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Re-Conceptualizing 'Rational Expectancy' Through; Evolutionary Psychology, Anthropology, Behavioral Genetics and Neuropsychology

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Abstract

The basic objective of writing this paper is to re-conceptualize the concept of 'Rational Expectancy' in postmodernism. Based on the convergence of four sources of scientific research this paper will try to re-conceptualize the concept of 'Rational Expectancy': Evolutionary psychology is basically the other name of modern Darwinism, evolutionary psychologists do not argue that all human are alike underneath; Anthropology (Study of past & present) Darwinian anthropologist have identified cultural universals with regards to gender relations, art and ritual, language and thought, and trading and competition; Behavioral Genetics, Scientists have identified several genes thought to control human dispositions including the aspects of temperament and cognitive behavior; Neuropsychology Scientists in this field try to understand which part of brain control emotions and how chemicals in the brain affect thoughts and sensations. In postmodernism evolutionary psychology help us in understanding the dynamics in human behavior and anthropology tells us how hardwired is human behavior. An individual's rational expectancy is based on his composition of behavioral genetics and unique neurological networks & modules.

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The knowledge management has provided the concept of '**Knowledge Worker**', the one who use his 'Heart' 'Head' and 'Hand' not only for the discovery of knowledge but also for the delivery of knowledge. Moreover, the Service Science of IBM uses the concept of '**Actors**', the one who use his knowledge and skills for the benefits of others.

Keywords: Rational Expectancy; Evolutionary Psychology; Anthropology; Behavioral Genetics; Neuropsychology.

1. Introduction

In 1970 the concept of "Rational Expectancy" was first introduced by [28, 27] and their co-authors in the field of macroeconomics, this is considered as a major attack on the [27] macroeconomics. These authors emphasized on the role of expectation as an important element in the structural association of macroeconomic models and projected the involvement of expectation, not only as a particular function of past but also the individual's expectations correspond in past, present and future. The basis of the theory of rational expectation was founded in the agricultural model and financial fluctuations of 1960s. Reference [26] introduced the idea of rational expectancy in his paper but it remained neglected for a long time, economist at that time frequently assumed that on one hand firms rationally maximize their profit on the other hand consumers rationally maximize their utility, and neglecting the economic agent's act of rationality for their expectations of future would be a kind of schizophrenia. After the break down of consensus many of the macroeconomic researchers started exploring the supposition of "Rational Expectancy", just like the assumption of utility maximization there was no direct empirical inference of the assumption of rational expectancy, but the concept of rational expectancy become unobjectionable by the help of supportive hypotheses, and for researchers this concept become thoughtful and of remarkable connotation.

Reference [27] preliminary assault was on the conventional macroeconomic practices, because of their inappropriate way of dealing with the assumption of expectation, under these circumstances the first task of macro economists was to learn how to pact with the prescience of rational economic agents. During the initial stages of new classical revolution few economists believed that the issues with macroeconomic models could be fixed effortlessly but the flawed proxies for expectations were unable to replace the rational expectancy so there was alot more work to be done. The aspiration of new classical economists was to restructure macroeconomics by focusing on the technology and preferences. The basic objective of writing this paper is to re-conceptualize the concept of 'Rational Expectancy' through: Evolutionary Psychology, Anthropology, Behavioral Genetics, Neuropsychology.

1.1 Imperfect Information

According to [27] initially the new classical models focused on generating a monetary business cycle, in these efforts they shifted from the Walrasian paradigm with the assumption of imperfect information regarding price, as they assumed that individuals have more information about the price of goods they produce as compared with the price of goods they purchase. As a result they confused the movement of relative price with the movement in

overall price level. An unexpected rate of inflation guides individuals to assume that the comparative prices of the goods they produce are provisionally high as a result they increase the quantity supplied. Whenever there will be difference between the actual inflation and expected inflation output will change simultaneously.

