ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

# Propounding "Structured Innovative Thinking Techniques for Social Sciences Research": Why this can be a Game Changer in Social Sciences Research

**Sujay Rao Mandavili**

**Abstract:- The starting point of this paper is a very brief overview and review of the concepts and postulates of our previously published paper "Baking innovative and creative thinking techniques into scientific method: Towards innovative and creative techniques as an intrinsic part of scientific method for higher scientific and research output", which was published by us in the early part of 2024. We then also review and summarize various existing innovative and creative research techniques such as the six hat thinking techniques and lateral thinking techniques, and then proceed to overview our approach which was called the "Structured innovative thinking techniques for Social Sciences Research". This approach is suitably expanded upon and forms the logical basis of this entire paper. There are multiple points of interface with our earlier papers to varying degrees, and these include our papers on twenty-first century intellectualism, the eight pillars of social science research methods and techniques, and the theory of paradoxes, which we have published in the recent past, albeit to a much smaller extent and degree. We believe that this paper will add enormous value to science in general, and catapult scientific activity to a much higher league. It is as such in tandem with our broader globalization of science movement.**

## I. INTRODUCTION

*"Innovation distinguishes between a leader and a follower"- Steve Jobs*

*"Mankind cannot discover new oceans unless he has the courage to lose sight of the shore" – Andre Gide*

The starting point of this paper is a very brief overview and review of the concepts and postulates of our previously published paper "Baking innovative and creative thinking techniques into scientific method: Towards innovative and creative techniques as an intrinsic part of scientific method for higher scientific and research output", which was published by us in the early part of 2024. We then also review and summarize various existing innovative and creative research techniques such as TRIZ, and then proceed to overview our approach which was called the "Structured innovative thinking techniques for Social Sciences Research". This approach is suitably expanded upon and forms the logical basis of this entire paper. There are multiple points of interface with our earlier papers to varying degrees, and these include our papers on twenty-first century intellectualism, the eight pillars of social science research methods and techniques, and the theory of paradoxes, which we have published in the recent past, albeit to a smaller extent and degree. We believe that this paper will add enormous value to science in general, and catapult scientific activity to a much higher league. It is as such in tandem with our broader globalization of science movement. [1] [2] [3] [4] [5]

## II. WHAT IS A SCIENTIFIC METHOD?

Let us being this paper by addressing the question of what a scientific method is. The concept and the idea of a scientific method is extremely pivotal and central to science, and has been used in some shape and form since the time of the Ancient Greeks. It is not only used in the process of acquiring knowledge, but also has an extremely important and a central role to play in the formulation of hypotheses,

[1] Abstraction, conceptualization, disambiguation, ideation, innovation, objectivization, quantification, and theorization in the social sciences: New pillars for contemporary social sciences research Sujay Rao Mandavilli IJISRT, July 2024

[2] Baking innovative and creative thinking techniques into scientific method: Towards innovative and creative techniques as an intrinsic part of scientific method for higher scientific and research output Sujay Rao Mandavilli IJISRT January 2024

[3] Paradox identification and paradox resolution in scientific endeavour: Reconciliation of contradictory rulesets in the interests of better theorization and hypothesis-building Sujay Rao Mandavilli IJISRT, January 2024

[4] Elucidating the Certainty uncertainty principle for the Social Sciences: Guidelines for hypothesis formulation in the Social Sciences for enhanced objectivity and intellectual multi-polarity Sujay Rao Mandavilli IJISRT, March 2023

[5] Unveiling the Sociological Ninety-ten rules for Social Sciences research: Towards better hypothesis formulation in the Social Sciences in the interests of higher quality research and intellectual multi-polarity Sujay Rao Mandavilli Published in IJISRT, February 2023

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

theories, and general laws. As a part of a scientific method, rigour, objectivity, passion, systematicity, and attention to detail are required among several other qualities. A healthy dose of skepticism is also required, though not skeptopathy. Hypotheses must be formulated based on some elementary data, but must be further refined into theories and laws. A lot of work has gone into defining and streamlining scientific method, particularly by renaissance and enlightenment thinkers, and we believe that we have played a major and a crucial role here. However, we believe that some more work is required especially for the social sciences, and inputs must be proactively sought from researchers in different part of the world. Innovative and creative thinking techniques are also required for the social sciences in a way that will take into account and consideration their peculiarities. This is the raison d'etre of our approach and technique. Needless to say it has the potential to boost scientific output to a great degree, when properly applied. [6] [7]

## III. INNOVATION

The term innovation has become extremely popular and widely used today. Along with creativity, it has become almost a buzzword, and is now unequivocally equated with progress. This has however, not always been the case. The term has become relatively much more widespread ever since the knowledge economy began with the invention of the computer and the internet age, as is now intrinsically associated with processes, methods and methodologies, even best practices. This is in spite of the fact that a few visionaries such as the Austrian-born economist Joseph Schumpeter and others proposed the term sometime after the Second World War. Innovation eschews rigidity of thought and dogma, and is not compatible with the latter. Some innovations are minor, some can be major. Some can even be game changing or disruptive. This would all depend on the technological and social impact they may have. We believe the latter are particularly important, though they have been given the short shrift. The impact on the industrial revolution for example was deep-rooted and comprehensive both Europe, and elsewhere. Other intentions such as the radio, television, the motor car, and the internet also changed societies fundamentally though unequally. The percolation of social science research techniques and the modernization of the social sciences, including pedagogy for example, can change society deeply and in myriad ways. We had even proposed to call this the "Tenth intellectual revolution". In order to do this, social or cultural attributes may be identified, and mapped to different technologies which may have varying degrees of social and cultural impacts. The process of change over space and time must also be mapped and understood, including lead regions and lag regions.

