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Complex Dis-ordered Embroidery in Decisional Algorithms

*Jyotirmaya Satpathy**

ABSTRACT

Paper presents an inter – disciplinary approach towards human decision making mosaic via optometric injections. Study incorporates entrepreneurial brain practices as wedded to neuro-sciences. If disordered embroidery VUCA (Vulnerability, Uncertainty, Complexity, and Ambiguity) has given foundation to disordered embroidery BANI (Brittle, Anxious, Non-linear, and Incomprehensible), disordered embroidery RUPT (Rapid, Unpredictable, Paradoxical, and Tangled) and disordered embroidery TUNA (Turbulent, Uncertain, Novel and Ambiguous), it is tractable that time is fitting for anatomical 'steal a look' into entrepreneurial choice behaviour. Study opines that inter-sections between Biology and Management are far-reaching and hold immense potential for advancing managerial practices. By recognizing and integrating biological underpinnings of human behaviour, decision making, leadership, and adaptability, managers can devise informed and effective strategies. As fields of Biology and management continue to evolve, interdisciplinary collaboration is essential to unlock full spectrum of cause-and-effect connections between these domains. Aim has been to decipher decision making via optometric estimates. Eye tracking methodology is adopted. Kowlers eye tracking model has been examined. Deductions are; eye movements in human decision behaviour making is moderately driven by stimulus properties that bias information uptake in favor of visually salient stimuli. Eye movements do (not) have causal effect on preference formation. However, through properties inherent to visual system, such as stimulus-driven attention, eye movements do lead to down-stream effects on human decision behaviour making.

Keywords: *Decision making; Eye movement; Kowler; Disordered embroidery and Opto-complexities.*

1.0 Introduction

Human decision behaviour science is a multi-disciplinary field (primary amalgamation of Experimental Economics, Behavioural Economics and Decision Theory) with purpose of focus on processes, methods, and motivations behind human decision behaviour (Ridley; 2003). With amplified focal point on capacity to incarcerate, store and access data, human decision behaviour science is a critical tool in analyzing large quantities of information to divulge optimal choices (Ridley; 2003). While appreciably informed by cognitive and behavioural sciences, application of human decision behaviour science draws together qualitative and quantitative embroidery that provide insights into human decision behaviour making in business (Satpathy; 2003). Debate, 'is entrepreneurial brain practices an Art or Science', has juxtaposed 21st Century as versatile playfield in entrepreneurial (fluid) intelligence practices (Satpathy; 2003).

**Professor, Department of Management, Srinivas University, Mangaluru, Karnataka, India*
(E-mail: jyotisatpathy@gmail.com)

Over decades, entrepreneurial brain (fluid) intelligence practices has metamorphosed ushering era of inter - disciplinary practices (complicated but significant in spite of fresh judgment tasks) with 'human beings', as 'Vital Agents' of behaviour (Ridley; 2003).

In terrain of content composition, two pivotal elements emerge as overriding: 'Perplexity' and 'Burstiness' (Satpathy; 2023 & Ridley; 2003). Perplexity, in quintessence, gauges convoluted nature of conceptual or speculative theme, while burstiness delves into proportional oscillation in decision structures (Satpathy; 2023 & Ridley; 2003). It is accepted phenomenon that individuals have a propensity to corral thoughts with sensitive burstiness, naturally intertwining protracted and complicated views with shorter, concise ones (*'fair-minded estimation of thoughts')*. Tout Court; these lead to espouse unwavering embroidery, operational tools, procedures and multi - dimensional background (Satpathy; 2023 & Ridley; 2003). As final point, entrepreneurial brain practices are committed to neuro-sciences (Satpathy; 2023 & Ridley; 2003). If disordered embroidery VUCA (Vulnerability, Uncertainty, Complexity, and Ambiguity) has given underpinning to chaotic embroidery BANI (Brittle, Anxious, Non-linear, and Incomprehensible), disordered embroidery RUPT (Rapid, Unpredictable, Paradoxical, and Tangled) and disordered embroidery TUNA (Turbulent, Uncertain, Novel and Ambiguous), it is biddable that - time is fitting for anatomical 'steal a look' into entrepreneurial choice behaviour (Satpathy; 2023 & Ridley; 2003). Time is mature to '*hold in your arms package'* of disordered embroidery Vulnerability, Uncertainty, Complexity, Ambiguity, Brittle, Anxious, Non-linear, Incomprehensible, Rapid, Unpredictable, Paradoxical, Tangled, Turbulent, Uncertain, Novel and Ambiguous with a positive lens that exhibits positivity, emotions, feelings, and gut impulse. Synchronized with forces of '*disordered embroidery conditions'*, there is a need to calculate varying technologies with tactical thinking (*'acknowledgement of confines of knowledge')*. Acronyms may transfigure... but variation will be inflexible and constant! Ingenuity calls for introspection of eye (behaviour) with portrayal and (psycho) analysis of how eye works to portray understanding of natural basis of entrepreneurial preference behaviour (Collewijn, et. al.; 1992).

When referring to humans as 'Tout Court,' it suggests simplified or concise perceptive of human nature or characteristics (Collewijn, et. al.; 1992). However, it is of essence to note down that humans are complex beings with diverse traits, behaviours, and experiences (Collewijn, et. al.; 1992). Describing humans 'Tout Court' may fail to notice minutiae and individuality that exist within human inhabitants (Collewijn, et. al.; 1992). It is accurate to acknowledge comprehensive nature of humans and recognize that each person is unique, influenced by combination of biological, psychological, social, and cultural factors (Collewijn, et. al.; 1992). Humans are, 'Tout Court', complex, non-linear matrixes and interact dynamically while making human decision behaviours (Collewijn, et. al.; 1992). Tout Court; are (all) human beings rational? This discussion declares NO (Collewijn, et. al.; 1992). Neo-classical paradigm of bounded rationality is eroded and convinces human brain that it is somewhere it really is not (Collewijn, et. al.; 1992). Modern Neuromanagement assumes that human decision behaviour making involves rational maximization of expected utility (Collewijn, et. al.; 1992).

'Evidential Decision Theory (EDT) states that, when 'Cogent Driving Force' is confronted with set of probable actions, one should select stroke with peak significance, that is, exploit which would be analytic of best outcome in prospect' (Wikipedia) (Collewijn, et. al.; 1992). This framework is used in decision theory to guide decision making under uncertainty (Collewijn, et. al.; 1992). It focuses on making decisions based on available confirmation and probability associated with different outcomes (Collewijn,,et. al.; 1992). In EDT, decision is equipped with expected value of different actions, available evidence and probabilities assigned to different outcomes. It emphasizes importance

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of updating beliefs and probabilities based on new evidence and making decisions that maximize expected utility. EDT differs from other decision theories, in how it handles decision making where Agent's actions affect evidence available to them (Collewijn; 1992). EDT places prominence on evidence and probabilities associated with different outcomes, rather than solely focusing on causal relationships or functional form of decision algorithms. Overall, EDT provides framework for decision making that take into explanation available evidence and probabilities to make rational choices under improbability.

Decision making is deeply rooted in biological processes (Haselton & Buss; 2000). Realm of Biology and Management have been regarded as distinct disciplines, with little apparent overlap (Camerer; 2003). However, recent advancements in both fields have highlighted inter-connectedness of these seemingly disparate domains (Camerer; 2003). Management focuses on optimizing resources and guiding human efforts towards organizational goals. It, is primarily influenced by biological factors that shape human behaviour, decision making, and adaptability (Camerer; 2003). Interplay has garnered significant attention as researchers delve into intricate cause-and-effect connections driven by recognition that biological principles and processes underpin various aspects of management, influencing decision making, organizational behaviour, and strategic planning (Camerer; 2003). At core lies principle of cause and effect, where actions lead to reactions, shaping evolution and adaptation of organisms (Haselton & Buss; 2000). In same vein, managerial decisions and actions set off series of cascading effects within organization, influencing growth and outcomes (Haselton & Buss; 2000). Drawing inspiration from nature's blueprint, managers gain deeper understanding of impact choices have on organizational ecosystem (Haselton & Buss; 2000). Neuro-scientific researches reveal that human decisions are influenced by cognitive and emotional factors, driven by neural pathways and neuro-transmitter interactions (Haselton & Buss; 2000). Understanding these underpinnings aid managers in designing effective decision making frameworks that consider both rational analysis and emotional resonance (Haselton & Buss; 2000). In addition, insights from behavioural genetics suggest genetic basis for risk-taking behaviour, influencing willingness of individuals to embrace innovative strategies in management (Haselton & Buss; 2000).

In conclusion, intersection between Biology and Management are far-reaching and hold immense potential for advancing managerial practices (Damasio,; 1994). By recognizing and integrating biological underpinnings of human behaviour, decision making, leadership, and adaptability, managers devise informed and effective strategies (Damasio,; 1994). As fields of Biology and Management continue to evolve, interdisciplinary collaboration between Researchers, Practitioners, and Policymakers will be essential to unlock full spectrum of cause-and-effect connections between these domains (Damasio,; 1994). Ultimately, deeper understanding of biological foundations of management leads to enhanced organizational performance, subject well-being and sustainable success. This is presumed as if humans are equipped with unlimited knowledge, time and information processing power. Psychological research has eroded foundation of mainstream Neuro-management mandating fresh approach than adaptation of existing theory. First, tenet is that human decision behaviour is not as independent as anticipated. Second, tenet regards basic level of individual human decision behaviour replaces bounded rationality. There is need to investigate disordered embroidery VUCA - BANI - TUNA and RUPT (VBTR) based choice making seismicity within clarifying blueprints and probabilistic functional parameters. Promising field of neuromanagement appears to proffer conjectures and practices continuum.

2.0 Opto Neuro-determinism

It is intriguing to think how one takes decision and behave (Satpathy; 2023). Behavioural scientists study how cognitive actions are shaped, through nature (genes) or nurture (environment). Model of opto neuro-determinism has answers Satpathy; 2023). Opto neuro-determinism theorizes that genes and wiring of brain plays role in shaping personalities, cognition and behaviour Satpathy; 2023). Throughout lifespan, brain goes through several stages of development; from infancy to adulthood Satpathy; 2023). Wiring of brain depends upon things that individual consumes throughout developmental years (Satpathy; 2023). Shape or wiring of brain strongly depends upon kind of physical environment, hormones, relationship between genes and working of brain (Satpathy; 2023). Neurobiology includes brain, spinal cord, and nerves throughout body. It examines how nerve cells, called neurons, communicate with each other and how they work together to control various bodily functions. Different regions of brain are responsible for specific functions. In context of opto neuro-determinism, neurobiology helps understand how brain's structure and activities influence behaviour. Connections between neurons, known as synapses, play crucial role in transmitting information. Changes in connections, driven by genetics and experiences, contribute to development of behaviours and cognitive processes. Neurobiology encompasses concept of neuroplasticity, which refers to brain's ability to adapt and change over time. Experiences, interactions, and learning reshape neural pathways and modify brain structures. Opto neuro-determinism is a philosophical concept that suggests all human thoughts, behaviours, and actions are solely determined by structure and functioning of brain. It proposes that physical processes occurring in nervous system, including firing of neurons and release of neuro-transmitters, predetermine thoughts and actions. This perspective implies that free will and personal agency may be limited or even nonexistent, as action is believed to be determined by biological processes in brains. It is important to note that opto neuro-determinism is a debated topic among Philosophers, Neuroscientists, and Psychologists, and there are alternative viewpoints that argue for existence of free will and influence of other factors on human behaviour. This phenomenon highlights dynamic nature of brain and how it continuously evolves based on genetic and environmental influences (Epelboim, et; 1995).

