aydemir, 2017).

Evaluating the influence of personality on the decision-making process in the variable-centred approach involves relating the two in such a way that one finds the definite differential impact of personality, given the same decision-making situation. The five commonly identified general decision-making styles of rational decision-making, intuitive decision-making, dependent decision-making, the avoidant style and the spontaneous style are found to be differentially influenced by the Big Five Factors of extraversion, agreeableness, conscientiousness, neuroticism/emotional stability and openness to experience (Bayram & Aydemir, 2017). The individual adult attachment style developed in relation to the childhood experiences is also found to be good predictor of decision-making styles (Deniz, 2011). The secure and the confident attachment style predicts decision-making styles characterised by self-esteem and vigilance and hypervigilance decision-making is predictive of fearful attachment style (Deniz, 2011).

The Big-Five Factors of personality is found to be predictive of the decision-making process of the decision-maker. The studies of Busic-Sontic, et al., (2017) identify the way the five traits are related to the decision-making process. The trait of openness to experience in its influence on the decision-making process can push the individual to more risky behaviours and preferences where they are likely to be experimenting with uncommon alternatives and more unconventional and creative solutions. The trait of conscientiousness is found to be evident in controlled situations of goal achievement which in the other way implies that such individuals show an unwillingness to pursue goals or choose alternatives which are rather uncontrolled (Brown & Taylor, 2014; Busic-Sontic, et al.,2017). The trait of extraversion forces the individual to be more outward-oriented and challenging and risk-prone in the decisions. They show an inclination to take more risky/uncertain decisions given their broader perception and wider involvement.

The trait of agreeableness is found to be greatly useful in group decision-making situations where one must be cooperative, participative, and democratic. It is the trait that is pro-social, and the decision-maker endears himself to the other parties involved in the decision-making process (Busic-Sontic, et al.,2017). The neuroticism trait evidences itself as anxious, susceptible to influence and emotionally unstable and as such they may not be decision-makers who can be ones dealing with non-programmed decisions (Busic-Sontic, et al.,2017).

In the configural approach to personality the traits are differentially ordered and the traits exercise relatively differential effects on the patterns of behaviour. “A configuration can represent a number of specific and separate processes and

dynamics connected to attributes which are meaningful collectively rather than individually…" (Mathews, 2018, p.54). The configuration of the traits/personality variables change in response to situation or from time to time in the direction of greater adaptive functioning (Dess, Newport, & Rasheed,1993; Mathews, 2018). In a given situation a person can be higher on openness to experience and lower on emotional stability, extraversions and conscientiousness and all of these trait processes can be higher in relation to persuasive behaviour/ humility (Rakshani & Furr, 2021). In these configurational dynamics, the cluster of traits arrange and/or rearrange and reciprocal interactions between these traits that characterise the specific configuration of personality (Mathews, 2018). In accordance with this approach of total personality system that is differentially configured, it is evident that decision-making style can be better understood in a holistic way rather than in a fragmented variable-by variable way (for e.g. Busic-Sontic, et al., 2017; Pilarik, & Sarmany-Schuller, 2011).

The interaction and integration of affect, cognition, motivation and personality traits that attest to the gestalt effect, is to be brought forward in the consideration of the micro foundations. The gestalt effect implies that neither of these sub-systems independently influence the decision-making process, instead it impacts the decision-making process in an interactive combination process such that "when a set of factors occur together the output or product is a new configuration or gestalt" (Ainley, 2006, p.396).

Emotion, cognition, motivation and traits are so intertwined that none of these processes independently occur in the individual process states (Mischel & Shoda, 1995). Emotion mediate motivation, emotion and cognition influence each other, motivation and traits are interdependent, the activation of traits are mediated by emotional and cognitive processing (Linnenbrink,2006). Each sub-system interacts with the other sub-systems at different levels of activation and processing, such that for example, cognition, affect and traits interact with the goals of the individual leading to the activation of the motivational processes (Schunk & Zimmerman, 1994; Mathews, 2018).

Lazarus (1994) sums up the interactive and the integrative nature of the intra-individual subsystems in the following way:
"Without cognitive activity to guide us, we could not grasp the significance of what is happening in our adaptational encounters with the environment, nor could we choose among alternative values and courses of action. Emotion without thought would be mere activation without the directionally distinctive impulses of attacking in anger or fleeing in fear. Motivation without cognition too would be merely a diffuse, undifferentiated state of activation, a tissue tension that does not specify the consummatory goal or means to attain it. Finally, integration of behaviour would also be impossible without cognitive direction (p.352)."

Conclusion

The rational and the other mathematical models of decision-making apart from the empirical evidences culled from the literature makes it clear all decisions involve the differential influence of the inner behavioural processes of the decision-maker. Even the best alternative identified by the decision-support systems of artificial intelligence may not be the one preferred by the manager as the intra-individual subsystems exercise their influences. It is the combined and the interactive effect of cognition, affect, motivation and personality traits that finally determines the choice made by the decision-maker. The nuances of these micro foundations of decision-making have both theoretical and empirical basis as it is based on the findings available and it can be further proved through additional studies.

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