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Experiments In Neuro - Economic Decisions

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Abstract

Decision-making is as old as Civilization with Economics being the fulcrum. In a way, undisputedly, economic decision-making represents the evolution and revolution of Economics as an accepted extension of Science.Economic decision-making is critical in the sense that a correct tactic needs to be adopted to make a balance between economics as a science and also an offshoot of interdisciplinary scholarship in the 21st Century. The foundation of stimulus has been neuro-economic decision explorations (merger of philosophies from cognitive science and management. Recently, neuro-economic decision-making has arisen as an interdisciplinary determination that counterparts advance cognitive science in the economics play-field. Some research issues addressed in this paper are;how decision preferences advance through the brain pathways; how the brain considers sources of data and, what intrinsic processes embody conflicting values are shaped through repeatedly producing 'rational' preferences. In short; how does the economic decision-maker choose via?

Neurofeedback and what part of the brain aids perform economic decision creation? The aim and objective(s) of this paper are; throughthe brain's cabling diagram, the paper highlights the potential cause-effect linkage between biology and economics in explaining how economic decision-makers deal with judgment dynamics. The purpose of this paper is to focus on the role of neuro-dynamics to understand decision strategy. The aim is to exhibit empirical mosaics in 'neuro-trajectory feedback tectonic shifts(s)' of 'business' economic decision circuit'. The primary aim is to archetype neuro-feedback by using brain waves (ECG). The objective is to monitor the undercurrents of neurobiological in understanding economic decision behaviour. As regards Methodology,based on 'modulated sound - injections', the study examines neuro-economic fluidconditions and consequential behaviour of 03 (three)economic decision makers and provides the setting for future research. This offers a solution to the lack of understanding of fluid intellect through the measurement of brain activity. The study exhibits key findings and explains how neuro apparatuses explore 'business economic decision - tectonic shifts(s)' through a biological basis. Results suggest that neural signatures cannot simmer down to a single network or a few brain regions. The paper concludes with specific propositions towards rethinking the foundations of economic decision dynamics by providing alternative taxonomy for decision problems.

Key Words: Neuro-Economics, Decision, EEG, Alpha Waves, SVG, Neuro-Trajectory and Neuronal Shifts.

'The purely economic man is indeed close to being a social moron. Economic theory has been much preoccupied with this rational fool'.

– *Richard Thaler*

Introduction

Economic decision-making is critical. What typifies the notion of causality in the sciences of mind and brain? Are dissimilar notions a prerequisite for different experimental approaches? Are there variances in notions that are explicitly and implicitly presumed? What counts as causal evidence in Economic Decision Sciences? What role is played by information, including facts, figures, statistics, evidence and substantiation, and physical mechanisms in identifying causal claims of economic sciences of mind and brain? Mental events, however, distributed, provide defining (and,

connotation) problems of Social Sciences. What are the basic cognitive operations? How do we use them in judgment, economic decision, action, reason, choice, persuasion, and expression? Do economic decision-makers know what they need to know? How do economic decision-makers choose? What are the best incentives? When is judgment reliable? Can negotiation work? How do cognitive conceptual resources depend on social and cultural location? How do certain products of cognitive and conceptual systems come to be entrenched as shared knowledge and method? The foundation of stimulus has been neuro-economic decision explorations (merger of philosophies from cognitive science and management). Neuroeconomic decision-making has arisen as an interdisciplinary determination to bridge this gap. Extension of neuroeconomic sciences advancescounterparts' of Cognitive Science. The interface between economic decision and brain sciences is not smooth with misconceptions in potentials on either side with the question of how all dissimilar magnitudes come unruffled to offer continual diversity and competitive superiority. Neuroeconomic discoveries posture a challenge to the usual management viewpoint.