As one explores deeper into concept of opto neuro-determinism, one observes confluence of genetics, neurobiology and interplay of nature vs. nurture. Through study and exploration of opto neuro-determinism, we unearth underpinnings of personality traits, roots of human decision behaviour making and origins of complex mental processes. It sheds radiance on phenomenon of neuroplasticity and influence of genes in cognitive and behavioural process. Although genes play important role in determining personalities, cognition and behaviour, environmental influences play major role in rewiring brain and transform individual while they are growing up. This phenomenon is called neuroplasticity (Epelboim, et; 1995). By understanding how brains are wired and what influences its shape and form, we gain insights on human decision behaviour making process, choices and preferences. Opto neuro-determinism highlights importance of environmental influence in shaping brain and influence on thought processes. Human brain is a complex and intricate organ that consists of various regions, each with distinct functions. These regions play pivotal role in controlling behaviour and shaping interactions with environment. Understanding the functions of these brain areas provides insight into complexity of human behaviour (Epelboim, J., et.al..; 1995, 1997).

Frontal lobes are involved in higher cognitive functions. They play crucial role in human decision behaviour making, problem solving and planning. This region helps organize thoughts, make judgments, and anticipate consequences of actions. Additionally, frontal lobes are essential for social behaviour, emotional regulation and empathy. Temporal lobes are associated with memory, language

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comprehension and auditory processing. They enable to recognize faces, understand spoken and written language and retrieve stored memories. Temporal lobes are vital for forming and consolidating long-term memories and contribute to ability to communicate effectively. Parietal lobes are responsible for sensory perception and spatial awareness. They integrate sensory information from various parts of body, allowing perceiving surroundings accurately. Parietal lobes enable to coordinate movements, understand body's position in space and process tactile sensations. Occipital lobes are primarily responsible for processing visual information. They receive and interpret signals from eyes, allowing to perceive colours, shapes, and motion. The occipital lobes enable to recognize and interpret visual stimuli, forming foundation of visual perception. Brainstem is located at base of the brain and serves as critical control center for essential bodily functions. It regulates automatic processes such as heart rate, breathing, and digestion. Additionally, brainstem plays role in maintaining consciousness and alertness. Its functions are vital for survival and ensure body's internal balance.

These distinct brain regions do not operate in isolation; they form complex network of communication and coordination. Neural pathways connect these areas, enabling information to flow seamlessly between them. This interconnectedness allows different brain regions to collaborate in orchestrating behaviours, thoughts, and emotions. While each brain region has specialized functions, it is significant to emphasize that behaviour is not solely determined by a single area. Instead, behaviour arises from intricate interplay and integration of signals from multiple brain regions. Tout Court, brain is remarkably adaptable and capable of rewiring itself in response to experiences and learning. This phenomenon, known as neuroplasticity, enables brain to adapt to changing circumstances and refine its functions over time (Epelboim, J., et.al..; 1995, 1997). In conclusion, human brain comprises distinct regions that collectively contribute to behaviour and cognitive abilities. From human decision behaviour making in frontal lobes to visual perception in occipital lobes, each region plays a unique part in shaping interactions with world. Complex interconnections between these brain areas underscore intricate nature of human behaviour and provide foundation for further exploration and understanding.

In study of opto neuro-determinism, two key fields come into focus: Genetics and Neurobiology (Johansson, et. al.; 2001). These fields shed light on how brain's structure and functions influence behaviour and shape who we are (Johansson, et. al.; 2001). Genetics is study of genes, which are like tiny units of instruction found in cells (Johansson, et. al.; 2001). These instructions, made up of DNA, carry information needed for bodies to develop, function, and reproduce (Johansson, et. al.; 2001). They determine various traits, such as eye colour, height, and certain aspects of personality (Johansson, et. al.; 2001). In context of opto neuro-determinism, genetics plays significant role (Johansson, et. al.; 2001). Genes contribute to construction of brain - control center of body (Johansson, et. al.; 2001). They guide development of neural pathways, connections between brain cells that allow information to travel (Johansson, et. al.; 2001). These pathways are like highways that carry messages throughout brain, influencing how we think, feel, and act (Johansson, et. al.; 2001). Genes influence production of neurotransmitters, which are chemicals that transmit signals between brain cells (Johansson, et. al.; 2001). These chemicals affect mood, emotions, and behaviours (Johansson, et. al.; 2001). Variations in genetic makeup can lead to differences in neurotransmitter levels and functioning, contributing to unique behavioural tendencies (Johansson, et. al.; 2001).

Genetics and neurobiology intersect within framework of opto neuro-determinism (Johansson, et. al.; 2001). Genetic makeup influences wiring of brain and production of essential chemicals that affect behaviour (Johansson, et. al.; 2001). Neurobiology explores mechanisms underlying these influences, delving into intricate workings of neural circuits and communication (Johansson, et. al.; 2001). Opto neuro-determinism suggests that brain's Biology is a significant factor in shaping behaviour (Johansson, et. al.; 2001). While genetics and neurobiology provide valuable insights, it is imperative to recognize that they interact with environmental factors, experiences, and individual choices (Johansson, et. al.; 2001). Interplay between these elements creates nuanced picture of human behaviour and underscores intricate balance between nature and nurture (Johansson, et. al.; 2001). Genetics and neurobiology offer essential perspectives within realm of opto neuro-determinism (Johansson, et. al.; 2001). Genes contribute to development of brain and influence neurotransmitter activity, while neurobiology reveals brain's complex operations and its capacity for change (Johansson, et. al.; 2001). This multidimensional approach enhances understanding of how brain's Biology influences behaviour and underscores the intricate interplay between genetic makeup, neural processes, and environments one navigates (Johansson, et. al.; 2001).

In exploration of opto neuro-determinism, a concept that examines how brain's Biology influences behaviour, spotlight falls on neuroplasticity (Johansson, et. al.; 2001). Neuroplasticity refers to brain's remarkable ability to adapt, change, and reorganize itself throughout in response to experiences, learning, and environmental influences (Johansson, et. al.; 2001). At core of neuroplasticity lies recognition that brain is not a static and unchanging entity, but dynamic and flexible organ (Johansson, et. al.; 2001). This concept challenges notion that brain's structure and functions are predetermined, highlighting profound impact of experiences on shaping who we are (Johansson, et. al.; 2001). Neuroplasticity manifests in two primary forms: structural plasticity and functional plasticity (Johansson, et. al.; 2001). Structural plasticity involves physical changes in brain's neural pathways and connections (Johansson, et. al.; 2001). It encompasses processes such as 'Dendrite Branching', where nerve cells extend new branches to establish connections with other neurons (Johansson, et. al.; 2001). Additionally, new synapses can form, while others weaken or disappear, altering communication network within brain (Johansson, et. al.; 2001).

Functional plasticity, relates to brain's ability in direction of redistributing functions across different areas (Johansson, et. al.; 2001). In cases of injury or sensory deprivation, brain can reassign specific tasks to other regions to compensate for loss of function (Johansson, et. al.; 2001). This adaptability allows individuals to regain cognitive and motor abilities, emphasizing brain's flexibility in response to challenges (Johansson, et. al.; 2001). While opto neuro-determinism suggests link between brain Biology and behaviour, neuroplasticity introduces critical layer of complexity (Johansson, et. al.; 2001). It signifies that even though genetic and biological factors influence brain's initial structure, experiences and interactions with environment continue to mold and reshape it (Johansson, et. al.; 2001). In context of opto neuro-determinism, neuroplasticity challenges notion of rigid determinism (Johansson, et. al.; 2001). It suggests that while brain's Biology may set certain predispositions, it is not an unchangeable script that dictates behaviour (Johansson, et. al.; 2001). Instead, brain retains remarkable degree of malleability, allowing adapting, learning, and refining actions over time (Johansson, et. al.; 2001).

The concept of opto neuro-determinism, which suggests that brain's Biology influences behaviour, gives rise to thought-provoking moral dilemmas that challenge traditional notions of responsibility and personal choice (Cohen, et.al.;2007). At heart of this dilemma lies question of free will (Cohen, et.al.2007). If actions are significantly shaped by brain's wiring, do we truly possess the capacity to make independent choices? This raises concerns about assigning blame or credit for actions when brain's Biology may exert substantial influence (Cohen, et.al.2007). It challenges fundamental understanding of accountability and ability to guide conscious behaviour (Cohen,

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et.al.2007). If brain's structure contributes to criminal behaviour, should one reconsider punitive nature of punishment and explore rehabilitative approaches? Conversely, recognition of opto neuro-determinism offers opportunity for greater empathy and understanding. It prompts to view individuals not solely as architects of actions but products of intricate biological and environmental factors. This shift in perspective can influence attitudes towards conditions influenced by neurobiology, fostering compassionate and supportive approach. In navigating these moral dilemmas, we must wallop a balance between recognizing influence of opto neuro-determinism while preserving concepts of accountability and personal agency. Exploration of these ethical complexities encourages redefining traditional embroidery of responsibility and considering nuanced understanding of human behaviour and underlying causes.

In conclusion, concept of opto neuro-determinism, which posits that Biology, particularly genes and brain wiring, plays significant role in shaping behaviour, opens door to profound insights and inquiries (Gersch, et. al; 1991). As we delve into intricate interplay between nature and nurture, genetics and neurobiology, and dynamic phenomenon of neuroplasticity, we uncover complex web of influences that contribute to tapestry of human behaviour (Gersch, et. al.; 1991). The nature vs. nurture debate underscores that both genetic predispositions and environmental experiences work in tandem to shape cognitive processes and personalities (Gersch, et. al; 1991). This collaborative dance between nature and nurture paints holistic picture of human development, emphasizing importance of both genetic blueprints and life experiences (Gersch, et. al.; 1991). Examining distinct brain regions reveals specialized division of labor within brain, each area contributing to specific functions and behaviours (Gersch, et. al; 1991). Yet, interconnectedness of these regions highlights intricate orchestration required for thoughts, emotions, and actions to harmonize (Gersch, et. al.; 1991). Genetics and neurobiology stand as pillars in edifice of opto neuro-determinism, providing invaluable insights into fundamental mechanisms underlying behaviour (Gersch, et. al.; 1991). While genetic makeup forms foundation, neurobiology unveils dynamic operations of brain, including its adaptability through neuroplasticity (Gersch, et. al; 1991). Dynamic interaction broadens understanding of how genetics and experiences interlace, influencing rich tapestry of human behaviour (Gersch, et. al.; 1991).

3.0 Evaluation of Literature

Eye tracking has been extensively studied in framework of decision making, with growing body of research investigating relationship between eye movements and various aspects of decision making (Kowler, et. al; 1991). Numerous studies have explored role of eye movements in decision making across different domains including consumer behaviour, finance, sports, medicine, and more (Kowler, et. al; 1991). Eye tracking has been used to investigate how to process information, attend to relevant cues, and make decisions based on these cues (Kowler, et. al; 1991). Eye tracking has been used to understand how decision making differs across individuals with varying levels of expertise, cognitive abilities, and decision making styles (Kowler, et. al; 1991). Overall, significant amount of work has been done on eye tracking in decision making (Kowler, et. al; 1991). Despite research amassed from laboratory settings, almost all decisions involve acquiring visual information (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). Still, decision making is a special task where data is valued differently in each case (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). They use Eye Tracking to trace a cognitive process: gaze behaviour during decision making in a natural environment (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). Traditionally, metrics used to trace decision making processes are challenging to use in natural environments that contain options and unstructured information (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). First, decision making literature has incorporated eye movement recordings previously (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). These focus on how eye movements unfold throughout decision process, specifically attentional shifts toward chosen object (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). Second, while above mentioned research taps into decision making process, it must focus on how information is acquired and integrated (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). In addition, it aims to uncover timeline of gaze behaviour in decision making task and devise a model of decision making process based on this information (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981).