There are many methods and approaches commonly employed in the process of innovation. Some relatively more commonly innovation or ideation techniques are brainstorming (this is an increasingly popular technique where a group of individuals debate ideas intensively, and sometimes propose new ones; this can also be applied in tandem with focus group discussion, and other social science research techniques), idea mapping (as per this technique, concept and new ideas are systematically refined and co-related with other pre-existing ideas), brain writing (where participants formally jot down all their ideas and extensively and intensively debate them), etc. Other techniques have also been proposed over the past couple of decades, though some of these are not as widely used. Some of these are scamper (The SCAMPER Technique is a team brainstorming technique often used for improving products and services, and stands for "Substitute, combine, adapt, modify or magnify, purpose, eliminate or minimize and rearrange or reverse". This technique can indeed by combined judiciously and beneficially with our approach, though this would not be its primary focus) , the five why's technique (this technique which was developed by Sakichi Toyoda requires asking "why" five times to get to the root cause of a problem), TRIZ, (this involves generalizing problems and solutions, identifying contradictions, and developing solutions) the lateral thinking technique (this technique which was proposed by Edward de Bono, involves looking at problems from different, unexpected angles and seeking out connections), the Delphi method (relies on a panel of experts to solve problems and arrive at conclusions), the theory of constraints (this technique was originally developed by Eliyahu S. Goldratt, and actively seeks out bottlenecks and strives to eliminate them through better process engineering), and the six thinking hats (Also developed by Edward de Bono, and uses white hats, yellow hats, blue hats, green hats, red hats and black hats to gain better and different perspectives on issues) technique which is related to the much more commonly used six sigma method and technique.

Innovation is extremely important to solve many common social, cultural and economic problems (i.e. not technical problems alone as some people popularly and fallaciously imagine), investigate them at a reasonable level of depth and detail, and proactively look for solutions to different problems plaguing society such as poverty, illiteracy, disenfranchisement, ignorance, lack of access to and awareness of the latest technologies, lack of sanitation, or the absence of a scientific temper, etc, to name a few. Of course, this is only a short indicative list, and there are many more problems that one could readily spin off his head. It therefore goes without saying that social progress is not possible without ideation, and idea which is closely related to innovation. However, the potential for innovation in the social sciences has unfortunately barely been realized. Hence, the

[6] Cowles, Henry M. (2020), *The Scientific Method: An Evolution of Thinking from Darwin to Dewey*, Cambridge, MA: Harvard University Press, ISBN 978-0674976191

[7] Dales, Richard C. (1973), *The Scientific Achievement of the Middle Ages (The Middle Ages Series)*, University of Pennsylvania Press

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

necessity and importance of this paper to drive home this basic fact. Most readers we believe, would readily agree with this general statement. Social sciences must therefore buck up, evolve, change, and mature with the times, if it is to meet and serve the needs of different, and different types of societies. This will have a ripple impact and a ripple effect on society, culture, and scientific progress.[8] [9]

- *Structured Innovative Thinking Techniques for Social Sciences Research*

We had also proposed the term "Structured innovative thinking techniques for Social Sciences Research" (which can also be known as SITTSSR in short). The aforesaid approach relies on several distinct concepts which are 1. Intellectualism (also known in our terminology and parlance as twenty-first century intellectualism) (This is one of the fundamental pillars upon which innovative and creative thought and activism would naturally rest, and this is tied to real-world problems as well through the medium of "practicalism"). 2. Innovative and creative thinking techniques in general must also be tied and integrated with "Structured innovative thinking techniques for Social Sciences Research" as proposed in this paper. 3. Activism as necessary (particularly from a scientific output, though this is relatively less important here; activism could however, be a vehicular medium through which innovative and creative techniques are put into practice.) 4. Structured apperception tests for socio-cultural change and theories of sociocultural change as proposed and discussed by us over the years. This would constitute an extremely important pillar of socio-cultural change. As per this process, several "events" must be introduced sequentially, and their impact on the subject must be assessed. Needless to say, our approach is only recommendatory and indicatory; there are many other issues and methods that cannot be grappled with at one go by any one scholar or individual; that is why we believe there must be an emphasis on creative and innovative thinking techniques at all stages in the exercise. There must be zero tolerance for dogma and rigidity of though. Everyone must put this assertion into their pipe and smoke it before there is any scope and room for damage to be done. [10] [11] [12]