Is homo - economicus rational? This is the question that is now challenged. The calculus of homo – economicus emphasized the fact that all organizations / human beings aim at the maximization of profits (gains), utility maximization is non – negotiable and all information is sourced to make a decision that is subject to a set of rational choices. EfeEfeoğlu and YurdanurÇalışkan (2018) argue that 'Homo Economicus or Economic Man, which is the main postulate of Classical and Neo-Classical theories indicate a rational person who makes decisions and pursues wealth for his self-interest (flawless rationality, unlimited cognitive capacity, perfect access to information, and a narrow range of consistent, self-interested goals). But, human-being is not rational agents all the time. Because most of the time, some other factors determine human behaviour than rationality. These could be repetition, imitation, or social norms. Therefore,Behavioral Economics, having introduced a distinctive perspective to Economics, argues that people cannot make rational decisions and can be rational only to a limited extent in their decision'. Some thesis, antithesis and synthesis (aboutthe nature of human decision-making) submitted to this viewpoint are; Homo heuristics, Homo reciprocates, Homo sociological, Homo politicus, and homo duplex. This initiates a debate which forms an experimented basis for this paper.This paper

builds on the notes provided by Sheena S. Iyengar, in her Psychology of Choice dissertation titled "Choice and its Discontents". Sheena challenges the rootpostulation that choice (biology and the psychology of choice) is always chosen and unilaterally advantageous.

Research Issues

Decision modellers are frequently criticized for failing to provide accurate representations of the neuro-psychological substrates of decisions. Several authors maintain that recent neuropsychological findings enable choice modellers to overcome this alleged shortcoming. Some advocate a realistic interpretation of neuro-psychological models of choice, according to which these models posit sub-personal entities with specific neuro-psychological counterparts and characterize those entities accurately. Neural - management/neuropsychology and neural sciences are an interdisciplinary field that seeks to explain human decision-making, and the ability to process multiple alternatives and follow a course of action. In the last decade, the development of neuroscience knowledge and tools allowed a growing interest in research linking neuroscience techniques to psychology, marketing, management, economics, and sociology. It studies how managerial behaviour can shape considerate of the mind and how neuro-scientific findings can constrain and guide models of neural management. Converging into a unified discipline, neural studies investigate the neuro-aspects of management decisions. The interdisciplinary field of scholarship draws on management theories, economic theories, psychological theories, statistics theories, mathematical theories, operational research theories, computing theories, experimental economic theories, neuroscience theories, haematology theories, ophthalmology theories, dermatology theories and physiology theories to develop a comprehensive with the ultimate aim of creating a (single) general theories understanding of human decisions. Neuroeconomics provides biologists, economists, psychologists and social scientists with a deeper understanding of how they make their own decisions and how others decide. Neuroscience, when allied with psychology and economics, creates powerful new models to explain why we make decisions.

The conventional understanding that preferences in the fluid are made through rational or logical thought processes is being questioned experimentally. How decision

preferences advance through the brain pathways; how the brain considers sources of data and, what intrinsic processes embody conflicting values are shaped through repeatedly producing 'rational' preferences. Yet, the notion that such economic preferences are always made through rational or logical thought processes is being challenged by these experiments. The convergence of neuro-economics with the broader disciplines of business, in particular, those involving decision-making, such as neuro-governance have evolved in the form of dynamic conditions sciences producing a more complete framework for the study of such complex issues. Notwithstanding considerable developments, inquiry of how we make economic decisions stays to posture significant trials for methodical explorations. Erecting an economic decision infers that there is an alternate choice to be factored in. And in such a circumstance, we want not only to detect as many of these substitutions as conceivable but select the one that (1) has a peak prospect of efficiency and, (2) best fits with the goal line, needs, routine, and ethics.

1. How does the economic decision maker choose [via.Neurofeedback [?
2. What wave of the brain aids performs [economic decision [creation?

Literature Scan

Fluid brain power refers to the capacity for flexible problem-solving, abstract reasoning, and the ability to adapt to novel situations (Cattell, 1963). This cognitive ability is important in many aspects of life, including academic and professional success, and has been linked to various measures of brain structure and function (Duncan et al., 2000).Research has also shown that fluid brain power is not fixed and can be improved through various interventions, including cognitive training programs and physical exercise (Jaeggi et al., 2008; Colcombe et al., 2004). Additionally, some studies have suggested that certain types of experiences, such as musical training or exposure to a second language, may also enhance fluid brain power (Schellenberg, 2004; Bialystok &DePape, 2009).