Based on above evaluation, this paper combines eye-tracking research with attempts (perception of challenges, how ubiquitous they are across disciplines and being addressed plus areas for expansion) to trace decision making process (Kowler, and Rubinstein, et.al.; 1977, 1979, 1980, 1981). As will be shown below, introspection may lead one to believe that information gathering on comparison websites is a reasonably well ordered and organised process (Kowler and Anderson et.al.; 1985). However, facts from experiment point to opposite conclusion (Kowler and Anderson et.al.; 1985). That is, it is challenging to determine exactly how tactics are utilized over time and what information is gained since vast quantities of dense eye fixation data often make it impossible to tell whether information acquisition is attribute-based or product-based (Kowler and Anderson et.al.; 1985). Therefore, given rapid attribute and product based information acquisition processes during decision making as well as switching between these processes are fundamentally unobservable, main goal of research is to develop model-based approach that makes it easier to draw conclusions about them (Kowler and Anderson et.al.; 1985). Latent cognitive states call information acquisition processes guide eyes as they scan display for information (Shi & Wedel, 2013).

Clinical decision making has recently piqued the attention of scholars in field of healthcare (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Mapping literature on eye-tracking technique is helpful in bringing together all research on how decision makers make choices and findings may add to clinical training (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). A wide variety of research was observed to provide comprehensive knowledge of many facets of cue processing and mistakes in clinical decision making, and findings are given in descriptive manner (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.;2021). Evaluation demonstrates need for research into cue processing and clinical judgment (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). One method for conducting impartial assessment of visual-cognitive components of decision making is eye tracking (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). With aid of human-computer interaction technique known as eye tracking, researchers can track eye movements of healthcare professionals (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). At same time, assigned tasks determine where they are looking (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Recently, eye-tracking methods have been utilized as research tool for applications in healthcare investigations. Several reviews have already used eye tracking to evaluate skills of healthcare professionals and train them (Al-moteri et al., 2017).

For complicated judgments, when benefits and drawbacks of several alternatives are about equal but difficult to assess, there is strong intuition of ambivalence in cognition. Information search has been studied using experimental methodology that includes giving participants ambiguous questions and tracking attentional dynamics concerning data pertinent to each choice across several Areas of Interest (AOIs) (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.;2021).

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Two dynamic models were created to characterize eye-tracking curves, one for each reaction individually (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Models included Drift Mechanism towards different possibilities as in conventional Drift-Diffusion Theory (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Additionally, they included internal oscillation mechanism that interfered with drift process and prevented dynamics from eventually stabilizing (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al. 2021). Breadth of assumed drift mechanisms differed between two models (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Simplified model, which covered drifts from uncertainty state to one of two certainty levels, showed support. Additionally, model parameters could be tangentially connected to ultimate choice, adding to understanding of how eye-tracking structure influences choices (particularly gaze cascade effect) (Newell et al., 2022).

Some researchers have examined model predictions for underlying cognitive processes, which have been subject of models that have been put forward (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.2021). Three prominent methods include connectionist methods like parallel constraint satisfaction (PCS) model, simple serial heuristic methods like the adaptive toolbox, and evidence accumulation methods like decision field theory (DFT) (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.;2021). Two investigations that used pupil dilation and attentiveness measurements looked into theories developed from these models in decisions between two gambles with two possible outcomes (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.;2021). This demonstrates that attention changes towards subsequently preferred bet after around two-thirds of the decision making process, showing a gaze-cascade effect, and attention to an outcome grows with its likelihood and value (Sahoo, K. and Satpathy et. al.; 2021 and Sahoo and Satpathy et.al.;2021). Overall, findings are in favor of several features of automated integration models for riskier options like DFT and PCS. However, they still need to take into consideration whole pattern of findings in existing definition (Fiedler and Glöckner, 2012). Many times, sensory data is insufficient to determine correctly a stimulus's nature, and judgments are made in face of ambiguity (Kowler, et. al; 1991). Current research investigated several oculomotor parameters' potential sensitivity to momentary uncertainty levels during perceptual decision making (Kowler, et. al; 1991). Pupil diameter provided detailed and dynamic information regarding the timing of perceptual choice making than other measurements, which tended to shift linearly with decision confidence (Kowler, et. al; 1991). Surprisingly few have sought to hone in on quantitative measures of choice uncertainty, despite prevalence and significance of perceptual decision making as well as potential effects of uncertainty on task performance (Kowler, et. al; 1991).

The current research investigates whether various eye-tracking-based metrics may be responsive to various degrees of uncertainty during a perceptual judgment task (Spivey, et. al.; 2002). Sensory, perceptual, cognitive, and behavioural processes involved in perceptual decision making are described in several theories (Spivey, et. al.; 2002). Second, perceptual difficulty or doubt is noted, motivating and directing attention to obtaining information (Spivey, et. al.; 2002). Some evidence supports the idea that the perceptual decision making process directs and engages visual attention to gather information that is important to choice (Spivey, et. al.; 2002). Second, it seems that these visual search procedures are dependent on unpredictable circumstances, which should have dependable impact on oculomotor activity when information about stimulus is obtained (Spivey, et. al.; 2002). These theories frequently emphasize neural mechanisms underlying various stages of perceptual decision process, using tools like functional magnetic resonance imaging, it's possible that these tools won't be feasible to use in practical settings where goal is to track perceptual decision uncertainty while performing tasks (Spivey, et. al.;2002). By comparing variations in activity in brain areas related to faces and houses, Scientists suggested that this brain region is involved in perceptual judgments (Spivey, et. al.; 2002).

Compared to adults, adolescents were more likely to make conservative, loss-minimizing choices consistent with economic models. Eye-tracking data showed that prior to decisions, adolescents acquired more information in a thorough manner; that is, they engaged in analytic processing strategy indicative of trade-offs between decision variables. In contrast, young adults' decisions were more consistent with heuristics that simplified the decision problem, at the expense of analytic precision (Kwak et al., 2015). Simulations and games bring possibility to research complex processes of managerial decision making. Many authors recommend use of a combination of concurrent think-aloud (CTA) or retrospective think-aloud (RTA) with eye tracking to investigate cognitive processes such as decision making. Nevertheless, previous studies have little or no considerations of possible deferential impact of both think-aloud methods on data provided by eye tracking. Results empirically prove that CTA significantly distorts data provided by eye tracking, whereas data gathered when RTA is used, provide independent pieces of evidence about participants' behaviour. These findings suggest that RTA is more suitable for combined use with eye-tracking for purpose the research of decision making (Ladislav, 2020).

4.0 Opthalmic Embroidery

Eye movements are central measure of human decision behaviour (Kowler, et. al; 1991). Exploration on human decision behaviour making has extended from human decision behaviourist loom to cognitive approach that focuses on human decision behaviour processes and ensues prior to response (Sahoo, K. and Satpathy et. al.; 2021 and Kowler, et. al; 1991). In neural computational simulations, human decision behaviour during behaviour task is represented by node of neural activity (Kowler, et. al; 1991). Human decision behaviour related neural activity has components of intensification of activity and human decision behaviour inception for neural activity to overcome human decision behaviour to be completed (Kowler, et. al; 1991). A way to investigate computational human decision behaviour making is to scan positioning of human decision behaviour leading to judgment point (Kowler, et. al; 1991).

Eye movements are indissolubly linked to optical consideration, as both are prime tools for choosing stimulating shares of chromatic prospects for enriched perceptual and rational processing (Kowler, et. al; 1991). Investigating eye movements is expedient in providing evidence of orientation of human decision behaviour replicating computational human decision behaviour during human decision behaviour formation (Kowler, et. al; 1991). Role of eye movements, intentional or reflex, help in gaining, possessing and tracing visual inducements, during human decision behaviour formation is not entirely clear (Kowler, et. al; 1991). Current proof suggests that orientation of eye movement itself may not be an essential constituent (Kowler, et. al; 1991). Rather, it can be because of intensification in contact to incitement as an influential factor in human decision behaviour formation (Kowler, et. al; 1991).

Neuro - opthalmics seeks to ground opthalmics theory in detailed neural mechanisms that are expressed mathematically and make neuro predictions (Kowler, et. al; 1991). Neuro - opthalmics exploits knowledge about eye mechanisms to inform opthalmics theory (Kowler, et. al; 1991). It opens 'black box' of eye, much as organizational opthalmics opened up the theory of the organisation (Kowler, et. al; 1991). The key insight for opthalmics is that eye is composed of multiple systems that interact (Kowler, et. al; 1991). Controlled systems ('executive function') interrupt automatic ones

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(Kowler, et. al; 1991). Eye evidence complicates standard assumptions about basic preference, to include homeostasis in addition to other kinds of state-dependence, and shows emotional activation in ambiguous choice and strategic interaction (Kowler, et. al; 1991). Neuro - opthalmics has further bridged disparate fields of opthalmics and psychology (Kowler, et. al; 1991). Such convergence is almost exclusively attributable to changes within opthalmics (Kowler, et. al; 1991). Neuro - opthalmics has inspired more change within opthalmics than within psychology because important findings in Neuro - opthalmics have posed more of a challenge to standard opthalmics perspective (Kowler, et. al; 1991). Neuro - opthalmics has challenged standard opthalmics assumption that human decision behaviour making is a unitary process-a simple matter of integrated and coherent utility maximization symptomatic of instead that it is driven by interaction between automatic and controlled processes (Kowler, et. al; 1991). Despite substantial advances, question of how we make human decision behaviours and judgments continues to pose important challenges for scientific research (Kowler, et. al; 1991). Historically, different disciplines have approached this problem using different techniques and assumptions, with few unifying efforts made (Kowler, et. al; 1991).

Neuro - opthalmics has emerged as inter-disciplinary effort to bridge this gap (Kowler, et. al; 1991). Research in Neuroscience and Psychology investigate neural bases of human decision behaviour predictability and value, central parameters in opthalmics theory of expected utility (Kowler, et. al; 1991). Opthalmics, in turn, is being increasingly influenced by multiple-systems approach to human decision behaviour making, perspective strongly rooted in Psychology and Neuroscience (Kowler, et. al; 1991). The integration of these disparate theoretical approaches and methodologies offers exciting potential for construction of accurate models of human decision behaviour making (Kowler, et. al; 1991). Goal is a geometric theory of how eye implements human decision behaviours tied to behaviour (Kowler, et. al; 1991). This is likely to show human decision behaviours for which rational-choice theory (strategy *individuals use for cogent computation to formulate coherent choice and attain conclusion*) is a good approximation (particularly for evolutionarily sculpted or highly learned choices), to provide deeper level of distinction among competing neuro alternatives, and provide empirical inspiration for opthalmics to incorporate nuanced ideas about endogeneity of preferences, individual difference, emotions, endogenous regulation of states, and so forth (Kowler, et. al; 1991).