Our core philosophy is that one stand alone technique alone may not necessarily always fit the bill; as many techniques as possible must be judiciously combined with each other as long as they are compatible with each other to some degree, and do not fundamentally conflict with each other. This essential philosophy would apply to both existing and new i.e. future innovation and ideation techniques. However, their impact on society, and social and cultural change must be gauged and estimated at all times before they are applied; some of these techniques may have been developed in an engineering or a product development context, and as such would be somewhat less important and somewhat less applicable for the social sciences. This realization itself would constitute one of the essential pillars of our approach and technique. We therefore review some of these pre-existing techniques is this paper, and evaluate their impact and general applicability in a social sciences research context and setting. [13] [14] [15]

The following are the critical and the crucial steps involved from our perspective. However, as stated previously and repeatedly, we must always eschew dogma and rigidity of thought. This principle must be deeply embedded and enshrined in our technique, for it is a fundamental pillar upon which it rests. For this, customization may be required to suit the problem at hand, and the local cultural and social context and world. We also abide by the central doctrine of practicalism; however, a certain level of professional expertise may be required to execute this aforesaid customization, and the researcher may seek the help of other researchers as and when required. We must also state here upfront that Innovative thinking solutions for the social sciences can have

[8] Jonson, B (2005) "Design Ideation: the conceptual sketch in the digital age". *Design Studies* Vol 26 No 6 pp 613–624

[9] Michalko, Michael (2006) "Thinkertoys: A Handbook of Creative-Thinking Techniques Paperback" ISBN 978-1580087735

[10] Redefining Intellectualism for a post-globalized world: Why present-day intellectualism is obsolete and why a comprehensive reassessment of intellectualism is required Sujay Rao Mandavilli IJISRT, August 2023

[11] Promoting science activism for the twenty-first century and beyond: Positioning science activism to promote course corrections in science and to lead to higher scientific output across societies and scientific disciplines Sujay Rao Mandavilli IJISRT January 2024

[12] Towards scientific apperception tests for twenty-first century social sciences research: Formulating 'Structured apperception techniques for socio-cultural change' in twenty-first century social sciences research Sujay Rao Mandavilli IJISRT June 2023

[13] The relevance of Culture and Personality Studies, National Character Studies, Cultural Determinism and Cultural Diffusion in Twenty-first Century Anthropology: An assessment of their compatibility with Symbiotic models of Socio-cultural change ELK Asia Pacific Journal of Social Science Volume 4, Issue 2, 2018

[14] Articulating comprehensive frameworks on socio-cultural change: Perceptions of social and cultural change in contemporary Twenty-first century Anthropology from a 'Neo-centrist' perspective Published in ELK Asia Pacific Journal of Social Sciences Volume 3, Number 4 (July 2017 – September 2017) Sujay Rao Mandavilli

[15] Operationalizing cross-cultural research design: Practical, cost-effective, and a minimalistic application of cross-cultural research design to minimize cultural bias in research and reconcile diverse viewpoints IJISRT, April 2023 Sujay Rao Mandavilli

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

a cascading effect on other sciences, and they may be extended and merged by other scholars and specialists for other sciences as necessary. Therefore, this approach can also enrich, and lend its credence to other sciences, at least over a period in time. [16] [17]

- Careful and continuous observation is necessary of the real and the social world, and this must be accomplished by sheer force and dint of habit. This can be done both consciously and subconsciously, and must be merged and integrated with daily quotidian life.
- The researcher must look for, and identify problems in everything in (and literally every aspect of) daily life; thus, identify lacunae in everything by force of habit, and proactively identify the ills plaguing the world. The researcher must therefore, keep his eyes and ears open at all times. The key objective of the entire exercise is to solve practical problems and seek out practical solutions in the social and cultural domain and sphere. Another important concept of this approach and technique is democratization. We believe that this technique must be used by all and sundry albeit with some minimal training. The idea of a specialist pontificating to others or talking condescendingly and superciliously to the "laity" must essentially become a thing of the past.
- The researcher must also in parallel, proactively look out for cultural problems and cultural bottlenecks as well, including those which are widely known and acknowledged, and those which are not widely known or acknowledged. A bottleneck occurs wherever a process or a flow is slowed down by constraints. Cultural bottlenecks are typically said to happen or occur if some aspects or elements of society are less evolved than others, and when there is a large intracultural or intercultural differential. Removal of bottlenecks and constraints would lead to the general betterment of societies, in a manner that is akin to Elihayu S. Goldratt's theory of constraints which eventually made him world famous. In social science, the concept of a time frame is extremely important. As a part of this technique and strategy, short-term, medium-term, and long-term considerations (all three) must be borne in mind, but may be tackled and handled in different ways; for example, short-term considerations may sometimes may be integrated with, and made subservient to long-term considerations, but short-term considerations are also extremely important as well, and must provide inputs into the planning process.
- Problems must also always be categorized into local problems, non-local problems, more widely prevalent problems, and universal problems for a greater ease of understanding and convenience. Local problems can be solved fairly more easily than complex, multidimensional ones which may often span multiple societies. This is because as per our central philosophy and approach, problems must always be understood in their respective social and cultural contexts, and solutions also mooted in a manner that make them compatible with local social and cultural problems. For cross-cultural issues however, the services of experts drawn in from different parts of the world may need to be employed. Solutions proposed in one part of the world may also be replicated elsewhere, albeit with some modification and customization.
- The researcher must communicate problems to others, if it cannot be solved and create a wider social awareness on the issue. Therefore, collaboration is an extremely important part of our approach, and is quite central to it. Our mantra is Collaborate. Collaborate. Collaborate. This must be accomplished by both technical or subject matter experts, and those who are familiar with a similar problem, albeit in a different social and cultural context. At the same times, researchers must collaborate with other non-specialists, particularly those who are familiar with the social and cultural problem at hand regardless of their level of professional education or attainment. A suitable sampling strategy may be employed for this purpose. The research team must also at the same time comprise "knowledgeable" non-specialists. This is a core and central tenet of this approach.
- The researcher must, at all times, proactively identify how enablers or pillars of empowerment or dissemination can be enhanced or improved (This we believe, is an extremely important concept particularly for innovation in the social sciences). The readers may refer to another section of this paper where they are discussed at a fairly great level of detail and depth.
- The researcher must proactively look out for patterns of problems and carry out a root cause analysis. Pattern recognition is carried out by examining large tomes and volumes of data. Per our approach, specialists alone need not work on this. Other non-specialists with hands on experience on the issue, and sufficient and adequate gut feel may also be employed here.
- The researcher must develop touch points with other areas and fields of study as and where required– this for example may comprise technological and non-technological factors e.g. technology (for general technological issues and concerns) pedagogy (for teaching and learning bottlenecks) etc. Thus, the expertise of other specialists must be judiciously put to use, as and where required so that problems can be proactively solved.
- The researcher must also network with the right kind of people including both experts and non-experts. This must be done by building up the right kind of contacts and