2. Evolutionary Psychology

The most astonishing creature on the surface of the earth are human being, which are the product of the evolutionary process so in order to elaborate their distinctiveness an evolutionary process is needed, using evolution as an enlightening notion will not be enough in order to study the dynamics of human behavior. 1970s was the period of formative period of behavioral ecology and many researchers were considering that evolutionary biology will transform the research in the field of human behavior. Reference [34] got a considerable attention as his publications were supposed to be of remarkable advancement in the relevance of evolution to behavior. Researchers at that time thought that evolutionary theory would disclose the level of fundamental order and the perceptible variations in the human behavior would resolve automatically in a systematic manner which will result in the emergence of pure social science but even after a decade these revolutions were still supposed to be occur. Reference [31] tried to summarize the complexities in understanding the inconsistency in individual behaviors:

- The modern evolutionary theory examine the disagreements among the concentrations of different classes of individuals like; relations vs. self [29], blood relations vs. progeny [29], female vs. male (1972), moreover different divisions of genome within a single individuals [30]. In an interaction between individuals with conflict of interest, a single best possible solution cannot be produced, either the solution will be favorable to one party or the conflict will result a solution that will be unfavorable for both of them.
- Under these circumstances the superior pattern of social behavior will be either optimal for individual or group of individuals but will not be optimal for the society as a whole. The term 'interest' is undoubtedly useful but sometimes it is also deluding as it is associated with the evolutionary concept of folk psychology which undermine the concept of 'self interest' and also neglects the differences between two individuals. On one hand 'self interest ' refers to a condition which individual wish for as it is based on his or her values, on the other hand the concept of fitness of interest identifies the set of possible outcomes for a particular set of genes in a particular being that would maximally endorse the imitation of those genes. Organisms are basically modification perpetrators and not fitness hunter. For many reasons these differences may not seems foremost but it is of key importance in understanding the certain dilemmas [32]. The individual behavior cannot be understand in segregation; on one hand individual behavior is a result of adjustments preferred to endorse self interests on other hand individual behavior is the result of defying strategies in response to the adoptions of other individuals.
- Human beings are elected to have adoptions that react to attributes of their individual situations along with the social circumstances, an individual's paramount behavioral strategy will depend on; his aggression, size, health, ability to generate resources and the number of relations on which he can depend upon. Human beings tends be a flexible strategist rather than being a rigid one, depending upon the nature of information available organism change their behavioral strategy according the

circumstances. In spite of belonging to a same species and distinctive psychological adoptions human beings often behave differently in different situations in accordance to the available information. Variations among the individual behaviors and personality differences of a same species are basically the result of environmental differences that are related to individual differences. According to [32] the study of behavioral variations must have to be redesigned as a study of fundamental universal psychological adoptions that engender differences in response to incidental efforts.

- The preferential strategy for certain reproductive and social behavior will depend on the circulation of other's behavior in the population which leads to complexly interactive dynamics. The existing systematic tool for handling these dynamic are; evolutionary stable strategy and game theory [19, 18]. Under these circumstances, the psychological mechanisms that are receptive to information indicate the allocation of appropriate behavior in the confined population and then react consequently. Under the frequent stable conditions behavioral strategy may perpetually erratic.
- According to [32], the natural selection can't be probable to fabricate behavioral outcomes that maximize robustness under every conceivable situation. The circumstantial specificity of an adoption depends upon the discriminatory narration of encountering same circumstances. The extent of circumstantial adoptions that are evidenced by individuals will depend on following:
 1. The frequency of specie's evolutionary history had similar situations.
 2. For how long the same situation has been reoccurring over the period of time.
 3. Human will more inclined towards common and important situations, and go for less common but important situations and common but less important situations but will never go for unimportant and uncommon situations.
- The adaptive specialism has been wrought by the numerical features of inherited environments which are of key importance in the study of human behavior. Human being as a species have spent about 99% of its evolutionary history as hunter gatherers so in order to learn the human psychological patterns more focus should be on those ancient environments and the modern patterns of twentieth century should be less focused. The frequent cultural and technological changes during last several thousand have bent many situations, both unimportant and important that were nonexistent in the age of hunter gatherers. The evolutionary researchers should not be amazed when evolutionary dynamic environment produce dynamic behaviors.