How are organisational / individual and opthalmics human decision behaviours making processes carried out in eye? Do we interpret research findings when neurological results conflict with self-report? Knowing how eye is working explains little about what mind produces; what we think, what we believe and how we creates human decision behaviours (Vishwanath and Kowler; 2003, 2004).' What are the general implications of neuro opthalmics? Neuroscience techniques permit to look inside eye while it experiences outcomes and crafts human decision behaviours (Vishwanathand Kowler; 2003, 2004). Neuro - opthalmics uses techniques to ask how entrepreneur (s) craft human decision behaviours and examine implications (Vishwanath and Kowler; 2003, 2004). Central argument of this submission is that Neuro - opthalmics, organisational psychology and neuroscience each benefit from taking account of insights that other disciplines offer in understanding human decision behaviour-making (Vishwanath and Kowler;2003, 2004).

This starts with premise that human decision behaviours (form of choices or effort allocation) can be traced back in structure of macro-scale eye activity, as measured with neuroimaging apparatus (Wu, Kwon and Kowler;2010). Typically, such responses involve regions in eye (mid-eye to prefrontal cortices, through parietal and basal ganglia structures), who's precise function in terms of motivational processes depends upon context (specific task eye) (Wu, Kwon and Kowler; 2010). This context-dependency expresses itself through (induced) specific plasticity of these eye networks, in parallel to phasic and tonic changes in neuro-modulator activity (Wu, Kwon and Kowler; 2010). In turn, macro-scale reconfiguration of eye networks subtends learning and yield adaptive behaviour (Wu, Kwon and Kowler; 2010). In other words, it is likely that goal-directed behaviour emerges from interactions with purpose of shaping spatio-temporal embroidery of macro-scale eye networks (Wu, Kwon and Kowler; 2010). This means that understanding mechanics of motivational processes from multimodal observation of eye activity (electrophysiology, fMRI) and neuro measurements (explicit choices, reaction times, autonomic arousal signals, grip force) poses exciting challenge of quantitatively relating information processing to eye effective connectivity (Wu, Kwon and Kowler;2010).

Questions that will be answered in this course include how to choose in tough situations where stakes are high, and there are multiple conflicting objectives (Kowler, et. al; 1991)? How should we plan (Kowler, et. al; 1991)? Why do projects often take longer and cost more than planned (Kowler, et. al; 1991)? How can we deal with risks and uncertainties involved in a human decision behaviour (Kowler, et. al; 1991)? How can we create options that are better than the ones originally available (Kowler, et. al; 1991)? How can we become better human decision behaviour makers (Kowler, et. al; 1991)? What resources will be invested in human decision behaviour - making (Kowler, et. al; 1991)? What are the potential responses to a particular problem or opportunity (Kowler, et. al; 1991)? Who will make this human decision behaviour (Kowler, et. al; 1991)? Every prospective action has strengths and weaknesses; how should they be evaluated (Kowler, et. al; 1991)? How will they decide (Kowler, et. al; 1991)? Which of the things that could happen would happen (Kowler, et. al; 1991)? The human decision behaviour has been made. How can we ensure it will be carried out (Kowler, et. al; 1991)? Unfortunately, these are questions neuroscientists suspect are most crucial for understanding complexities of human behaviours: how we human decision behaviours. Subsequent issues are, there is a need to attend as to how neuroscience can, and already has, benefited from neuro - opthalmics' unitary perspective, and how neuroscience has been enriched by taking account multiple specialized neural systems with potential research directions.

5.0 Problem Statement

Making decision behaviour implies that there are alternative choices to be considered, and in such a case we want not only to identify as many of these alternatives as possible but to choose the one that (1) has highest probability of success or effectiveness and (2) best fits with goals, desires, lifestyle, values, and so on (Kowler, et. al; 1991). Human decision behaviour making is process of sufficiently reducing uncertainty and doubt about alternatives to consent to reasonable choice to be made from among them (Kowler, et. al; 1991). This definition stresses information-gathering function of human decision behaviour-making (Kowler, et. al; 1991). It be noted here that uncertainty is reduced rather than eliminated (Kowler, et. al; 1991). Very few human decision behaviours are made with absolute certainty because complete knowledge about all alternatives is seldom possible (Kowler, et. al; 1991). Thus, human decision behaviour involves certain amount of risk (Kowler, et. al; 1991). If there is no uncertainty, you do not have human decision behaviour; you have an algorithm; set of steps or a recipe that is followed to bring about a fixed result (Kowler, et. al; 1991).

Human decision behaviour is made within human decision behaviour environment, which is definite as collection of information, alternatives, values, and preferences available at time of human decision behaviour (Kowler, et. al; 1991). An ideal human decision behaviour environment would include possible information, all of it accurate, and every possible alternative (Kowler, et. al; 1991).

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However, both information and alternatives are constrained because time and effort to gain information or identify alternatives are limited (Kowler, et. al; 1991). Time constraint simply means that human decision behaviour must be made by a certain time (Kowler, et. al; 1991). We all make human decision behaviours of varying importance every day, so idea that human decision behaviour making can be rather sophisticated art may at first seem strange (Kowler, et. al; 1991). However, studies have shown that most entrepreneurs are much poorer at human decision behaviour making than they think (Kowler, et. al; 1991). An understanding of what human decision behaviour making involves, together with few effective techniques, will help produce better human decision behaviours (Kowler, et. al; 1991).

Key idea is that neuro - optometric human decision behaviour making is a process that is influenced by marker signals (Ross & Kowler; 2013). Emerging neuroscience evidence suggests that sound and rational neuro - optometric human decision behaviour making depends on prior accurate emotional processing (Ross & Kowler; 2013). Somatic marker hypothesis provides a systems-level neuro-anatomical and cognitive framework for neuro - optometric human decision behaviour making and its influence by emotion (Ross & Kowler; 2013). This influence can occur at multiple levels of operation, some of which occur consciously, and some of which occur non-consciously (Ross & Kowler; 2013). The issues, because modern models ignore influence of emotions on neuro - optometric human decision behaviour making, that crop up is; what computational mechanisms allow eye to adapt to changing circumstances and remain fault-tolerant and robust (Kowler, et. al; 1991)? How (and where) are probability combined in embroidery of this computation (Kowler, et. al; 1991)? Under what circumstances do these various systems cooperate or compete (Kowler, et. al; 1991)? Do higher-level deliberative processes rely on multiple mechanisms, or single, firm integrated (unitary) set of mechanisms (Kowler, et. al; 1991)? The issues that crop up are; what happens when Clinicians change minds (Kowler, et. al; 1991)? What algorithms allow sensorimotor behaviours to be learned (Kowler, et. al; 1991)? What computational mechanisms allow eye to adapt changing circumstances (Kowler, et. al; 1991)? How (and where) are value and probability combined in eye and what is the embroidery of neuro-feedback (Kowler, et. al; 1991)? What neural systems track defined forms of utility (Kowler, et. al; 1991)? To what extent do utility computations generalize to human decision behaviour, which are tasks that are more complex (Kowler, et. al; 1991)? How do systems that focus on immediate human decision behaviour interact (Kowler, et. al; 1991)?

5.1 Eye movement

This refers to voluntary or involuntary movement of eyes, helping in attaining, possessing and tracking optical impetuses (Kowler, et. al; 1991). ‘Saccade’ is quick, concurrent movement of both eyes between two or more phases of fixation in same direction (Kowler, et. al; 1991). Cohort of saccade may consider outcome of human decision behaviour-making process (Kowler, et. al; 1991). Functional models are based on accretion of corporeal corroboration in favour of various alternatives in sprint to human decision behaviour threshold (Kowler, et. al; 1991). Outcome is affected by variables such as value of sensory evidence, probability of alternative movements and reward associated with different movements (Kowler, et. al; 1991). Salient progress has been made in studies of visual saccadic human decision behaviour making, a system that is becoming a model for understanding human decision behaviour making in general (Kowler, et. al; 1991). In this, theoretical models of human decision behaviour making are beginning to be used to describe computations eye must perform when it connects sensation and action (Glimcher; 2003).

5.2 Eye tracking

Eye tracking is process of measuring either point of gaze (where one is looking) or motion of eye relative to head (Epelboim, et; 1995). In unassuming terms, eye tracking is measurement of eye activity (Epelboim, et. al;1995). Where do look? What do (human decision behaviour makers) ignore? When do blink? How does pupil react to different stimuli? Application of eye movements to user interfaces; both for analyzing interfaces, measuring usability and gaining insight into human performance and as actual control medium within human - mainframe dialogue (Epelboim, et. al;1995).

5.3 Eye gazing

Eyes and gaze are important stimuli for interactions (Epelboim, et; 1995). Gaze means 'to look steadily, intently and with fixed (attention) (Epelboim, et; 1995). (Eye region of represents special area due to extensive amount of information that can be extracted (Epelboim, et. al.; 1995). Eye region carries information necessary for emotion recognition (Epelboim, et;1995). Cognitive and behavioural neuro - human decision behaviour science has recently witnessed explosion of scholarship investigating processing of eye region and gaze direction in various tasks and organisational situations (Epelboim, et; 1995). Due to extensive complexity, underlying neural systems subtending these processes are far from being agreed (Epelboim, et; 1995).

6.0 Research Questions / Objectives

This paper seeks to uncover underlying cause-and-effect connections that link Biology and management, shedding light on potential benefits of integrating biological insights into managerial practices (Camerer; 2003).Aim and objectives is to offer an inquiry (neurobiological instrument) into nature and causes of VBTR seismicity algorithms by establishing potential 'cause - effect' linkage between Biology and Management (Satpathy; 2020, 2021 and 2022). Neuroscience focuses on brain and contact on behaviour and cognitive functions, studying cellular, functional, behavioural, evolutionary, computational, molecular, cellular, and medical aspects of nervous system (Satpathy; 2020, 2021 and 2022). Must we accept determinism algorithm? Is determinism algorithm scientifically true? Is determinism algorithm supported by science? Einstein was a firm determinist who thought that human conduct was entirely unwavering by fundamental laws (Satpathy; 2020, 2021 and 2022). Is non-determinism algorithm a doable alternative? 'A deterministic algorithm is an algorithm that, given scrupulous key in, will until end of time fabricate identical crop, with fundamental mechanism always transient through same series of state' (Wikipedia).'A non-deterministic algorithm is an algorithm that, even for same input, be evidence for signs of dissimilar behaviours on different runs, as opposed to a deterministic algorithm'(Wikipedia).

Eye experiment is re-visited in amplification of how Entrepreneurs deal in representative designs and probabilistic functionalism choice seismicity embroidery (Kowler, et. al.; 1992). Endeavor is to translate interdisciplinary -based anatomical peep into embroidery of entrepreneurial choice behaviour that establish correlation connecting choice behaviour and risk-oriented patterns (Kowler, et. al.; 1992). Aim is to reflect upon heterodoxian and disruption judgment making process that marks commitment to obdurate intention (Kowler, et. al.; 1992). Being exploration of biological foundations, discussion attempts to classify and check biologically micro - founded models that yoke cognitive structure blocks (Kowler, et. al.; 1992). This discussion advances theoretical models in entrepreneurial choice behaviour, grounded on axiomatic groundwork of normative and descriptive levels of analysis in heterodoxian and disruption set-up. Scope is to reconnoiter; how entrepreneurs

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make optimal judgment practices? How human anatomy influences judgments to bargain ‘hot buttons’?