[16] Empowering 'Linguistic have-nots': Empowering 'Linguistic have-nots' in the interests of faster economic, social and cultural progress and development across cultures and societies Sujay Rao Mandavilli IJISRT, October 2023

[17] Developing cogent strategies for the lexical development of non-dominant languages: Empowering linguistic have-nots and maximizing linguistic performance Sujay Rao Mandavilli IJISRT, July 2024

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

networks either formally or on social media. We must also always acknowledge and bear in mind the fact that non-experts can also provide vital clues and insights. Thus, we emphasize practical knowledge, cues, and insights at all times.

- The researcher must look for the right kinds of peers and collaborators using this process, and collaborators (both specialist and non-specialist) must be selected with a great degree of care and caution, and must be drawn from all walks of life.
- The researcher may, wherever required and possible, alert others, and ask them to take up and analyze the problem, if necessary and collaborate with others on the issue. Therefore, the importance of the issue must be as widely disseminated as possible.
- Theorize. Theorize. Theorize. The researcher must theorize at all times, and must possess theorization and conceptualization skills as necessary. In a previously published paper, we had discussed the importance of various concepts such as abstraction, conceptualization, ideation, innovation, quantification, theorization, objectivization and disambiguation in the social sciences, and had explained all these concepts fairly in depth. We had also referred to them as the "pillars of social sciences research methods and techniques", or "the guiding principles or the guiding forces in the use or employment of social science research methods and techniques, and for much or most of social science research activity". These concepts and techniques can also naturally be borne in mind as a part of this paper as they are all interrelated to some degree.
- Propose out of the box solutions wherever possible. The readers may refer to the process of ideation which we had discussed previously. Ideation is a highly creative process of conceptualizing and implementing new ideas and solutions over various stages of the thought cycle such as innovation, development, and actualization. Out of the box thinking refers to an approach where researchers constantly and continuously strive to think radically or differently from other individuals, thereby generating new ideas and concepts in this process.
- The researcher must collate out of the box solutions with already existing solutions. Therefore, the researcher must never think in silos, and must collate and synchronize ideas and solutions. This can also be achieved and accomplished by means of collaboration.
- The researcher must propose deep-rooted inter-disciplinary solutions. Interdisciplinarity or interdisciplinary studies involves the incorporation of elements from multiple academic disciplines into one specific activity. This is contrasted with intradisciplinary studies which look at no more than one are, field or discipline of study. An extension of the term interdisciplinary is transdisciplinary studies which synthesize data from a widely variety of academic disciplines which are not directly related to each other.
- The researcher must propose deep-rooted cross-cultural solutions. Cross-cultural research design is extremely important here. The basis of cross-cultural research design is as follows: People in marginalized cultures may be more aware of issues that concern them, and can understand their own struggles and perspectives much better than oppressors. As an example, we can cite that anti-caste movements were led by Dalits, and anti-colonial movements were led by colonized peoples. Refer to our paper on cross-cultural research design here; we have referenced that paper in this paper.
- The research may combine this technique with other social sciences or non-social sciences frameworks, paradigms, and research techniques as and where necessary to amplify its impact on society. This is therefore, essentially a no holds-barred a approach.
- The researcher must also look for inadequacies and inconsistencies in social science or non-social sciences research frameworks, paradigms, and research techniques, as a part of this process, and remediate them wherever required.
- The researcher may then develop new techniques for overcoming inadequacies in social science or non-social science frameworks, paradigms, and research techniques and to identify how these can be improved.
- The research must also then proceed to implement new social science frameworks, paradigms, and research techniques as and when they are required.
- The research may also propose and include educational system improvements in social sciences frameworks and paradigms to implement and cascade new ideas or novel techniques.
- The researcher may also combine his own approaches, frameworks, and techniques with existing innovative thinking techniques. We had discussed some of these techniques previously, and present some of them again in this paper.
- The researcher may combine his proposals and techniques with intellectualism, including twenty-first century intellectualism which we had mooted previously. This will naturally also include an active search or hunt for problems, particularly social and cultural ones.
- The research must combine his approaches with science activism and non-science activism which try to bring about changes in society wherever required.
- The researcher must combine his approaches with "Structured apperception techniques for socio-cultural change", and theories of socio-cultural change, all of which we had discussed previously, and had reiterated them elsewhere.
- The researcher must then define and conceptualize solutions. The conceptualization of practical and workable solution is both a craft and an art which must be mastered through rigorous practice. Most of our publications on research methods can also help here, both directly and