While the exact neural mechanisms underlying fluid brain power are still not fully understood, research suggests that it may involve complex interactions between different brain regions and neural networks (Duncan et al., 2000; Gray & Thompson,

2004).Fluid brain power (Gf) is a fundamental aspect of cognitive abilities, involving reasoning, problem-solving, and abstract thinking abilities, which is essential for adapting to novel or complex situations (Cattell, 1963; McGrew, 2009). The concept of fluid brain power has been widely studied in the fields of psychology, neuroscience, and cognitive science, with research indicating that Gf has significant implications for various aspects of life, including academic and occupational success, and general mental health (Deary et al., 2010; Gottfredson, 1997; McGrew, 2009).

Recent research has also examined the neurobiological underpinnings of Gf, with studies indicating that Gf is associated with a distributed neural network, including prefrontal, parietal, and temporal cortices (Duncan et al., 2000; Gray &Chabris, 2003). These brain regions are involved in attentional control, working memory, and cognitive flexibility, which are key components of fluid brain power.Research has also demonstrated that Gf is not a fixed trait but can be improved through various interventions, including cognitive training programs and educational interventions (Melby-Lervåg&Hulme, 2013; Kizilirmak et al., 2021). Additionally, certain lifestyle factors, such as physical activity, sleep, and diet, have also been linked to Gf (Best et al., 2018; Cheval et al., 2019; Erickson et al., 2011).

Fluid brain power (Gf) refers to an individual's capacity to solve problems, reason, and think abstractly. It has been linked to several important life outcomes, such as academic and occupational success, and mental health. The concept of fluid brain power was first proposed by Raymond Cattell (1963), who suggested that it was a key component of general brain power. Since then, numerous studies have been conducted to better understand the nature of fluid brain power, its underlying neural mechanisms, and how it can be improved.One prominent theory of fluid brain power is the neural efficiency hypothesis (Neubauer & Fink, 2009), which suggests that individuals with higher fluid brain power are more efficient in their use of neural resources, allowing them to perform complex cognitive tasks with less effort. This hypothesis is supported by neuroimaging studies that have found that individuals with higher fluid brain power have greater activation in regions of the brain involved in working memory and attentional control, such as the dorsolateral prefrontal cortex (Gray &Chabris, 2003; Kane et al., 2005).

Other studies have investigated the role of genetics in fluid brain power. For instance, twin studies have suggested that genetic factors account for a substantial portion of individual differences in fluid brain power (Deary et al., 2009). More recently, genome-wide association studies (GWAS) have identified specific genetic variants associated with fluid brain power (Snickers et al., 2017). These findings have important implications for the development of interventions aimed at enhancing fluid brain power, as they suggest that genetic factors may need to be taken into account.Research has also examined the effects of various interventions on fluid brain power. One approach that has received considerable attention is cognitive training, which involves engaging in exercises designed to improve cognitive abilities. Several studies have found that cognitive training can lead to improvements in fluid brain power (Au et al., 2015; Melby-Lervåg&Hulme, 2013). However, the effects of cognitive training are limited, with some studies suggesting that gains in fluid brain power may not generalize to other domains (Simons et al., 2016).

In addition to cognitive training, other interventions that have been studied include physical exercise and mindfulness meditation. Physical exercise is associated with improvements in cognitive functioning, including fluid brain power (Erickson et al., 2011). Similarly, mindfulness meditation has been found to improve cognitive control and attentional functioning, which are important components of fluid brain power (Moore & Malinowski, 2009).Overall, the study of fluid brain power has led to important insights into the nature of cognitive abilities and their neural basis. While much progress has been made in understanding the factors that contribute to individual differences in fluid brain power, much remains to be learned about how it can be improved and how it relates to other aspects of cognitive functioning. The study of fluid brain power continues to be an active and exciting area of research, with implications for a wide range of domains, from education and occupational training to the development of interventions aimed at enhancing cognitive abilities.

Aim and Objective(s)

Through the brain's cablingillustration, the paper highlights the potential cause-effect linkage between biology and economics in explaining how ‘rational’ persons deal with judgment dynamics. The purpose of this paper is to focus on the role of neuro-dynamics

to understand decision strategy. The aim is to exhibit empirical mosaics in 'neuro-trajectory feedback tectonic shifts(s)' of economic decision circuit'. The primary aim is to archetype neuro-feedback by using brain waves (ECG). The objective is to monitor the undercurrents of neurobiological in understanding economic decision behaviour. An effort is to elucidate how neural investigations appreciate 'mental tectonic shifts' in economic decision-making.