3. Anthropology

3.1 "How Hardwired Is Human Behavior" (By: Nigel Nicholson)

Evolutionary psychology is basically the other name of modern Darwinism. A convergence of research and discoveries in genetics, neuropsychology and paleobiology, among other sciences, evolutionary psychology holds that although human beings have reached the space exploration and virtual realities but they still got some traits of Stone Age hunter gatherers. Some, 200,000 years ago the Homo sapiens for the sake of their survival; fight furiously when threatened, trade information and share secrets. Human beings are hardwired, evolutionary

psychology argues that we can take the person out of stone age but can't take stone age out of the person.

3.2 Natural Selection

Evolutionary psychologists do not argue that all humans are alike underneath, instead they identified the aspects of human behavior that are inborn and universal with the help of which we can explain some familiar patterns. According to Darwin human beings were not "placed" fully formed onto the earth, instead they were an **evolved species** which shares common heritage.

1. **Environmental Selection:** Species with faulty design features don't survive the elements long enough to reproduce and pass along their genes.
2. **Sexual selection:** The faulty designed creatures are unattractive to the other members of the group because they appear weak and less likely to produce.

A range of variations in the biogenetics design briefly flourished and then became extinct, leaving Homo sapiens as the all-conquering survivors.

3.3 Managerial implications of Evolutionary Psychology

Evolutionary psychology offers a theory how human mind came to be constructed and mind according to EP is hardwired in ways that governs most human behaviors to this day.

- **Emotions before Reasons:** In an uncertain world those who survived always had their emotions radar, call it instant if you will turned on. Today businesspeople are often trained to dispense with emotions in the favor of rational analysis and urged to make choices using logical devices such as decision trees and spread sheets.
- **Loss Aversion Except when Threatened:** Human beings that survived the harsh elements of the stone age undoubtedly tried to avoid loss.

"Human beings are hardwired to avoid loss"

3.3 Human Behavior Continuum

Human beings exist along a continuum, on average, people avoid risks except when threatened but imagine a bell curve, at one end a small minority of people seek **Risk**, at the other end, small minority of people are so **Cautious**. The majority fall in between the two extremes.

Classification before Realism

"Human beings become hardwired to stereotype people based on very small piece of evidence, mainly their looks and few readily apparent behaviors"

Gossip

People who chat with just right people at just the right time often put themselves in just the right position.

"As the empathy and mind reading abet the survival skill of gossip, they too become hardwired into the human brain"

3.4 Contest and Display

The ingrained male desire to do public battle and display virility and competence persists today. Men forever setting up contest between themselves to see who will be promoted, or gain the ear of leaders.

"Our challenges may be different from hunter gatherers, but our hardwiring in not"

"Leaders are born not made"

Time and again researchers have tried and failed to eliminate hierarchies, politics and inter organizational rivalry. Evolutionary psychology says that it's time to recognize what we are and use this information to live in harmony with our hardwiring.

"Different Times Produce Different Minds" (By: Thendore Andrea)

The minds changes with times, the two basic concepts in this article are; **The Spiral Dynamics** and **Memes**. The spiral dynamics is an imaginative conception which keeps on evolving and it never covers the same ground as a result it not only provides the **Hindsight** but also provides the **Foresight**. Then comes the powerful concept of **Memes**, which tells us about the evolution of dynamic human systems.

The **reason** and **unreason** both are interconnected, order leads to chaos and the deeper chaos leads to order. In the turbulent and chaotic times, those who have eyes and ears along with the spiral in their minds to understand, will remain calm and adoptive to change. The minds who are trapped in repetitive cycle will not survive until they finds new meanings in the spiral space which are in accordance to the dynamics of 21st century.