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

indirectly, and well as existing best practices, tools and techniques.

- The researcher must also take all cultural factors into consideration, local and non-local as a part of cross-cultural research design. Again, the postulates of our paper on cross-cultural research design can help, along with a study of different types of emic perspectives, ethnography, structured and systematic fieldwork, and the participant observation method and technique.
- The researcher must also take all non-cultural factors into consideration, both non-local, and local especially where they mesh and interface with cultural and social factors.
- The researcher must then propose local-specific and generalized solutions as required. A solution may therefore be split up into two components wherever required.
- The researcher must then implement the proposed solution or solutions. This must be done carefully, and a suitable team of experts constituted for this purpose. It is quite natural that several challenges may arise during the process of implementation, but they must be suitably overcome by the means of suitable techniques such as brainstorming, and focus group discussions.

➢ *Enablers or Pillars of Empowerment or Dissemination*

The following are the core enablers or pillars of empowerment or dissemination, (which will naturally lead us to faster socio-cultural change) and these concepts have been reconciled with our several previously papers on socio-cultural change as well. These were referred to as the "ten enablers" as per our approach which we had referred to as the "Proactive-interactive-symbiotic approach to long-term cultural change", or simply the symbiotic approach to socio-cultural change. [18]

- The strength of governmental institutions, the legal framework etc: The strength of governmental institutions, the legal framework etc, would naturally play a major role in social and cultural empowerment in many societies. For example, the strength of governmental institutions and the legal framework is much stronger in India, than it is say, in Niger, or in Congo. This aspect, and this factor must be studied as a part of "Structured innovative thinking techniques for Social Sciences Research", and solutions to enhance this proposed, as it will greatly enhance and improve the social and cultural performance of societies.
- Technological empowerment: Some societies may be technologically more empowered than others. For example, in India, the smart phone revolution has already taken place, and hundreds and millions of people already own them. However, the percolation per capita of automobiles in India is far lower than in the USA, or even Malaysia for that matter. Therefore, techniques to boost the adoption of technology may be proposed while at the same time considering possible negative consequences such as pollution and environmental degradation. Therefore, a comprehensive and a multi-dimensional assessment of issues is one of the hallmarks of this approach.
- Educational systems and language policy: Educational systems and language policy may also have a major social and cultural impact. Read our five publications on linguistics, most particularly "Empowering 'Linguistic have-nots': Empowering 'Linguistic have-nots' in the interests of faster economic, social and cultural progress and development across cultures and societies" and "Developing cogent strategies for the lexical development of non-dominant languages: Empowering linguistic have-nots and maximizing linguistic performance".
- The cults, ideologies, thought worlds, and belief systems associated with a culture: We had defined and discussed the concepts of cults, ideologies, thought worlds, and belief systems in detail in our previously published papers. As a matter of fact, thought worlds, world views, mind-orientation, and cultural orientation all form a key and a core component of our several previously published papers on socio-cultural change. These must naturally be dealt with, and their impact reduced to the extent practically possible, if social and economic progress is to be achieved. This is because the presence of such belief systems may impede cultural growth and social progress.
- Economic policy and economic infrastructure: The economic policy of a government covers a wide variety of systems, which include systems of taxation, budgetary planning mechanisms, and provisions for adequate infrastructure. These cannot be built up overnight, they can only be built up over a period of time, and their absence will naturally impact social and cultural factors adversely.
- Social inclusivity and strength of social institutions: Social inclusivity can be achieved by abolishing all forms of inequality and social injustice. Social inclusion may be defined as the process of improving the participation of different socio-economic and socio-cultural groups in society and in the economy, by enhancing opportunities, providing a voice and access to resources to marginalized groups. Social institutions in this context could include non-discriminatory laws and non-discriminatory education systems.
- Physical infrastructure: Physical infrastructure in this connection, may include, roads, railways, ports, airports etc. More recently, the term infrastructure has also come to encompass and cover various aspects of digital infrastructure. Digital infrastructure comprises both hardware and software based components to seamlessly relay digital information in order to bridge the digital divide, and foster digital inclusivity.
- An assessment must also be made of a culture's value system: Cultural values mean the core principles or ideals (or deeply ingrained and shared values) that a culture or