Methodology

On an embryonic plane, procedures include Electroencephalograph (EEG), Magnetic Resonance Imaging (MRI), Magnetoencephalography (MEG), Computerized Tomography (CT) and Positron Emission Tomography (PET). This research proposes; neuroimaging of the brain, neurophysiological techniques, examination of individual nerve cells, and neuropsychological techniques. Functional Magnetic Resonance Imaging (fMRI), Eye Tracking and Electroencephalography. Functional Magnetic Resonance Imaging (fMRI) quantity plasma stream and Single Neuron Measurement (SNM) quantity reactions of solitary neurons. Each has dissimilar paybacks and approximate outlays associated. Most portionsof macro-scale brain movement in brain expanses whose particular utility is contingent upon explicit assignment brain are deciphering. Magneto Encephalography (MEG) archives magnetic instincts shaped by electrical fluxes in the brain using magnetometers. Electrocardiography (ECG) recordsthe electrical activity of the heart using electrodes. Transcranial Direct Current Stimulation (tDCS) habits continual, low current conveyed to the area of interest via electrodes. Electroencephalography (EEG) recordsthe electrical activity of the brain. Positron Emission Tomography (PET) yields a three-D carbon copy of functional progressions. Transcranial Magnetic Stimulation (TMS) arouse minor regions of the brain. Eye tracking measures the point of gaze (where the subject is looking) or motion of an eye relative to the head. Electrodermal Activity (EDA) or, skin conductance, galvanic skin response (GSR), electrodermal response (EDR), psych galvanic reflex (PGR), skin conductance response (SCR), skin conductance level (SCL), reasons for continuous variation in electrical characteristics of the skin. Brain Mapping centred on plotting (biological) quantities or spatial images occasioning in maps, Blood - Oxygen -

Level Dependent Contrast Imaging (BOLD) spots areas of the brain originate to be active at any given time. Cognitive Maps are mental representations of physical locations.

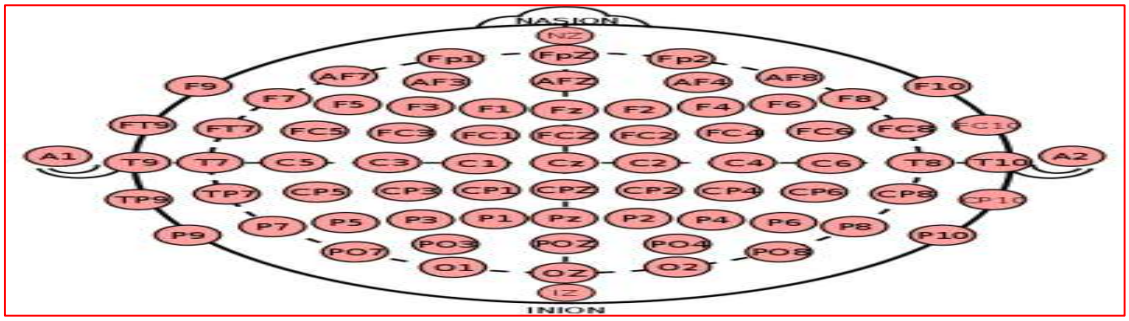
The methodologyof this paper is based on an ongoing research experiment. A few results have been published and this paper extends a few more results. Empirical mosaics in 'neuro-trajectory feedback tectonic shifts(s)' of economic decision circuit' has been examined. A population of 03 decision-makers has been adopted. Based on theoretical models, grounded on an axiomatic groundwork, methodology purposes achieving condensed models of economic decision. This combines fields of economic decision science with aid of analysis techniques of big data in new fields of behaviour. As regards the line of attack, the paper draws to evaluate the influence of the cerebral in shaping economic decisions. The methodology includes a 'modulated sound – injections' neurofeedback procedure via ECG (electro-cardiogram). These waves afford evidence about circumstances and cognitive processes supplemented with the responseevidence and reference runs (based on SVG - analysis) as a part of simulations. Alpha Wave responses have been considered to appreciate the neural activity and how brains respond to tectonic shifts.