Following are some effects of turbulent times:

- Great ideas are forged in chaotic times.
- The Humpty Dumpty effect.
- Distortions in Cycleland.
- Minds changes with time.
- Shifting views of management gurus.

3.5 World of Spirals

According to a theory the history moves in cycles, but like a spiral staircase. When the human event completes a course of a full circle it moves to a new level. This theory has provided a strong metaphor "Spiral Dynamics", which needs to be focused on. Life's spirals is expensive, open ended and dynamic. The inner intelligence is

needed to *draw hierarchical structure, the curvatures of life.*

"Everything connects to everything"

"New times demands new thinking"

3.6 Memes

In the evolving self the expression of memes is used in identifying the origins of human behavior as opposed to physical characteristics. This term has been used to describe the cultural information such as; political ideology, fashion trends, language usage, musical forms and architectural styles.

"What biochemical genes are to the DNA, memes are to our psycho-culture DNA"

"Each MEME is an organizing principle, centre of gravity, geometric fractal, self replicating force, and magnetic field that attracts content-rich little memes".

4. Behavioral Genetics

The concept of human behavioral genetics tries to evaluate and highlight the genetic and environments influences dimension resulting in individual behavior differences. The genotypes of the individual which is basically the biochemical code that highlight the composition of the individual genetics will significantly affect personal characteristics of any gender through phases of development and different biological processes .The individual phenotypes are not only influenced by genetic composition but environment influences also affect them which is not present in case of genotypes. Thus focus of the behavioral genetics is to study differences in individual behaviors especially with respect to two different components genetics and environmental domains. [15] argued that for any behavioral trait the heritability serves as an important parameter which helps to highlight and develop an estimate of phenotypes among individual due to genetic difference among them. According to [21] the effect of heredity and environmental components on human development may be interlinked to such an extent that it would not be possible to completely disintegrate them. Olson is support of this argument said evaluating the intensity or contribution of heredity or environmental components on individual behavior and traits is nonsensical; it is similar to an argument whether the leakage in basement is result of the cracks prevailing in the foundation of the building or water outside the building. In real cases ,traces of genetics effect can be found in environment as they started to appear in environment ,similarly environmental effects traces can also be found in genetics as biological process mediation play a very important role in this context. However the impact of heredity and environmental factors on population phenotypes of any given sample that falls within a given range of environmental and genetic variation can be estimated to an appropriate extent. In this context the focus of the psychologist is largely inclined towards evaluation of heritability in a broader sense, the composition of which is result of additive genetics effects which are transmissible among different generations ,in addition t non genetics effect are also evaluated ,non genetics effect are not transmissible due to specific configuration of human genes. In addition, the focus of the psychologist towards broad heritability is due to the fact that broad heritability takes into account the genetics sources of individual

differences that occur in any particular individual. 15 stated that narrow heritability as compared to broader heritability is largely focused on genetics effects on human traits and are transmissible across different generations, thus concept of additive genetics is largely used here .In studying the influences that are result of environmental variations, these types of differences can be further classified into two domains one that are result of shared family environments ,as such types of connections compel unrelated individuals brought together as relatives such as siblings leads to emergence of different types of similarities in these individuals ,and differences that are result of environmental impacts that prevail in unshared family environments are two broad classifications for studying the impact of these types of environmental variations .

The effect of measurement error also needs to be taken into account in evaluating the heritability of any specific trait, large degree of literature does not take into account the effect of measure error except for few exceptions [15].According to [25] Ignoring the due importance of measurement error in studying behavioral genetics research will produce out comes that depict overestimation of environmental components and underestimation of genetics components effects on psychological constructs.

In studying the relationship between attitude and behavior, there is no such evidence available that highlights a direct tie among attitudes and behavior as well as individual genotypes .For example attitude consists of evaluating statements that are developed over the years from personal experience and social information. According to [21] it is very rarely seen that direct one to one connections prevails among attitudes and genes, for example genes resulting in developing attitudes that leads to capital punishment for an individual or either it is result of many to one connection, which implies that there are different bundles of genes that was responsible for attitudes leading to capital punishment. Rather genes probably develop inclinations that are natural in nature, which lead to development of environmental experiences in a manner that increases the chances of an individual in obtaining a specific trait or attitude.