[18] Introducing Anthropological Economics: The quest for an Anthropological basis for Economic theory, growth models and policy development for wealth and human welfare maximization Sujay Rao Mandavilli ELK Asia Pacific Journal of Social Sciences Volume 6, Issue 3 (April –June 2020)

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

society is based on. Readers may refer to our concepts of cultural orientation (as opposed to mind-orientation) which are quite apposite for this purpose. Examples of cultural orientation could include religious orientation, family orientation etc, and these are only typical; composite and diverse mind-orientations are common in the real-world. We also then have Hofstede's Cultural Dimensions Theory which is a framework that is used to understand the differences in elements of culture across countries. This typically results in country comparison tools, and lends itself to various other forms of downstream analysis.

- Harmony with nature: Harmony with nature is also important as it could decide and dictate the success of a society in the long-term. However, this aspect may be relatively less important in comparison with other aspects.
- Social security: Social security has increasingly become a buzzword these days. The importance of this concept may further escalate in future, and the presence or absence of social security may even distinguish developed societies from less developed ones. Simply put, social security is taken to mean the guarantee and protection that the government of a country provides to its citizens so that they may have access to basic health care and some basic food and income security, particularly in cases of old age, unemployment, invalidity or illness. We had discussed the characteristics of a good social security system in our paper on Anthropological economics. The presence of a good social security ensures stability to the citizens of a country, and enables them to put forth their best. This will naturally enhance social and cultural factors. Read our paper "Introducing Anthropological Economics: The quest for an Anthropological basis for Economic theory, growth models and policy development for wealth and human welfare maximization" for further conceptual clarity.

## IV. CHARACTERISTICS OF THIS APPROACH

The following are the characteristics and the essentials of this approach, and these characteristics and essentials we believe set our approach apart and differentiate it from other pre-existing approaches in the market. Needless, to say, it would constitute a vast improvement over them:

- Can be easily used by the layman. This approach can be used by the layman and expert alike, but is particularly simple enough to be used by the layman with minimal training. However, we believe that a high-quality end result would ensue in a majority of cases, even with minimal training and inputs.
- Encourages people to keep their eyes and ears wide open at all times. This approach encourages people to keep their eyes and ears wide open at all times, and look for lacunae in everything.
- Leads to a quantum improvement in innovation across societies and domains. This approach would naturally lead to a quantum improvement in innovation across societies and domains. That is why we have proposed it in the first place.
- Experts can also be naturally roped in, wherever required and necessary, as these techniques need not be driven by amateurs and novices alone. Therefore, implementation scenarios of this approach could range from the very simple to the extremely complex.
- Leads to more people friendly and people centric solutions. This approach would leads to more people friendly and people centric solutions as practical needs are always understood, and practical solutions implemented.
- This approach and technique can be disseminated widely in schools, colleges and universities, and can be used by students and less experienced researchers alongside more experienced ones. This approach and technique can also be formally taught in schools, colleges, and in universities such that it becomes widely disseminated in society in due course. At the same time, knowledge of it can also be imparted unofficially and less formally to the layperson.
- Other approaches can also be followed alongside this approach and technique, and we look forward to a plethora of new approaches being developed for both the social sciences and the non-social sciences, and used in conjunction with each other based on the situational need and the complexity of problem at hand.

Therefore, the fundamentals of our approach are as follows, and these must be borne in mind at all times:

➢ *Identification of the Problem as the First Step*

Our approach must almost always begin with the identification and the determination of a research problem. A research problem is usually defined as a definite or clear expression or a statement regarding any issue, problem or an area of concern, or any other condition of situation that can be improved upon through the application of research methods and techniques. It can also less commonly refer to a social phenomenon or a social concept that needs to be studied, analyzed or investigated. A lot has been written about how research problems are identified; however we beg to differ with some of them because service to society is seldom at the heart of research. All this must change during the course of the present century. Ideas such as literature review, though important, must bear in mind and acknowledge pressing real-world issues and problems. Problems also need to be conceptualized with some level of clarity, and conceptualizing skills, abstraction skills, and theorization skills can come in handy here. The initialization of dependant and independent variables can also be done at this stage, though we would imagine this would be less important at this stage. Sometimes pictorial and diagrammatic representations of problems are also made, and these can be taken recourse to wherever necessary and possible.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