Experiment: Observations and Findings

A theoretical posit in incipient economic science sign suggests that all-inclusive and consistent decision-making rests on prior precise emotive indulgence. These transpire at multiple levels of mental manoeuvre. Some occur determinedly and some ensue non-consciously. The approach adopted is a mix of theoretical and experimental. It depicts relevant aspects of business theories and applications of neuro-managerial science in fluid brain power. An attempt is to observe neuro-based techniques to study the brain. On a contemporary level, physiological responses have been measured by just observing neural activity viz. Alpha Waves and Theta Waves, and how brains respond to stimulus presentation. With fluid brain power procedure via EEG, conductors have been used to record the electrical activity of the brain. These waves provide evidence about circumstances and cognitive processes in fluid brain power. In light of debating theories and applications in decision-making, physiological fluid brain power responses have been measured to appreciate the neural activity and how brains respond to

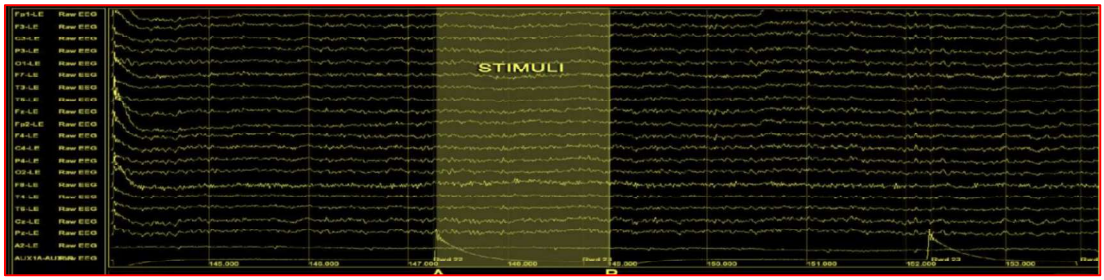
sounding. Neuro-based psychoeconomic feedback presents itself as an effective and scientifically based method of treatment. With neuro-based psychoeconomic feedback methodology via EEG, electrodes would be attached to the head to record the electrical activity of the brain via EEG (electroencephalogram). At the same time, these wave patterns certainly alter depending on mental and physical condition. The method thus comprises amplifying targeted behaviour which corresponds to the favourable components of brainwaves. As regards population and sample size, it is estimated that the population of 15 respondents is a fair populace and subjecting respondents to clinical test lead to fair results.

Setting: The EEG conductors were fixed and placed on the scalp to portion electrical activity of the brain. The riposte values were experimented with at 256 Hz (3.9-msec epoch) for 01 second. The subjects experimented with either a single stimulus (S1) or two stimuli (S1 and S2). When two stimuli were exposed, they were reachable in either a harmonized form where S1 was identical to S2 or in a non-matched circumstance where S1 differed from S2.



• EEG_data.loc	[EEG_data['cell spot'] == 'AF1', 'cell spot'] = 'AF3'
• EEG_data.loc	[EEG_data['cell spot'] == 'AF2', 'cell spot'] = 'AF4'
• EEG_data.loc	[EEG_data['cell spot'] == 'PO1', 'cell spot'] = 'PO3'
• EEG_data.loc	[EEG_data['cell spot'] == 'PO2', 'cell spot'] = 'PO4'
• EEG_data =	EEG_data[(EEG_data['cell spot'] != 'X')
• (EEG_data	['cell spot'] != 'Y')
• (EEG_data	['cell spot'] != 'nd')]

Alpha Wave: Since decision makers (who are supposed to be 'extraversion'/ aren't afraid of risk in nature and character to run businesses) are reflected in Alpha Waves, this study adopts Alpha Wave pattern schema to advance theoretical models, grounded on the axiomatic groundwork of neurofeedback, to an economic decision.