Some studies have highlighted the role of biological and neurological basis of phenotypic differences in studying behavior [17] and suggest that genes are not directly responsible for causing attitudes and behaviors, but they are embedded with neurophysiologic systems that possess adaptive value which implies that behavioral approach system ensures fitness by acquiring the required resources for reproductive success. These systems also have relation with personality that cause an impact on attitude and behavior, thus where there are more active behavioral approach system adopted by an individual it would produce more aggressive and dominant behaviors.

There is evidence that support the idea that there is link between different brain regions and personality system [10].In addition, studies that takes into account species of animals have shown that number of animal species have depicted a diversity in traits due to their connections with neurophysiologic system which are similar to the systems find in the personality of an individual such as primates [24,10]. Some evidence is also available that enables to understand the dissimilarity in personality of a chimpanzee by using Big five personality frame work concepts .Scholars such as [23] are of the view and highlighted another aspect, that it is very much important to examine the temperament of an individual in order to evaluate the personality of an individual.

Scholars with such types of view are inclined towards the idea that difference in temperament is directly the result of genetic differences prevailing in an individual, these temperament differences are influenced by experiences of a particular individual and result in outcome like adult personality [23]. According to [9] since the differences in individual are examined through framework developed to evaluate temperamental components such as novelty seeking, harm avoidance reward dependence depicts a more simple genetic architecture as compared to traits architecture which is more complex as it is largely the result of analysis of different factors at phenotypic level, big five personality framework, should be used in such situations to examine neurobiology and genetics foundations of human personality. The context of job satisfaction since personality influence people as well as their thoughts in creating particular interpretations of different work events and life which implies that individual having extrovert personality usually interprets their life circumstances in a positive manner as compared to introverts. In addition, their pattern of behavioral activity is also influenced in a positive manner as they find social interactions very comfortable. Thus personality factors are good indicators of employee satisfaction with job. These authors highlighted that personality was related to job satisfaction in a meta analytic review in which big five personality factors plays important role. [15] investigated to study whether big five personality factors are mainly responsible of genetics influences on job satisfaction, path analysis of meta analytic correlations were used in these investigations. The finding of the study revealed the five factors mediation resulted in twenty percent of genetic variance in job satisfaction, another similar framework that is based on positive and negative emotional construct reflected forty five percent of genetic effect. Therefore, framework based on positive and negative construct provide a more comprehensive conceptualization of personality than big five factors and combination of these two construct provide a more strong mediation of genetics effect on job satisfaction. This investigation strongly supports the fact that more comprehensive and more abstract construct are more likely to be influenced by genetics as compared to narrow and specific constructs. Reference [15] carried out another investigation that was focused on examining the genetics effects on emergence of leadership traits as mediated by personality and cognitive ability that an individual possess. The authors highlighted a partial heritability of leadership emergence $h^2 = 0.17$. (Which are largely the results of genetics effects from general cognitive ability and big five personality framework factors).

The intensity of these magnitudes may not be very high, as other types of genetics effect like physical appearance or height of the individual are likely to prevail in these observations. However the fact that seventy percent of the differences that are likely to appear in a leader are connected with genetic differences and which are largely the result of cognitive ability and personality traits of an individual is very impressive.