The identification of the research problem is extremely important because it serves as the basis for the entire process of ideation and innovation and guides it in many significant respects. It also helps identify lacunae in society, and thereby guides the entire research process to close gaps and contribute to societal amelioration and improvement, and makes the lives of millions of people better in the process. It therefore also often leads to the generation of new knowledge and improves the social and cultural milieu as well through the adoption of novel, original, and entirely feasible and viable ideas. As such, our ideation and innovation process can follow standard scientific methodology wherever eminently possible and practicable. Therefore, robust models and theories can even be eventually built, and conclusions and inferences drawn in order to improve and better society. Along this all this, a critical analysis of all the dimensions of the problem or the issue, their social and cultural causes, their social and cultural implications along with a root cause analysis and a cause and effect analysis wherever necessary, may be carried out and executed. Readers may also refer to our paper on twenty-first century intellectualism with which our principles are inexorably tied and interlinked. Therein, we had proposed that intellectualism must be driven by objectives which must be defined and redefined (also refined) continuously in various contexts and situations, and in relation to real-world problems. This will need to be done by identifying issues that need to be remediated in different contexts and situations, and building up a database of issues which needs to be updated and modified from time to time. Therefore, objectives need to be tied to issues and problems that plague the world, a specific society, or a sub-section of society. [19] [20]

- *Slice and Dice Analysis*

A "Slice and dice analysis" which is also often known as multidimensional analysis, is a method and a technique that is used to analyze data from many different dimensions or angles. It is also sometimes referred to as dimensional analysis or multidimensional analysis. This technique involves breaking down a large volume of data into smaller components, or slices, (known statistically and mathematically as a data subset) based on certain specified criteria and then performing a systematic cross-examination and a cross-analysis through comparative analysis of views in order to gain deeper insights. This kind of a multi-faceted analysis and cross-examination of data is carried out from multiple perspectives, and may even be done repeatedly till a problem is solved, or till fresh perspectives and solutions are found. Therefore, from our perspective, an analysis can be done on the basis of various dimensions such as age, gender, occupational group, socio-cultural group, socio-economic group, income bracket, religion, region, state or territory etc, and differential analysis done.

Cultural attributes may also be identified, quantified, if necessary, and the underlying causes for differences understood. A root cause analysis must then be carried out, and the root causes of differentials systematically probed and analyzed. This may then be accompanied by as causal analysis, a cause and effect analysis accompanied by an Ishikawa diagram, and a fishbone diagram. This is akin to a dimensional analysis. In this case and connection, a differential is the demonstration of a difference, which varies according to changes in specific factors. This technique would be crucial to, and form a core component of our approach; for example, we may quantify scientific temper in a society, and track in by individuals in a specific age group by adopting a significantly large sample size. We may also analyze for example analyze educational accomplishments by religion, and total fertility rates by religion as well. As always, a root cause analysis needs to be performed along with a systematic analysis of differentials. Solutions to problems may then be developed through this technique, and if necessary, in combination with other techniques. This technique is extremely important from our perspective, and must also be read in tandem with our various papers on socio-cultural change. Variations (which naturally form the basis of analysis) could be either within a culture, or across cultures. Both forms of analysis have an enormous potential to change society for the better, and must form one of the pillars of our innovative approach. This approach may of course be accompanied by quantification techniques wherever necessary, though their utility in the social sciences must not be taken for granted. Therefore, this approach is in general widespread alignment with our previous concepts of isopedology – to bring on an equal footing, and manumittinomics or manumittology – the science of emancipation. [21]

- *Theory of Constraints*

The theory of constraints (which is abbreviated to TOC) is a poplar management paradigm developed by the famous Israeli management guru Eliyahu S. Goldratt (in his famous work "the goal", and later developed upon in other contexts in several of his other books such as the "critical chain") based on more rudimentary work carried out by Wolfgang Mewes, and according to which the throughput of a system comprising of a series of processes is limited by one or more constraints, and removing constraints which are akin to bottlenecks, increase the throughput or the quantities of materials passing through the system. Such constraints are typically removed sequentially and one after the other, in such

[19] White, Patrick (2017). *Developing Research Questions* (2nd ed.). Palgrave Macmillan. ISBN 978-1-137-49047-6

[20] Creswell, John W. (2014). *Research design : qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, California: SAGE Publications. ISBN 978-1-4522-2609-5. OCLC 815758208

[21] *Barenblatt, G. I. (1996), Scaling, Self-Similarity, and Intermediate Asymptotics, Cambridge, UK: Cambridge University Press, ISBN 978-0-521-43522-2*

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

a way that throughput is increased gradually. The key philosophy of the theory of constraints is "a chain is no stronger than its weakest link". [22] [23]

➢ *Theory of Paradoxes*

The commonly and widely used English term “paradox” is thought to have originated from the Ancient Greek words “para” which means "contrary to or beyond" and “doxa”, which means "opinion" or “thought”. This word was subsequently adopted in the Latin language as “paradoxum” from where it spread to modern European languages such as French and English. A paradox as the name suggests, is a logically self-contradictory statement (that is essentially in contradiction with itself) or in some case, a statement that runs contrary to well-attested observations and assessments. From our perspective, a paradox may occur within a culture (i.e. various dimensions of a culture), or across cultures. These may reduce or increase as time passes, and eliminating paradoxes essentially means removing cultural bottlenecks. We had proposed the theory of paradoxes in an earlier paper, and had reviewed types of paradoxes as well such as veridical paradox, falsidical paradox, and an antimony.