Some related **numerical soundings** are:

	-8.88	-2.088	-0.88
	8.88	8.84	8.848
Fp2 Fp2 F4	8.88	8.848	8.88
F4 C4 C4	4.848	8.88	8.88
P4 P4 O2	4.88 4.4848	8.888 8.88	8.08 8.88
O2 F8 F8	8.88 8.88 -8.88	8.888 8.848 -	8.08
T8 T8 P8	8.88 -4.848 8.8 8.884 4.084 8.888	8.88 8.8804 - 2.48 8.88 8.88	8.0884 -8.88 8.88
P8FzCzPz Oz	8.88 0.88 8.088	8.88 8.848 8.88	-0.848 8.888 8.884

Reference Runs / SVG - Based

AvgD_PO	AvgS_PR	AvgS_MI	AvgS_PO	'AvgIS1_	'AvgIS1_	AvgIS1_P	'AvgIS2_	'AvgIS2_	AvgD_PO
648L 44	677C 874	686 878	688 878	476L 878	877C 878	48 877	74 76	78L 76	87 447
67 448	874 448	888C 448	788 468	774 767	748ZM 787	767L 787	448C 787	488 786	687 776
684 748	688 787	688C 766	688 484	448 484	488C 484	486 768	767 768	767ZM 787	778L 748
778 448	787 448	888C 448	66 766	74 786	74C 778	74 787	47 787	874Z" id="f888	simul
74"/><path d="M 477	78L 477	64C 487	48 788	44 786	44C 768	44 747	68 747	884L 747	788C 747
787 786	477C 784	448 744	448 774	448C 868	476 887	788 64	768C 46	764 44	747 44
784 68	786 86	786C 888	786 888	787 886	788C 874	748 877	768 844	784C 846	786 868
484C 748	484 764	764 764	788L 764	764C 747	746 888	778 878	788C 64	888 78	848 78

46 88 87 848 87C 888 87 776	74 766	47C 787	74 788	78 788	8C 787 7 777 87 748 87ZM 764	84C 746	64 778	48 884	48C 864
67 874	874C 874	868 846	888 884	888C 786	788 744	778 764	748Z" id="f888	simul	8
774C 786	748 786	488 786	478C 766	448 748	448 788	448C 886	448 46	788 46	788C 46
788 887	887C 777	848 768	874 768	88C 768	48 776	78 888	78C 878	78 84	68 68
848C 48	884 48	76 48	77C 64	6 878 87 867 87C 747 87 776	74 776	876C 776	884 786	778 788	767C 866
784 876	748C 876	788 847	486 888	486C 748	486 764	768 784	788Z" id="f888	simul	8
886C 747	67 786	46 764	46C 884	46 886	887 884	748C 774	747 768	767 766	764C 786
766 488	786C 488	764 777	448 748	448L 748	448C 888	448 844	478 887	766C 67	778 76
788C 76	88 888 87 777 87C 767 87 777	6 784	84ZM 774	487C 788	487 784	764 784	787C 784	786 788	787 788
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886L 888	448C 878	477 88	478 78	487L 78	788C 88	768 887	764 887	787L 887	886C 887
77 77	76L 77 8Z" id="f888	simul	8	64"/><path d="M 474 8L 474	76C 466	77 468	76 468	884L 468	786C 468
448 778	448C 787	448 766	476 748	488C 777	487 788	786 888	767L 888	448C 876	477 88
488L 47	788C 86	768 887	764 887	788L 887	884C 887	78 86	77 78	76L 78 8L 746 8L 746	76C 886
76 888	884L 888	778C 788	764 748	788 788	788C 746	788 788	744 788	766L 788	888C 788
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786L 766	786C 788	484 787	476 787	476L 868	476L 868	464L 844	466L 88	488L 88	476L 44
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76 677	887L 677	786C 677	784 687	448 684	448C 466	448 448	476 478	477C 484	486 464
766C 474	488 787	448 774	448C 787	448 768	476 747	478C 777	487 788	784 888	768L 888
477 84	488 48	488L 48	788C 88	768 887	764 887	788L 887	887C 887	78 87	77 76
76C 888	77 888	78 888	887L 888	778C 788	767 748	788 788	788C 748	788 766	748 766
887C 766	76 768	77 786	76L 786 8L 478 8L 478	76C 464	77 446	78 446	888L 446	786C 446	784 444
778C 488	768 478	788 464	788C 678	788 647	744 647	764L 647	886C 647	76 647	77 487
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668L 784	647C 746	648 767	644 767	488L 767	476C 778	446 788	448 784	448C 848	448 78
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486C 777	486 788	778 788	784C 788	66 778	78 766	78C 884	78 878	884 878	748C 878
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778 487	768 487	466C 487	468 777	674 774	674C 866	674 878	688 88	466L 47	484L 64
484 877	468 788	468C 764	468 788	488 788	474C 788	748 744	766 887	887C 844	874 86
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78L 74 8L 767 8L 767	78C 784	77 888	44 866	84C 867	874 868	867 868	764L 868	484L 867	484L 488 8L 678 8L 678
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788C 868	766 868	487 867	444C 846	448 878	476 888	477C 64	478 48	476 78	476L 78
786C 87	788 88	786 88	777L 88	876C 88	78 846 87 784 87C 748 87 767 4 788	87C 778	78 747	48 764	64L 764 6L 768 87C 788 6 484
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477 488	468 467	688C 477	678 764	648 787	648ZM 787	448C 787	488 784	688 777	686C 778
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Representative Wave Model