5. Neuropsychology

Execution of Specific psychological functions can be effected when damage to specific parts of the brains occur as highlighted in Max case. This concept seems very reasonable especially when biological aspects of psychology and consciousness are considered. This simple notion faced different types of criticism. For many decades' different scholars and researchers such as [11] have provided different views regarding the role different areas of the brain in execution of different psychological functions. During the early years of 1800, the most prominent concept was largely inclined towards the idea that brain function largely as a single organ and no specific area of the brain play a dominant role in performing different functions of mental life. Franz Gall

was not in favor of this view and suggested that specific parts of brains play a very important role in cognitive functioning of the brain which was largely appreciated and proved corrected except for the another point of view suggested by Franz that different areas of the brain grow larger if an individual is involved in more thinking activity .In further explanation of his point of view Galls also suggested that view that different part of the brains are responsible for execution of specific behavior patterns and different types of personality traits like aggressiveness and honesty. In addition to this view Gall assumed that as size of different part of the brain increases some changes in the form of bumps also started to appear in the shape of skull. Franz with the help of the maps highlighted that which parts of the brain are responsible for controlling different traits, these maps can be used to evaluate the psychological makeup of humans by evaluating the bumps prevailing in the form of bumps on human skull. This approach was termed as phrenology and gained a lot of popularity as it was considered as a simple means to access personality [7]. The evolution of human personality with the help of human skull was not largely appreciated and also negatively overshadowed the other findings of Franz.

In 1800s a French surgeon studied a patient whose leg was damaged due to an infection termed as gangrene .The history of the patient also revealed that a serious stroke had occurred to the individual causing permanent damage to the brain .Due to this stroke the individual was not able to speak except for the word Tan, however was able to listen by following different vocal commands ,the patient did not survive the infection and died ,the subject was further physically studied through autopsy which highlighted that frontal lobe of the brain was damaged. Broca in order to further explore if this damage has some sort of relation with the inability of the patient to speak. For this purpose Broca examined another patient who also possessed similar speaking difficulties, the autopsy of this patient highlighted the damage to same areas that was seen in patient one, which also highlighted that idea of localization of function of Max case as that was previously discarded was inappropriate. Thus any particular part of the brain can be responsible for execution of any specific function like speech or hearing ability [8].Due to these observations as compared to Gall, Broca work was more appreciated and idea of localization of function also gained more acceptances. This resulted in increase in brain research publications that confirmed the idea of brain localization to great extent.

5.1 Module and Networks

Theoretical framework developed by [12, 33] with respect to localization of function have brought forward another idea that brain is divided into different parts termed as modules, each of these modules provide a unique set of analysis from information that these modules receives. This modular concept is based on the idea that these different modules located in different parts of the brain acts as a circuit board similar to computers. This highlight that each of these modules does not solely control any function of the brain in fact these modules acts as contributor of information to a more comprehensive circuit that result in execution of function like speech or hearing. The information analysis provided by each of these modules assists in executions of different functions, these different types of functions whether it is involve in interpretation any particular object or other similar functions is result of different team or modules [20].

This functioning is similar to the working of company, where the CEO of the organization though the help of its employees each having a diverse set of skills which can be re organized into different work teams to perform a

diverse set of tasks. The understanding or speaking any particular language is result of different modules located in different parts of the brain. Thus this highlight that damage to any particular part that is directly responsible for any of these functions will effect execution of any of these functions. The parts of the brain that result in execution of language functions is a significant example of particular network that use number of modules. Consequence of such types of system is the emergence of disconnection syndrome due to any fatal activity that prevent the interaction of these modules ,example of alexia can be quoted in this context in which an individual is not able to read but can perform writing functions [14,6]. Brain damage resulting in disconnection syndrome, left occipital lobe was responsible for loss of sight ,but this loss was only limited to right side ,whereas left side of the sight is still functional. The corpus callosum which acts as a bridge between left and right hemi sphere and allow movement of information from left to right hemisphere, due to damage to this part this exchange of information is not possible. The left hemisphere which aids language producing function are still intact and the exchange of information can take place with respect to speaking and writing, however vision is only limited to left eye sight. The information can reach right hemisphere but the majority of the functions are located in left hemisphere thus individual is not able to read any information written by him, which is largely due to the absences of visual processing from this disconnection from parts of the brains that give these words meaning.