➢ *Root Cause Analysis*

Root cause analysis (also popularly and widely known as RCA in short) is as all-encompassing term that describes a wide array of approaches, tools, and techniques that are used to investigate the underlying causes of problems, and are also used to establish correlations between problems and their underlying causes. Out of the array and breadth of tools and techniques that are available, only a few are truly geared towards identifying deep and underlying hidden causes; the rest are merely structured problem solving techniques. Though this approach is widely used in science and engineering, it can be extended easily to social science research techniques as well. There is however, currently a disparity between tools used is various diverse fields of the physical, natural and social sciences. The gap and the chasm needs to be bridged in many cases. [24]

➢ *Cause and Effect Analysis*

Cause and Effect Analysis is an extremely popular and widely used technique that helps researchers identify all the likely causes of a problem orthogonally. This is a diagram-based technique, and its visual depiction and representation helps it easy for people to easily understand and come to grips with. The diagrams associated with this technique both directly and indirectly include different types of diagrams such as cause and effect diagrams, fishbone diagrams, Ishikawa diagrams, Herringbone diagrams, Fishikawa diagrams, and Pareto analysis.

➢ *What if Analysis*

What-If Analysis is the process of changing the values in of a component of a problem or the value of a parameter, in order to determine how those changes will have a ripple or a cascading affect on the entire. This technique is often used in spreadsheet, though it may have several other uses too. A useful variant is a goal seek analysis. This kind of an analysis tries to identify what the value of a parameter should be if an output variable needs to reach a specific value. From our perspective, this kind of an analysis is not as important as a slice and dice analysis or a dimensional analysis, but may be performed nonetheless, though only if and where applicable. In addition to other standard techniques, a “What if analysis” can also be performed as follows:

- Modify a component of a problem in order to assess the impact of such a modification.
- Improvize on a paradigm or a component of a problem in order to assess the impact of such an improvisation.
- Substitute a component of a problem by another component, in order to assess the impact of such a substitution.
- Combine two components of a problem with each other, or combine a component of a problem with an external component as necessary. Then, the researcher can systematically assess what impact such a combination can have.
- Adapt: Adapt a component or a solution to some other context, in order to see what modifications or improvements need to be brought about, or how the usage of the component can be diversified.
- Eliminate: Eliminate a component of a problem in order to assess the impact of the elimination of the component, and also to see whether the component was really required.
- Magnify: Magnify an aspect of a problem to see what impact it may have on the overall result.
- Minimize: This step is executed by minimizing an aspect of a problem or issue, and the resultant impact of it.
- Rearrange: This required rearranging various concept of the problem in new and novel, though meaningful ways.
- Reverse: This requires reversing or otherwise significantly altering the order of various components of the problem.

Along with these tools and techniques, critical thinking techniques and lateral thinking techniques must also be employed in all stages in the process. Critical thinking techniques lead to deep-rooted cogitation and critical reflection, (Through the use of 4C’s which are creativity, communication, collaboration and leadership, and character) while lateral thinking techniques require approaching issues from unconventional and non-standard perspectives in order to

[22] Goldratt, Eliyahu M. (1998). *Essays on the* Theory of Constraints. [Great Barrington, Massachusetts]: North River Press. ISBN 0-88427-159-5

[23] Eliyahu M. Goldratt. 2004. _The Goal: A Process of Ongoing Improvement, ISBN 978-0-88427-178-9.

[24] Wilson, Paul F.; Dell, Larry D.; Anderson, Gaylord F. (1993). *Root Cause Analysis: A Tool for Total Quality Management*. Milwaukee, Wisconsin: ASQ Quality Press. ISBN 0-87389-163-5

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24JUL481

come up with novel or unique solutions. We of course, also have other critical thinking techniques other those that were previously discussed, such as the Socratic method (wonder and mentally receive what the other person has to say, listen to their point of view and underlying premise, reflect, ponder, and cogitate, refine and repeatedly cross-examine, restate the new assumption resulting from the inquiry, and repeat all the steps until a thorough understanding is accomplished), and the STAR method of analysis (Situation, task, action and result). In lateral thinking, the status quo is always challenged, and the search for new and novel ideas and paradigms is actively carried out. [25]

## V. CONCLUSION

We had begun this paper by carrying out a brief overview of the concepts and postulates of our previously published paper which was called "Baking innovative and creative thinking techniques into scientific method: Towards innovative and creative techniques as an intrinsic part of scientific method for higher scientific and research output". We had published this paper in the early part of 2024. We then also reviewed and summarized various existing innovative and creative research techniques such as TRIZ, Scamper, and many more, and then proceeded to overview our approach which was called the "Structured innovative thinking techniques for Social Sciences Research" so that it could be suitably expanded upon here. We had also interfaced this paper with several of our earlier papers which included our papers on twenty-first century intellectualism, the eight pillars of social science research methods and techniques, and the theory of paradoxes as well. We believe that this paper will add enormous value to science in general, and catapult scientific activity to a much higher league. It is as such in tandem with our broader globalization of science movement, and can have many important downstream uses and applications.

[25] Chan, Janet (2011). "Towards a sociology of creativity". In Mann, Leon; Chan, Janet (eds.). *Creativity and Innovation in Business and Beyond: Social Science Perspectives and Policy Implications*. Routledge.