6.1 Rationale

To date, management model of human decision behaviour has not been informed by the way eye functions (Murphy, et. al.; 1978). Goal of studying human decision behaviour is prediction (Murphy, et. al.; 1978). This research submission would seek to develop theoretical models, based on axiomatic foundation of neurofeedback, which can predict clinician human decision behaviour (Murphy, et. al.; 1978). These models would take as inputs state of external world and generate as outputs actual human decision behaviour made by human choosers (Murphy, et. al.; 1978). For this reason, research submission would aim towards achieving compact and abstract models of human decision behaviour (Murphy, et. al.;1978). Analysis of observations would take account of not only human decision behaviour between options, per se, but additional neurofeedback data, including length of time taken to make human decision behaviour, numeral of error in human decision behaviour and psychophysical model(s) (Murphy, et. al.;1978).

6.2 Selected pointers

Role of eye movements during human decision behaviour construction is not entirely clear (Kowler et. al.; 2014). In neural computational simulations of human decision behaviour making, preference in judgment task is epitomized by corresponding protuberance of neural bustle (Kowler et. al.; 2014). This activity has two idiosyncratic apparatuses: intensification of action and human decision behaviour inception for action to overcome in order for choice to be made (Kowler et. al.; 2014). A technique to review is to scan orientation of behaviour leading up to human decision behaviour point (Kowler et. al.; 2014). Investigating eye movements is expedient in providing substantiation of human decision behaviour positioning of behaviour replicating computational human decision behaviour (Kowler et. al.;2014). Eye movements reproduce escalatory human decision behaviour significance, leading to gaze sluice in which eye movements dynamically feed value of individual opportunities (Kowler et. al.; 2014). Intention is to outline preceding suppositions that eye movements have causative stimulus on human decision behaviour formation (Kowler et. al.; 2014).

In organisational sciences, study of human decision behaviour making is an important preliminary step to provide a sound foundation for analysis of equilibrium in organisational systems (Johansson et. al.; 2001). Neuro - opthalmics analysis has been a fruitful development in this direction (Johansson et. al.; 2001). In recent past, new direction of research has emerged, studying interplay of human decision behaviour making of single individual with business environment that surrounds him (Johansson et. al.; 2001). Principal aim is to model computational and neurobiological basis of value-based human decision behaviour making by using tools from Neuro - opthalmics and cognitive neuroscience. This submission aims at two specific ways in which neuro - opthalmics modeling can make an effort towards human decision behaviour - making; first, incorporate neuroscience and organisational psychology of formal, rigorous opthalmics modeling approach, and second, awareness of evidences for multiple systems involved in human decision behaviour-making(Torralba, et. al.; 2006).

Statistical techniques embed above representation for analyzing neuroimaging and neuro data (Wu C.-C., Kwon O.-S., Kowler E.; 2010). These probabilistic inversion schemes borrow from disciplines such as inverse problems, statistical physics and machine learning (Wu, C. et. al.; 2010). If only, they are necessary to capture inter-individual variability of neurophysiologic and neuro responses (Wu, C. et. al.; 2010). More generally, they are essential to root a principled approach to model comparison and selection, given experimental data (Wu, C. et. al.; 2010). This is important to identify candidate psycho-physiological scenarios that have the ability to quantitatively explain concurrent neuroimaging and neuro data (Johansson et. al.; 2001). Focal point is to understand; neural processes underlying how we craft human decision behaviours and choices, understand mechanisms of human decision behaviour-making using functional neuroimaging methodologies and integrating interdisciplinary research towards contributing to human decision behaviour neuroscience (Johansson et. al.;2001).

A point is to construct modeling framework general enough to relate the various experimental studies conducted in group with each other, without compromising predictive power (Tatler, et. al.; 2011). One difficulty is to balance complexity of above models with sophistication of experimental design and data analysis procedures (Tatler, et. al.; 2011). This simply means that these three aspects of the research have to be conducted in parallel (Tatler, et. al.; 2011). This joint effort towards quantitative psycho-physiological understanding of motivation is what we term 'computational neuro - opthalmics (Tatler, et. al.; 2011). This would attempt to explores socio-economic phenomena through individual action, human decision behaviour-making, and reasoning processes, draw from such disciplines as Philosophy, Opthalmics, Human Decision Behaviour-Making, Sociology, Cognitive and Social Psychology, report on concept of mind of social actor, cognitive models of reasoning, human decision behaviour-making and action, computational and neural models of socio-economic phenomena, etc.

Contemporary neuro-psychology research strives to answer questions about human thinking and interaction in a wide variety of settings (Kowler, E; 1984). Kirby Nielsen; Caltech and John Rehbeck; Ohio State University), winners of 2023 Exeter Prize, for the paper 'When Choices Are Mistakes', published in The American Economic Review, address fundamental aspects of rationality in economic theory (Kowler, E;1984). Do people accept the axioms of rational choice? Are violations of these axioms intentional or mistaken? In addition, how do people respond if they discover that choices violate axioms? In the study, participants in the laboratory were presented with six axioms, such as the freedom of extraneous alternative or transitivity, and were provided with clear and simple explanations of each axiom (Kowler, E; 1984. For each axiom, participants were given a choice of whether to make incentivized choices themselves or have the axiom automatically applied on their behalf, saving time and effort (Kowler, E;11984).

To account for experimenter-demand effects, a set of control axioms that reversed the standard axioms was included in the research (Satpathy, et. al.; 2023). The findings show that participants endorsed standard axioms roughly 80% of time, indicating that people do accept these axioms (Satpathy, et. al.; 2023). By contrast, participants rarely endorsed the c-axioms (10% of the time) (Satpathy, et. al.; 2023). Next, the authors explore how participants dealt with conflicts between accepted axioms and their own choices (Satpathy, et. al.; 2023). 47% of participants resolved contradictions by changing their choices, indicating desire to conform to axioms; 13% withdrew their endorsement of the axiom; and 37% chose to live with contradiction (Satpathy, et. al.;2023). On other hand, 20% of participants' resolved contraction with 'C - axioms' by changing their choice, and 35% withdrew their endorsement of the C - axiom (Satpathy, et. al.; 2023). This suggests that participants were much more inclined to view violations of rationality axioms as mistakes (Satpathy, et. al.; 2023). The paper presents range of intriguing findings, including variation across axioms in how contradictions were resolved (Satpathy, et. al.; 2023). The behavioural literature founded by Kahneman and Tversky often demonstrates violations of basic axioms, which raises the question of whether the definitions of rationality ought to be changed to align with actual behaviour (Satpathy, et.

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al.;2023). This research shows that when the standard axioms are explained clearly, and violations are demonstrated clearly, people do in fact endorse the axioms (Satpathy, et. al.;2023). In conclusion, this research offers a distinctive and valuable empirical contribution to continuing theoretical debate surrounding rationality (Personal Communication; Mon, Aug 7, 2023).

What principles of rationality administer alternative (Satpathy, et. al.;2023).? Are we measuring the right thing (Satpathy, et. al.;2023).? How should a rational agent ensue, giving way that a decision code should take version of in order that an alternative provides (Satpathy, et. al.;2023).? What exactly does it mean to say that a focus has obligatory competence to decide (Satpathy, et. al.;2023).? Could an Agent really have intransitive preference (Satpathy, et. al.;2023).? What sort of preference can be represented (Satpathy, et. al.;2023).? Why is the prerequisite of probabilistic freedom challenging (Satpathy, et. al.; 2023).? Under what state of affairs can a choice relation are represented as maximizing desirability (Satpathy, et. al.; 2023).? How should Agent prefer in the midst of initial options in light of probable decision pecking order (Satpathy, et. al.; 2023).? What is it to encompass a likelihood that Agent chooses (Satpathy, et. al.;2023).? What would it mean for Agent to choose against preferences in order to execute beforehand chosen sketch (Satpathy, et. al.; 2023)?

Some selected inquiries are; how to account information about value, risk, ambiguity and timing (Kowler, et. al.1984)? How do these criterions behave with reference to chosen approach (Kowler, et. al.1984)? Are there direct correlations between approaches within heterodoxian and disruption spectrum (Kowler, et. al.1984)? How identifiable variables affect selection of entrepreneurial practices (Kowler, et. al.1984)? What kinds of algorithms and computations underpin entrepreneurial practices (Kowler, et. al.1984)? How can entrepreneur put into practice digital ‘inferential’ data for logical inquiry (Kowler, et. al.1984)? What are the limits of understanding thinking as form of computing (Kowler, et. al.1984)? How important is precise timing of action potentials for information processing in neo-cortex (Kowler, et. al.1984)? Is there canonical computation performed by cortical columns (Kowler, et. al.1984)? How is information in brain processed by collective embroidery of large neuronal circuits (Kowler, et. al.1984)? What level of simplification is suitable for description of information processing in brain (Kowler, et. al.1984)? What is the neural code (Kowler, et. al.1984)? How does brain transfer sensory information into coherent, private percepts (Kowler, et. al.1984)? What are the rules by which perception is organized (Kowler, et. al.1984)? What are the features / objects that constitute perceptual experience of internal and external events (Kowler, et. al.1984)? How are senses integrated?

7.0 Research Methodology / Process

Model emphasizes active integration of eye movement planning with ongoing visual and cognitive processes (Satpathy and Misra; 2020, 2021,2022). The model incorporates components of visual (attention), eye movements, eye movements and their role in visual and cognitive process, (attention) during active visual tasks, oculomotor control, visual memory, and allocation of visual (attention), accuracy and precision of visual and cognitive processes in new directions for human decision behaviour research (Satpathy and Misra; 2020, 2021,2022). Methodology proposes to incorporate Kowler (Rutgers University, USA) model states that eye movements are integral part of interactions with visual world (Satpathy and Misra; 2020, 2021,2022). Kowler’s studies delve into this domain, exploring the underlying mechanisms and factors influencing eye movements (Satpathy and Misra; 2020, 2021, 2022). Tasks, inspecting contents of visual scene, require that human decision behaviour makers bring eye swiftly and precisely to weighty and expedient positions (Satpathy and

Misra; 2020, 2021, 2022). Eye movements accomplish this with virtually no overt effort or awareness (Satpathy and Misra; 2020, 2021, 2022). Model involves eye movements and connections between eye movements, perception and cognition (Satpathy and Misra; 2020, 2021, 2022). Model is devoted to understanding how eye movements are planned, how they are carried out, how to maintain percept of clear, stable and coherent world despite continual changes in visual array that eye movements produce (Satpathy and Misra; 2020, 2021,2022).

One major effort understands relationship between eye movements and attention, question of how attention is involved in eye movement control and how to attend to visual environment independently of movements of eye (Satpathy and Misra; 2020, 2021, 2022). As regards methodology, discussion draws to calculate influence of eyes in shaping communication connected with entrepreneurial strategy (Zhao, et. al.; 2012). Eye tracking experiment has been conducted on 03 participants to measure eye positions (identifying fixations & saccades) and eye movement (geometry of stimulus) to indicate connect between fixations, gaze and entrepreneurial choice seismicity shifts(s) (Zhao, et. al.; 2012). The methodology adopted is a calibrated juxtaposition of conjectural and investigational contributions with spotlight on entrepreneurial choice capability to balance oscillation between VUCA, BANI, TUNA and RUPT with reference to brain embroidery (Zhao, et. al.; 2012). Attempt facilitates extension to entrepreneurial choice theories and applications to observe eye wave neural activity (Zhao, et. al.; 2012). Triple -subject experimentation has been adopted wherein subject had experimental control and showed degrees of experimental unpredictability, if any (Zhao, et. al.; 2012).