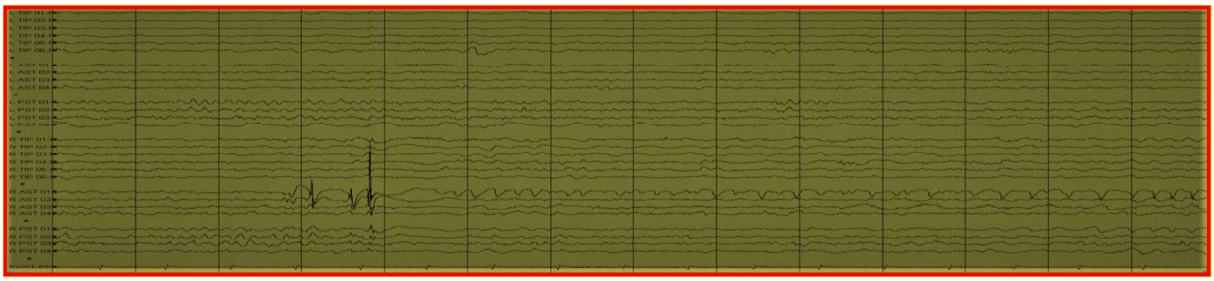
Subject - 1

Representative Wave Model

Subject - 2

Representative Wave Model

Subject - 3



Discussion

"The human being makes decisions in a context of limited rationality, subject to biases and noises
that lead him to behave sub-optimally,
from the point of view of what Neoclassical Economics prescribes".

.... Sebastian Laza

What happens in the brain or is activated when economic decision-makers make judgments or are in the process of making judgments? Is the study of judgment-making via cognito-management processes relevant for economic decision-makers? Many economic decision-makers seek more information than required thereby causing delays because of the time required to process information. This impairs the effectiveness of judgment. In this state, Cognitomanagement seeks to explain judgment-making, the ability to process multiple alternatives and choose the optimal course of action. It studies how management behaviour shapesthe understanding of the brain and guides models of management. What are the coherent brain dynamics underlying prediction, control and judgment-making? Theoretical explanations posit that the human brain accomplishes this through neural computations. Deciphering such transactions requiresan understanding of cognitive processes that implement value-dependent judgment-making. This leads to the formulation of a 'cognito - management judgment making paradox'. The goal is speculation of how the brain implements judgments that are tied to behaviour.

The quantum of information that the pair of the brain provide is passable enough to feed the apparatus for undertaking a decision-making function. How parts of brain structure(s) aid in decision-making is the issue under the microscope of interdisciplinary research. How do brain structures behave? How do brain structure parts oscillate? What patterns do they form? How do we interpret the image, so formed? Above all, how does information, so obtained from this giant play, aid in decision-making? What characteristics do brain structure waves (Alpha) exhibit? This study explains how neuro apparatuses explore 'economic decisional' thinking through analysis of the biological basis of preferences and the significant role of 'neurones' in prototyping managerial neuro-based 'economic decisional' thinking trajectory. Results exhibit

monikers for spontaneous counterfactual simulation in the domain of high-level cognition and illustrate how managers engage in 'economic decisional' thinking using eye-tracking techniques. These findings confirmed that the explanation of neural signature cannot boil down to a single network or few brain regions and suggest possible ways to guide neuroscience and the 'judgment curve'.