6. Conclusion

Informational revolution leads towards global economy, not only the legal businesses groomed but also the criminal activities and mafia like organizations around the world have become global and informational. Interactive computer networks are growing exponentially, shaping life and being shaped by the life at the same time. a fundamental redefinition of relationships between women, men and children has followed and thus of family, sexuality and personality.

In such a world of uncontrolled, confusing changes people tend to regroup around **primary Identities: Religion, ethnic, territorial and national.** People increasingly organize their meanings not around what they do but on the basis of what they are, or believe they are. Our societies are increasingly structured around a bipolar opposition between **the Net and the Self.**

Postmodern culture and theories indulge in celebrating the end of history, and to some extent the end of reason giving upon our capacity to understand and **make sense, even of nonsense.** The implicit assumption is the acceptance of full **individualization of behavior** and of society's powerlessness over its identity. The search for identity is as powerful as techno-economic change in charting the new history. Since technology is society and society can't be understood or represented without its technological tools.

The relationship between technology and society is that the role of the State, by either stalling, unleashing or leading technological innovations, as a decisive factor in the overall processes, as it expresses and organizes the social and cultural forces that dominate in a given space and time. New societies emerge from the processes of change in both capitalists and informationalism.

Modes of Development:

Industrialism- (Maximize Output): In the industrial mode of development, the main source of productivity lies in the **introduction of new energy sources**, and in the ability to decentralize the use of energy through the production and circulation processes.

Informationalism- (Accumulation of Knowledge): In the new informational mode of development the source of productivity lies in the **technology of knowledge generation**, information processing and symbol communication.

Modes of Production:

Statism (Power motive): In Statism the government interventions in the economy are of vital importance and the basic motive behind Statism is the **accumulation of Power**.

Capitalism (Profit motive): According to capitalism government should not intervene in the economy, there should be free market. The basic purpose was the **maximization of profits**.

Informationalism and Capitalist perestroika

Without new information technologies global capitalism would have been a much limited reality, flexible management would have been reduced to labor trimming, and the new rounds of spending in both capital goods and consumer products would not have been sufficient to compensate for the reduction in the public spending. Informationalism is linked to the expansion and rejuvenation of capitalism, as the industrialism was linked to its constitution as a mode of production.

The Self in the Information Society

The first historical steps of informational societies seems to characterize them by the pre-eminence of **identity** as their organizing principal, the self in the information society is virtually connected with the whole world through;

- Web 1.0 (www).
- Web 2.0.
- Web 4.0.

A social actor recognize its self and construct meanings primarily on the basis of a given cultural attributes or set of attributes. Social relationships are defined on the basis of those cultural attributes that specify identity.

Greek philosophers elaborated the concept of Identity more than two millennia ago.

The technology is helping to dismantle the very vision of the world that in the past it fostered. We have entered a truly **multicultural interdependent world**, which can only be understood and changes from plural perspectives that brings together **cultural identity, global networking, and multidimensional politics**.

Recently, the knowledge management has provided the concept of '**Knowledge Worker**', the one who use his 'Heart' 'Head' and 'Hand' not only for the discovery of knowledge but also for the delivery of knowledge. Moreover, the Service Science of IBM use the concept of '**Actors**', the one who use his knowledge and skills for the benefits of others.

6.1 Limitations

1. The context of this study is limited to only four dimensions: Evolutionary Psychology, Anthropology, Behavioral Genetics and Neuropsychology.
2. The concept of "Rationality" is from Economics, so this paper discusses the Goods Dominant Logic (GDL) view of human.
3. This paper only considers the study of Modules and Networks from Neuropsychology.

6.2 Suggestions for Future Researchers

1. Researchers are suggested to study conceptualization of 'Knowledge Workers', the role of Head, Heart & Hands in the process of rationalization.
2. Researchers are also suggested to study the Service Dominant Logic (SDL) view of human.
3. Important of all, the researchers are suggested to study the rationalization process of Qualitative Researchers (using subjectivity to create the reality).

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