Table 1: Descriptive Statistics of Variables

	Variable	N	Min	Max	Mean	SD
1	Recording Time	203	2	688	371.67	204.57
	Gaze Occurrence Duration	203	0	260	154.39	114.10
	Gaze Point X	180	840	888	861.41	7.67
	Gaze Pointy	180	402	804	456.12	77.03
	Distance Left	173	608.44	626.88	626.24	1.50
	Distance Right	180	0	626.88	601.89	121.42
2	Recording Time	203	0	888	393.55	328.10
	Gaze Duration	203	0	280	106.48	125.37
	Gaze Point X	168	826	888	874.86	11.38
	Gaze Point Y	168	266	684	410.46	55.26
	Distance Left	167	606.08	626.88	626.10	3.13
	Distance Right	168	.00	626.88	622.37	48.40
3	Recording Time	203	400	2088	913.46	550.90
	Gaze Duration	203	22	280	62.49	62.42
	Gaze PointX	203	0	886	618.69	378.80
	Gaze Point Y	203	288	448	420.09	20.06
	Distance Left	203	626.20	626.84	626.45	.20
	Distance Right	203	626.20	626.84	626.45	.20
	Recording Time	609	0	2088	559.56	461.85
	Gaze Duration	609	0	280	107.79	110.69
	Gaze Point X	551	0	888	776.09	259.35
	Gaze Point Y	551	266	804	428.93	58.15
	Distance Left	543	606.08	626.88	626.27	1.93
	Distance Right	551	0	626.88	617.18	75.01

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8.0 Experiment Data

The first step has been to import the data into SPSS Statistics 29 software. Descriptive statistics were then carried out. For comparisons between groups, the t-student test for independent samples, t-student test for paired samples and one-way ANOVA have been used after checking the respective assumptions. The respective non-parametric tests have been used if the assumptions were not met. Pearson's correlations have been used to study the association between the variables. Initially, descriptive statistics were carried out on the variables under study, the results of which are shown in the table. The first step has been to import the data into SPSS Statistics 29 software. Descriptive statistics were then carried out. For comparisons between groups, the t-student test for independent samples, t-student test for paired samples and one-way ANOVA have been used after checking the respective assumptions. The respective non-parametric tests have been used if the assumptions were not met. Pearson's correlations have been used to study the association between the variables. Initially, descriptive statistics were carried out on the variables under study, the results of which are shown in the Table 1.

As for the Gaze Occurrence Type, the distribution is as follows (Table).

Table 2: Subject Frequencies

Gaze Type	Subject 1		Subject 2		Subject 3	
	Frequency	%	Frequency	%	Frequency	%
Unclas	44	21.7	73	36.0	0	0
Saccade	51	25.1	23	11.3	18	8.9
Fixation	108	53.2	107	52.7	185	91.1

The effect of Gaze Occurrence Type on Gaze Occurrence Duration, Gaze Point X and Gaze Point Y was then tested for each Subject. The most appropriate test would have been the One-Way ANOVA parametric test, but as the assumptions of normality and homogeneity of variances were not met, the Kruskal-Wallis non-parametric test was used for Subjects 1 and 2, and the Mann-Whitney non-parametric test for Subject 3.

Table 3: Effect of Gaze Occurrence Type on Duration

Subject	Gaze Occurrence Type	Test Statistics	p	Mean Rank
1	Unclas	179.65***	< 0.001	53.97
	Saccade			42.82
	Fixation			149.50
2	Unclas	125.62***	< 0.001	58.74
	Saccade			44.09
	Fixation			143.96
3	Unclas	7.91***	< 0.001	-
	Saccade			111.00
	Fixation			9.5

*Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$*

In Subject 1, there were statistically significant differences in Gaze Occurrence Duration as a function of Gaze Occurrence Type ($H(2) = 179.65$; $p < 0.001$; $\eta H = 0.88$). The Gaze Occurrence

Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group (Z = 11.63; p < 0.001) and the Occurrence Type of the Saccade group (Z = 9.89; p < 0.001), showing a significantly higher mean rank. In Subject 2, there were statistically significant differences in Gaze Occurrence Duration as a function of Gaze Occurrence Type (H (2) = 125.62; p < 0.001; ηH = 0.62). The Gaze Occurrence Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group (Z = 9.92; p < 0.001) and the Occurrence Type of the Saccade group (Z = 7.68; p < 0.001), showing a significantly higher mean rank. In Subject 3, there were statistically significant differences in Gaze Occurrence Duration as a function of Gaze Occurrence Type (Z = 7.91; p < 0.001; r = 0.56). Gaze Occurrence Type of Fixation group differed significantly from the Gaze Occurrence Type of the Saccade group, showing a significantly lower mean rank.

Type 4: Effect of Gaze Occurrence Type on Gaze Point X

Subject	Gaze Occurrence Type	Test Statistics	p	Mean Rank
1	Unclas	5.67	0.059	79.29
	Saccade			104.01
	Fixation			86.88
2	Unclas	14.68***	< 0.001	59.79
	Saccade			79.87
	Fixation			94.27
3	Unclas	0.58	0.561	-
	Saccade			111.00
	Fixation			9.5

*Note. * p < 0.05; **p < 0.01; *** p < 0.001*

In Subject 1, there were no statistically significant differences in Gaze Point X as a function of Gaze Occurrence Type (H (2) = 5.67; p = 0.059; ηH = 0.02). In Subject 2, there were statistically significant differences in Gaze Point X as a function of Gaze Occurrence Type (H (2) = 14.68; p < 0.001; ηH = 0.08). The Gaze Occurrence Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group (Z = 3.80; p < 0.001), showing a significantly higher mean rank (Table). In Subject 3, there were no statistically significant differences in Gaze Point Xas a function of Gaze Occurrence Type (Z = 0.58; p = 0.561; r = 0.06).

Table 5: Effect of Gaze Occurrence Type on Gaze Point Y

Subject	Gaze Occurrence Type	Test Statistics	p	Mean Rank
1	Unclas	32.78***	< 0.001	120.69
	Saccade			116.21
	Fixation			72.49
2	Unclas	9.41**	0.009	105.09
	Saccade			83.93
	Fixation			77.31
3	Unclas	3.72***	< 0.001	-
	Saccade			53.08
	Fixation			106.76

*Note. **p < 0.01; *** p < 0.001*

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In Subject 1, there were statistically significant differences in Gaze Point Y as a function of Gaze Occurrence Type ($H (2) = 32.78$; $p < 0.001$; $\eta H = 0.17$). The Gaze Occurrence Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group ($Z = 3.90$; $p < 0.001$) and the Occurrence Type of the Saccade group ($Z = -4.97$; $p < 0.001$), showing a significantly lower mean rank. In Subject 2, there were statistically significant differences in Gaze Point Y as a function of Gaze Occurrence Type ($H (2) = 9.41$; $p = 0.009$; $\eta H = 0.04$). The Gaze Occurrence Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group ($Z = -3.07$; $p = 0.006$), showing a significantly lower mean rank. In Subject 3, there were statistically significant differences in Gaze Point Y as a function of Gaze Occurrence Type ($Z = 7.91$; $p < 0.001$; $r = 0.56$). The Gaze Occurrence Type of the Fixation group differed significantly from the Gaze Occurrence Type of the Unclas group, showing a significantly higher mean rank.

Next, for all the groups, we tested whether there were statistically significant differences between Gaze Point X and Gaze Point Y, using Student's t-tests for paired samples. The assumption of normality was not tested because the samples consist of more than 30 participants, according to the Central Limit Theorem, they tend towards normality.

Table 6: Differences between Gaze Point X and Gaze Point Y

Subject	t	p	Gaze Point X		Gaze Point Y	
			Mean	SD	Mean	SD
1	69.85***	< 0.001	861.41	7.67	456.12	77.03
2	96.54***	< 0.001	874.86	11.38	410.46	55.26
3	7.67***	< 0.001	618.69	378.80	420.09	20.06

*Note. *** p < 0.001*

Statistically significant differences were found between Gaze Point X and Gaze Point Y in Subject 1 ($t (180) = 69.85$; $p < 0.001$; $d = 5.21$), Subject 2 ($t (168) = 96.54$; $p < 0.001$; $d = 7.45$) and Subject 3 ($t (203) = 7.67$; $p < 0.001$; $d = 0.54$), with Gaze Point X always showing a higher mean than Gaze Point Y. Pearson's correlations were used to test the association between the variables under study.

Table 7: Association Between Variables under Study (Subject 1)

Recording Time	--					
Gaze Occurrence Type	-0.61***	--				
Gaze Occurrence Duration	-0.78***	0.89***	--			
Gaze Point X	0.34***	0.02	-0.05	--		
Gaze Point Y	0.36***	-0.49***	-0.49***	-0.06	--	
Distance Left	-0.01	0.17*	0.09	0.24**	-0.43***	--
Distance Right	-0.18*	0.35***	0.27***	-0.13	-0.51***	1.00***

*Note. * p < 0.05; **p < 0.01; *** p < 0.001*

The results indicate that Recording Time is negatively and significantly associated with Gaze Occurrence Type ($r = -0.61$; $p < 0.001$), Gaze Occurrence Duration ($r = -0.78$; $p < 0.001$) and Distance Right ($r = -0.18$; $p = 0.017$). It was positively and significantly associated with Gaze Point X ($r = 0.34$; $p < 0.001$) and Gaze Point Y ($r = 0.36$; $p < 0.001$). Gaze Occurrence Type was positively and significantly associated with Gaze Occurrence Duration ($r = 0.86$; $p < 0.001$), Distance Left (r =

0.17; p = 0.022) and Distance Right (r = 0.35; p < 0.001). It was negatively and significantly associated with Gaze Point Y (r = -0.47; p < 0.001). Gaze Occurrence Duration is negatively and significantly associated with Gaze Point Y (r = -0.49; p < 0.001) and positively and significantly associated with Distance Right (r = 0.27; p < 0.001). Gaze Point X is positively and significantly associated with Distance Left (r = 0.24; p = 0.002).Gaze Point Y is negatively and significantly associated with Distance Leftt (r = -0.43; p < 0.001) and Distance Right (r = -0.51; p < 0.001).

Table 8: Association Between Variables under Study (Subject 2)

Recording Time	--					
Gaze Type	-0.41***	--				
Gaze Duration	-0.29***	0.66***	--			
Gaze Point X	-0.22**	0.32***	0.58***	--		
Gaze Point Y	0.18*	-0.27***	-0.19*	-0.56***	--	
Distance Left	-0.33***	0.25***	0.16*	0.67***	-0.55***	--
Distance Right	-0.16*	0.15	0.09	0.28***	-0.39***	1.00***

*Note. * p < 0.05; **p < 0.01; *** p < 0.001*

The results indicate that Recording Time is negatively and significantly associated with Gaze Occurrence Type (r = -0.41; p < 0.001), Gaze Occurrence Duration (r = -0.29; p < 0.001), Gaze Poin X (r = -0.22; p = 0.004), Gaze Distance Left (r = -0.33; p < 0.001) and Distance Right (r = -0.16; p = 0.040). It was positively and significantly associated with Gaze Point Y (r = 0.18; p = 0.023).