The selfish side of human beings, that of Adam Smith's famous "invisible hand," is the basis of traditional economic theory. But this selfish side is just a partial approach to the complex human dimension, being necessary to incorporate the emotional side to the economic models, to include the passions that often cloud reason, empathy and trust generation, the collaborative and cooperative spirit, the psychological biases that make markets fall into bubbles, overreactions and panics and our powerful "unconscious rationality", which dominates much of daily decisions.

….. Sebastian Laza (Argentina)

Economic 'decisional' thinking has a biological basis. The human mind 'believes to see ', instead of 'seeing to believe'. Plotting of neuronal-directed 'economic' decision trajectory, has observed incredible advances since the turn of the Century. To better understand its cognitions, emotions, and behaviours the brain provides trait-like information and its reflexive activity allows for the understanding of responses to stimuli. Critical facets of cognition embrace the capability to generate cerebral diagrams and simulated imaginings and to identify, assimilate, and save configurations of data (Satpathy; 2015 & 2018).Neuroeconomics provides Economists and Social Scientists with a deeper understanding of how they make their own economic decisions, and how others decide. Are we hard-wired to be risk-averse or risk-seeking? How is a "fair economic decision" evaluated by the brain? Is it possible today to predict the purchasing intentions of a consumer? Can we modulate economic behaviour affecting the brain? Neuroscience allied to psychology and economics has powerful models and evidence to explain why we make economic decisions.

Some related numerical soundings observed are

	-8.88	-2.088	-0.88
	8.88	8.848	8.88
Fp2 Fp2 F4	4.848	8.88	8.88
F4 C4 C4	4.88 4.4848	8.888 8.88	8.08 8.88
P4 P4 O2	8.88 8.88 -8.88	8.888 8.848 -	8.08
O2 F8 F8	9.99 - 4.9499.910.10104	8.88 8.8804 - 2.48 8.88 8.88	8.0884 -8.88

It is observed that the simulated references are meandering between 8.o to 10.10. This range depicts an Alpha State of brain dynamics, despite 'modulated sound - injections'.Positive psychological concepts such as self-efficacy, optimism, resilience, emotional intelligence and growth mindset are well-incorporated in contentment. These positive attributes are also needed for successful engagement-seeking emotional behaviour. Self-efficacy offers the confidence of executing a function competently. Optimism provides the supportive cognitive style to pursue both engagement and contentment. Resilience builds the capacity to deal with adversity. Emotional intelligence furnishes the human factors of empathy and compassion. The growth mindset leverages the abundance of energy. An integrative approach to blend engagement-seeking with contentment fulfils the objective of innovation and flourishing

Conclusion

Behaviorism is a cheval glass that replicates proclivity, viewpoint, and other psychosomatic state. Choice making is an elementary human stroke. Decision making is the most frequented but a never ending duel for mankind. It is akin to a chess board matrix where the moves and the counter moves are just predictable and conjectures but operationalization is difficult. Turning the concepts into quantifiable measurements and dimensions is complicated but not without a solution.

In a nut - shell, decision making is backed up by tenets of neuroscience. Decisions taken in an Alpha State are ascertained to be near-rational. There seems to be an air of relaxation, reduced stress, reduced strain, reduced anxiety, unruffled- thinking and no restlessness. The flow paths of neurons are supposed to be in constant motion. It's a state of relaxed concentration where the information, facts, figures, evidence and statistics are supposed to be retained longer, leading to better economic decision-making. These act as 'Pillars of Cognition' with the power to acquire and absorb information; the 'Soup of Cerebral'. Economists can baptize this as a state of 'biological peak time for decision making. This offers a solution to the lack of understanding of fluid intellect through the measurement of brain activity. The study exhibits key findings and explains how neuro apparatuses explore 'business economic decision - tectonic shifts(s)' through a biological basis. Results suggest

that neural signatures cannot simmer down to a single network or a few brain regions. The paper concludes with specific propositions towards rethinking the foundations of economic decision dynamics by providing alternative taxonomy for decision problems.

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