Gaze Occurrence Type was positively and significantly associated with Gaze Occurrence Duration (r = 0.66; p < 0.001), Gaze Point X (r = 0.32; p < 0.001) and Distance Left (r = 0.25; p < 0.001). It was negatively and significantly associated with Gaze Point Y (r = -0.27; p < 0.001). Gaze Occurrence Duration is negatively and significantly associated with Gaze Point Y (r = -0.19; p = 0.016).It was positively and significantly associated with Gaze Point X (r = 0.58; p < 0.001) and Distance Right (r = 0.16; p = 0.035). Gaze Point X is positively and significantly associated with Distance Left (r = 0.67; p < 0.001)and Distance Right (r = 0.28; p < 0.001).It was negatively and significantly associated with Gaze Point Y (r = -0.56; p < 0.001). Gaze Point Y is negatively and significantly associated with Distance Left (r = -0.55; p < 0.001) and Distance Right (r = -0.39; p < 0.001).

Table 9: Association between Variables under Study (Subject 3)

Recording Time	--					
Gaze Occurrence Type	.023* **	--				
Gaze Occurrence Duration	-0.26***	0.19**	--			
Gaze Point X	0.41***	0.07	0.09	--		
Gaze Point Y	0.65***	0.24***	-0.37***	0.51***	--	
Distance Left	-0.59***	-0.27***	0.31***	-0.74***	-0.78***	--
Distance Right	-0.59***	-0.27***	0.31***	-0.74***	-0.78***	1.00***

*Note. * p < 0.05; **p < 0.01; *** p < 0.001*

The results indicate that Recording Time is negatively and significantly associated with Gaze Occurrence Duration (r = -0.26; p < 0.001), Distance Left (r = -0.59; p < 0.001) and Distance Right (r = -0.59; p < 0.001). It was positively and significantly associated with Gaze Occurrence Type(r = 0.23; p < 0.001), Gaze Point X (r = 0.41; p < 0.001)and Gaze Point Y (r = 0.65; p < 0.001).

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Gaze Occurrence Type was positively and significantly associated with Gaze Occurrence Duration (r = 0.19; p = 0.006) andGaze Point Y(r = 0.24; p < 0.001).It was negatively and significantly associated with Distance Left (r = -0.27; p < 0.001) and Distance Right (r = -0.27; p < 0.001). Gaze Occurrence Duration is negatively and significantly associated with Gaze Point Y (r = -0.37; p < 0.001).It was positively and significantly associated with Distance Left(r = 0.31; p < 0.001) and Distance Right (r = 0.31; p < 0.001).

Gaze Point X is negatively and significantly associated with Distance Left (r = -0.74; p < 0.001) and Distance Right (r = -0.74; p < 0.001).It was positively and significantly associated with Gaze Point Y (r = 0.51; p < 0.001). Gaze Point Y is negatively and significantly associated with Distance Left (r = -0.78; p < 0.001) and Distance Right (r = -0.78; p < 0.001). The next step was to test whether there were statistically significant differences in the variables under study according to the Subject. To this end, several non-parametric Kruskal-Wallis tests were carried out since the assumptions for the parametric ANOVA One Way test were not verified.

Table 10: Effect of Subject on Variables under Study

Dependent variable	Subject	H	p	Mean Rank
Recording Time	1	176.63	< 0.001	230.69
	2			245.59
	3			438.72
Fixation Index	1	373.88	< 0.001	54.50
	2			169.50
	3			303.66
Gaze OccurrenceDuration	1	26.47	< 0.001	355.74
	2			272.61
	3			286.65
Gaze Point X	1	217.60	< 0.001	260.48
	2			416.35
	3			173.61
Gaze Point Y	1	143.73	< 0.001	375.21
	2			171.00
	3			274.93
DistanceLeft	1	76.46	< 0.001	221.30
	2			359.08
	3			243.57
DistanceRight	1	79.30	< 0.001	220.56
	2			364.92
	3			251.57

*Note. *** p < 0.001*

There are statistically significant differences in Recording Time according to Subject (H (2) = 176.63; p < 0.001; ηH = 0.29). Recording Time is significantly higher in Subject 3 than in Subject 1 (Z = -11.91; p < 0.001)and Subject 2(Z = -11.06; p < 0.001). There are statistically significant differences in Fixation Index according to Subject (H (2) = 378.88; p < 0.001; ηH = 0.99). Fixation Index is significantly higher in Subject 3 than in Subject 1 (Z = -19.02; p < 0.001) and Subject 2 (Z = -10.21; p < 0.001). There are statistically significant differences in Gaze Occurrence Duration according to Subject (H (2) = 26.47; p < 0.001; ηH = 0.04). Gaze Occurrence Duration is significantly higher in Subject 1 than in Subject 2(Z = 4.81; p < 0.001) and Subject 3 (Z = 3.99; p < 0.001).

There are statistically significant differences in Gaze Point X according to Subject ($H (2) = 217.60; p < 0.001; \eta H = 0.39$). Gaze Point X is significantly higher in Subject 2 than in Subject 1 ($Z = 9.16; p < 0.001$) and Subject 3 ($Z = 14.66; p < 0.001$). Gaze Point X was also significantly higher in Subject 1 compared to Subject 3 ($Z = 5.35; p < 0.001$). There are statistically significant differences in Gaze Point Y according to Subject ($H (2) = 143.73; p < 0.001; \eta H = 0.26$). Gaze Point Y is significantly higher in Subject 1 than in Subject 2($Z = 11.99; p < 0.001$) and Subject 3 ($Z = 6.17; p < 0.001$). Gaze Point Y was also significantly higher in Subject 3 compared to Subject 2 ($Z = 6.28; p < 0.001$).

There are statistically significant differences in Distance Left according to Subject ($H (2) = 76.46; p < 0.001; \eta H = 0.14$). Distance Left is significantly higher in Subject 2 than in Subject 1($Z = 8.11; p < 0.001$) and Subject 3 ($Z = 7.06; p < 0.001$).

There are statistically significant differences in Distance Right according to Subject ($H (2) = 76.30; p < 0.001; \eta H = 0.17$). Distance Right is significantly higher in Subject 2 than in Subject 1($Z = 8.47; p < 0.001$) and Subject 3 ($Z = 6.38; p < 0.001$). Using the chi-square test, we also tested whether Subject and Gaze Occurrence Type were independent. The results show that these two variables are not independent ($\chi 2 (4) = 119.95; p < 0.001; V = 0.31$). The results are shown in the table.
Subject * Gaze Occurrence Type

Table 11: Cross Tabulation

			Gaze Occurrence Type			**Total**
			Unclas	Saccade	Fixation	
Subject	1	Count	44	51	108	203
		Expected Count	39.0	30.7	133.3	203.0
		% within Gaze Occurrence Type	37.6%	55.4%	27.0%	33.3%
		Adjusted Residual	1.1	4.9	-4.6	
	2	Count	73	23	107	203
		Expected Count	39.0	30.7	133.3	203.0
		% within Gaze Occurrence Type	62.4%	25.0%	26.8%	33.3%
		Adjusted Residual	7.4	-1.8	-4.8	
	3	Count	0	18	185	203
		Expected Count	39.0	30.7	133.3	203.0
		% within Gaze Occurrence Type	0.0%	19.6%	46.3%	33.3%
		Adjusted Residual	-8.5	-3.0	9.4	
Total		Count	117	92	400	609
		Expected Count	117.0	92.0	400.0	609.0
		% within Gaze Occurrence Type	100.0%	100.0%	100.0%	100.0%

Finally, the association between the variables under study was tested using Pearson's correlations.

Table 12: Association between Variables under Study

Recording Time	--					
Gaze Occurrence Type	0.04	--				
Gaze Occurrence Duration	0-.41***	0.51***	--			
Gaze Point X	-0.02	-0.13**	0.20***	--		
Gaze Point Y	0.14***	-0.33***	-0.22***	0.14**	--	
Distance Left	-0.08	0.22***	0.10*	-0.06	-0.42***	--
Distance Right	-0.01	0.25***	0.12**	-0.04	-0.48***	1.00***

*Note. * p < 0.05; **p < 0.01; *** p < 0.001*

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The results indicate that Recording Time is negatively and significantly associated with Gaze Occurrence Duration ($r = -0.41$; $p < 0.001$). It was positively and significantly associated with Gaze Point Y ($r = 0.15$; $p < 0.001$).

Gaze Occurrence Type was positively and significantly associated with Gaze Occurrence Duration ($r = 0.51$; $p < 0.001$), Distance Left ($r = 0.22$; $p < 0.001$) and Distance Right ($r = 0.25$; $p < 0.001$). It was negatively and significantly associated with Gaze Point X($r = -0.13$; $p < 0.001$) and Gaze Point Y ($r = -0.33$; $p < 0.001$). Gaze Occurrence Duration is positively and significantly associated with Gaze Point Y ($r = 0.20$; $p < 0.001$), Distance Left ($r = 0.10$; $p = 0.022$) and Distance Right ($r = 0.12$; $p = 0.002$).It was negatively and significantly associated with Gaze Point Y ($r = 0.22$; $p < 0.001$). Gaze Point X is positively and significantly associated with Gaze Point Y ($r = 0.14$; $p < 0.001$).Gaze Point Y is negatively and significantly associated with Distance Left ($r = -0.42$; $p < 0.001$) and Distance Right ($r = -0.48$; $p < 0.001$).

9.0 Results (Final/Interim) and Implications

In realm of eye-tracking research, a multitude of parameters provides valuable insights into human behaviour (Tseng, et. al.; 2009). One such parameter that warrants exploration is the fixation recording time (Tseng, et. al.; 2009). This article aims to delve into the intricate details of the correlate subject fixation recording time fixation index gaze occurrence type gaze occurrence duration gaze point X gaze point Y distance left distance right subject I-VT refine, shedding light on its significance and implications for understanding human visual attention (Tseng, et. al.; 2009). In eye-tracking research, one vital aspect is the analysis of various parameters to gain insights into human behaviour (Tseng, et. al.; 2009). One such parameter is the fixation recording time, which refers to the duration for which an individual's gaze remains fixed on a specific point (Tseng, et. al.; 2009). In this article, we will delve into the details of the correlate subject fixation recording time fixation index gaze occurrence type gaze occurrence duration gaze point X gaze point Y distance left distance right subject I-VT refine (Tseng, et. al.; 2009).

Fixation recording time plays a pivotal role in understanding how individuals allocate their attention and process information (Vishwanath, et. al.; 2000). It denotes the period during which the eye remains relatively stationary on a particular region of interest (Vishwanath, et. al.; 2000). By measuring and analyzing fixation-recording times, researchers can identify patterns and draw conclusions about visual processing (Vishwanath, et. al.; 2000). Fixation recording time serves as a window into an individual's cognitive processes, elucidating how attention is allocated and information is processed (Vishwanath, et. al.; 2000). By meticulously analyzing fixation-recording times, we can discern patterns and gain a deeper understanding of visual processing mechanisms (Vishwanath, et. al.; 2000). This valuable metric allows researchers to draw conclusions about the prioritization and duration of focus on specific points of interest within a visual scene (Vishwanath, et. al.; 2000).

Fixation index, on the other hand, is a metric that quantifies the extent to which an individual fixates on a specific region compared to others (Vishwanath, et. al.; 2000). It assesses the concentration of visual attention at a particular point of interest and aids in determining the priority assigned to different elements within a visual scene (Vishwanath, et. al.; 2000). The fixation index is a quantifiable metric that measures the degree of fixation on a particular region of interest relative to others (Vishwanath, et. al.; 2000). It provides insights into concentration of visual attention at specific points, aiding in the assessment of priorities assigned to different elements within a visual stimulus

(Vishwanath, et. al.; 2000). By calculating fixation index, researchers can uncover patterns of attention and identify areas of interest that capture subjects' gaze for prolonged periods (Vishwanath, et. al.; 2000).

Gaze occurrence type provides valuable insights into the nature of visual exploration. It categorizes gaze events based on their characteristics, allowing researchers to understand the purpose and intent behind each fixation. Some common gaze occurrence types include fixations, saccades, and smooth pursuit. Gaze occurrence type offers a glimpse into the purpose and intent behind each gaze event. Through categorizing gaze events into fixations, saccades, and smooth pursuits, researchers can comprehend the complexities of visual exploration. This categorization enables a deeper understanding of various gaze behaviours, contributing to the understanding of cognitive processes and perceptual mechanisms.

Gaze occurrence duration refers to the length of time for which a particular gaze event persists. It is an essential aspect of eye-tracking data analysis as it helps in understanding the temporal dynamics of visual attention. Different gaze occurrence durations may indicate varying levels of interest or cognitive processing requirements. Gaze occurrence duration complements the analysis by providing temporal dynamics of visual attention. The duration for which a gaze event persists can indicate varying levels of interest, cognitive processing requirements, or information extraction. Researchers rely on this important parameter to unveil how attention unfolds over time and to illuminate the ebb and flow of visual exploration.

Gaze points X and Y represent the spatial coordinates of an individual's eye gaze (Satpathy; 2023). They provide information about the precise location on a screen or image where attention is focused (Satpathy; 2023). Gaze point X corresponds to the horizontal axis, while gaze point Y corresponds to the vertical axis (Satpathy; 2023). By analyzing these coordinates, researchers can determine which areas of a display or scene attract the most attention (Satpathy; 2023). Gaze point X and Y coordinates provide a precise spatial description of an individual's eye gaze (Satpathy; 2023). These coordinates reveal the exact location on a screen or image that captures attention (Satpathy; 2023). Analyzing these coordinates enables researchers to identify hotspots within a visual stimulus, gaining insight into focal points and areas of high visual saliency (Satpathy; 2023).

Distance left and distance right refer to the horizontal distance between the fixation point and the left and right edges of the display, respectively (Satpathy; 2022). These measurements are essential for understanding gaze patterns and asymmetries in visual exploration (Satpathy; 2022). They can reveal individual preferences or biases in attention distribution across different regions of interest (Satpathy; 2022). To uncover gaze patterns and potential asymmetries in visual exploration, distance left and distance right measurements play a crucial role (Satpathy; 2022). These measurements quantify the horizontal distance between the fixation point and the left and right edges of the display, respectively (Satpathy; 2022). Analyzing these metrics allows researchers to identify individual preferences, biases, or viewing trends that emerge during visual exploration (Satpathy; 2022).

Subject I-VT refine is a methodology used to enhance the accuracy of eye-tracking data by removing artifacts and noise (Kowler; 2022). It involves the application of Velocity Threshold Identification (VTI) algorithms to identify fixations and saccades accurately (Kowler; 2022). Subject I-VT refine provides researchers with cleaner and more reliable data for further analysis (Kowler; 2022). In order to enhance accuracy and reliability of eye-tracking data, researchers employ the subject I-VT refine methodology (Kowler; 2022). This process involves the implementation of Velocity Threshold Identification (VTI) algorithms to identify fixations and saccades with precision (Kowler; 2022). By applying subject I-VT refine, researchers can eliminate artifacts and noise, thereby obtaining cleaner data for further analysis (Kowler; 2022). This approach ensures the integrity and validity of findings derived from eye-tracking studies (Kowler; 2022).

Correlate subject fixation recording time fixation index gaze occurrence type gaze occurrence duration gaze point X gaze point Y distance left distance right subject I-VT refine are vital components in field of eye-tracking research (Kowler; 2022). By understanding and analyzing these parameters, researchers can uncover valuable insights into human visual attention and cognitive processes (Kowler; 2022). The use of high-quality data combined with advanced analysis techniques enables comprehensive exploration of visual behaviour, contributing to better understanding of human perception and decision making (Kowler; 2022).

In conclusion, the correlate subject fixation recording time fixation index gaze occurrence type gaze occurrence duration gaze point X gaze point Y distance left distance right subject I-VT refine parameters serve as vital components in eye-tracking research (Kowler; 2020). By understanding and analyzing these parameters, researchers can gain profound insights into human visual attention, cognitive processes, and decision making (Kowler; 2020). The utilization of high-quality data combined with advanced analysis techniques propels our understanding of human perception to new heights (Kowler; 2020). Consequently, this invaluable knowledge is instrumental in various domains, including psychology, user experience design, marketing, and beyond (Kowler; 2020).

Results calls into question theories localizable to a specific neuromanagement matrix (Satpathy; 2022). Study exhibits key findings, from neuromanagement perspectives within VBTR spectrum and explain how neuro apparatuses explore ‘entrepreneurial choice strategy’ (Satpathy; 2022). Discussion fosters better understanding of direction where VBTR spectrum is heading, and corroborates role of Neuromanagement in this context (Satpathy; 2022). Output is a contribution to co-relation of exploratory research and computational modeling with aim of intensifying use of computational prototypes and replication to explain results for entrepreneurial choice behaviour (Satpathy; 2022). Results advance a model that demonstrates repeatability and specificity in cognitive reactions (Satpathy; 2022). These reflect appropriate results on emblematic entrepreneurial choice behaviour (Satpathy; 2022). Discussion observes EEG as customary so that brain can rupture out of locally ensnared state of affairs (Satpathy; 2022). Discussion propounds fascinating entrepreneurial choice behaviour issues based on scientific understanding of biological processes in choice strategy (Satpathy; 2022). Recommendation is upon reconnoitering fundamentals of entrepreneurial choice behaviour embroidery (Satpathy; 2022). Discussion enhances scientific understanding of biological processes as significant element in entrepreneurial choice behaviour (Satpathy; 2022). Discussion envisions fresh options for development of existential seismicity in VBTR spectrum and concludes with propositions that present directions for future research in VBTR seismicity algorithms.

10.0 Contributions

The study of human decision behaviour making and problem solving has attracted attention (Satpathy; 2022). Expanded research proposal requires (model - based empirical) study of behaviour and provide setting for basic research proposal on how ill structured problems are, and can be, solved (Satpathy; 2022). Clinician neuro - human decision behaviour making, which is much less well understood than individual human decision behaviour - making and problem solving, can be studied with great profit using already established methods of inquiry, especially through intensive studies (Satpathy; 2022).

Neuro - optometric management offers solution through series of measurements of eye activity at the time of human decision behaviour (Satpathy; 2022). It provides conceptual and philosophical framework for understanding and conducting research at optometric science, management and psychology spectrum (Satpathy; 2022). *Neuro - optometric management theory* proposes to build eye-based models capable of predicting observed behaviour (Satpathy; 2022). Neuro - optometric management will shed light on causes of behaviour (and neuro - optometric anomalies) and help build theories capable of explaining and predicting human decision behaviour (Satpathy; 2022). Measurement of eye activity provides information about underlying mechanisms eye during human decision behaviour processes (Satpathy; 2022). Neuro - optometric human decision behaviour modelling would help when new information is inconsistent with goals (Satpathy; 2022). Combining the above disciplines gives interdisciplinary insight to define fundamentals of neuro - optometric human decision behaviour making (Satpathy; 2022).

- Neuro - optometric offers a solution through an additional set of data obtained via series of measurements of eye activity at time of decision behaviours (Satpathy; 2022).
- Provides a conceptual and philosophical framework for understanding and conducting neuro - optometric research at the intersection of Neuroscience, Optometric and Psychology (Satpathy; 2022).
- Describes the first standard model for the choice process that links and spans neurobiological (Satpathy; 2022). Psychological and Optometric levels of analysis (Satpathy; 2022).
- Applies neuroscience to both neuro optometric and neo-classical Optometric and ties both fields to biological constraints in how we judge relative value and make choices (Satpathy; 2022). An important resource for researchers in disciplines ranging from Optometric to Neuroscience as well as to scholars of the theory of science and the development of interdisciplinary research (Satpathy; 2022).
- *Experimental Neuro - Optometric* can be seen as a subfield of experimental Optometric where neuro data is enriched with eye data (Satpathy; 2022).
- *Neuro - Optometric theory* proposes to build eye-based models capable of predicting observed behaviour (Satpathy; 2022).
- New set of data provided by experimental Neuro - Optometric will shed light on the causes of behaviour (and therefore of the neuro anomalies) and help build new theories capable of explaining and predicting human decision behaviours (Satpathy; 2022).
- Measurement of eye activity provides information about the underlying mechanisms used by the eye during choice processes). In particular, it shows which eye regions are activated when a human decision behaviour is made and how these regions interact with each other. This knowledge can then be used to build a model that represents this particular mechanism (Satpathy; 2022).
- Combining the above disciplines gives an interdisciplinary insight to define fundamentals of neuro - optometric human decision behaviour making that has eluded researchers working within each individual field (Satpathy; 2022).

Complexly interlinked imaging technologies, new imaging technologies have motivated studies of internal order of mind (Satpathy; 2022). Interaction between business and science is not smooth with difference in perception and reasoning potentials on either side (Satpathy; 2022). It suggests fundamental change in how to think, observe and generate choices (Satpathy; 2022). Explorations have extended from neural soundings to stimulating shares of chromatic prospects for rational processing (Satpathy; 2022). Research proposal attempts would discuss findings to

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understand neuro - design and offer to answer issues in clinician preference embroidery (Satpathy; 2022). Research proposal attempts would conclude with distinctive propositions and presents directions for future research proposal (Satpathy; 2022). Research proposal attempts would aid rethinking foundations of clinician preference embroidery by providing alternative taxonomy for rational preference problems (Satpathy; 2022). This research proposal would open new vistas for future replicative studies (Satpathy; 2022).

11.0 Conclusion

Some results supported theory, some results rejected theory, and some results were not significant. What are the mechanisms that keep gaze stable with either stationary or moving targets? How does motion of cognitive image on retina affect vision? Where do (human decision behaviour makers) look - and why - when performing complex task? How can the world appear clear and stable despite continual movements of eyes? Cognitive processes driving eye movements during human decision behaviour making are not in any consequential way different from those in similar tasks (Satpathy; 2022). Eye movements in human decision behaviour making are partially driven by task demands (Satpathy; 2022).

Eye movements in human decision behaviour making are partially driven by stimulus properties that bias information uptake in favor of visually salient stimuli (Satpathy; 2022). Eye movements do not have causal effect on preference formation (Satpathy; 2022). However, through properties inherent to visual system, such as stimulus-driven attention, eye movements do lead to down-stream effects on human decision behaviour making (Satpathy; 2022).

Human decision behaviour makers optimize eye movements to reduce demand on memory and reduce number of fixations and length of saccades needed to complete human decision behaviour task (Satpathy; 2022). Drivers of eye movements in human decision behaviour making change dynamically within tasks (Orquin and Loose; 2013) (Satpathy; 2022). Attention be paid for performing experimental procedures in order to evaluate usability, accuracy and reliability of eye tracking systems (Satpathy; 2022). Any (human decision behaviour) model that aims to describe human decision behaviour making must reflect that visual information play central role in human decision behaviour embroidery (Satpathy; 2022).

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