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Chief Editor's Note

Kerala Sociologist, journal of the Kerala Sociological Society is an academic publication platform for Sociologists in India particularly those in Kerala. Its fifty-one-year-long legacy reminds us of the relentless need to remain attuned to the demands of contemporary academic publishing. At the same time, the journal intends to equally compile the invaluable experiences and expertise of well-established scholars, alongside the humble and hopeful beginnings of budding scholars. It aims to facilitate social analysis and exchange of knowledge through quality sociological research.

In this biannual journal, the annual Kerala Sociological Conference special issue of this year explores the multiple dimensions of the relationship between 'Technology, Culture & Society'. The open issue covers diverse topics, ranging from the genealogy of professional Sociology in Kerala to the various contemporary social issues related to women, gender, elderly, tribes, youth and health. Along with empirical study-based works, which constitute most of the contributions, relevant reviews and analyses based on secondary sources are also given space in this volume. A rigorous and uncompromising approach regarding methodology, content and language on par with international publications is essential for the research papers to maintain high academic integrity standards. The challenges presented by the AI era and its possibilities must be considered in this regard.

As the official journal of the Kerala Sociological Society, *Kerala Sociologist* is committed to upholding professionalism and enhancing its value while remaining flexible enough in the face of challenges that may arise from time to time. There is growing recognition that the journal should adapt to the paperless culture of the digital age. We understand that its long-cherished

dream of becoming an indexed journal demands dedicated efforts with vision and perseverance.

At this juncture, as we publish our fifty-first volume, I acknowledge the remarkable teamwork and collective effort behind this venture. I express my deep respect and appreciation to the great pioneers and predecessors on the Editorial Board of *Kerala Sociologist* and seek wholehearted support from all of you for this common endeavour in the years ahead.

Dr. Amrutha Rinu Abraham

Chief Editor

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TECHNOLOGY, CULTURE & SOCIETY

*Dr. N.P. Hafiz Mohamad**

Distinguished guests, esteemed colleagues, and participants,

It is my great privilege to welcome you to the 49th Annual Conference of the Kerala Sociological Society, where we gather under the theme ‘Technology, Culture, and Society’. As we stand at the intersection of rapid technological advancement and profound social transformation, this theme invites us to reflect deeply on the ways technology both shape and is shaped by our cultural and social contexts.

Human beings have been technocrats since the dawn of human civilizations and are the only creatures in this world who can use artificial technology to make survival easier instead of just adapting to the environment. In other words, as all other species primarily adapt biologically to environmental changes,

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humans have developed tools, systems, and technologies to manipulate their surroundings, overcoming natural limitations. This unique relationship with technology has indeed defined so-called ‘human progress’ from prehistoric times to the present. Perhaps, both the biological superiority, as well as the limitations of human beings, necessitated technological inventions from time to time.

The concept of humans as technocrats suggests that our ability to create innovative artificial means to address challenges is a defining characteristic of our species. From the invention of the wheel to the digital age, technology not only facilitates human survival but actively defines societies, economies, and cultures. As we pass on through different historical eras—such as the agricultural revolution, industrial revolution, and now the digital revolution—technology becomes the primary defining force of change.

Technology, therefore, both in its material and non-material forms, plays a critical role in shaping and changing cultures and societies. It has become the most decisive and determining force of human life. The technology of a specific historical period defines and shapes the very life of human beings. In other words, technological innovations reshape human capabilities and societal structures. Exploring the influence of how specific technologies at different historical periods influenced culture and societal structures is very curious. Technology has great implications for our psyche, attitude, social interactions, and inter-relations, and even physical makeup. As technological advancements have been a major factor in social change, culture has influenced the development, adoption, and ethical considerations of technology. This relationship is becoming even more complex in the modern digital era, where rapid technological innovation is reshaping every aspect of life. In the present era of Artificial Intelligence (AI technology) and genetic engineering, concerns about

technology overpowering humans are increasingly prevalent. As we go deeper, we find that technology does not merely alter society; it often makes up society. It becomes ingrained into the socio-political and cultural settings from which it emerges. Thus, technology is not only a human product but also defines the very nature of human existence. It has attained a reified status in human life as understood in Marxian terms. Further, technology defines our relationship with nature. It raises fundamental questions about sustainability—both for society and the environment. So, technology, culture, and society are deeply entangled, with dynamic and complex ways of reciprocal influence.

The sociology of technology, therefore, is a vital field of sociological inquiry. It examines the complex relationships between technology, society, and culture, and recognizes that this interaction is not a simple, one-way process. The discipline of Sociology itself is to be viewed as the product of efforts to address the profound changes and challenges created by modernity and technology during the 18th and 19th centuries. Therefore, technology does not just influence society; it becomes an integral part of it. In light of these profound dynamics, we have chosen ‘Technology, Culture, and Society’ as our theme for this conference, inviting discussions on how technology continues to reshape societal norms and values.

Our conference is structured around a series of key sub-themes that offer a rich terrain for exploration:

Conceptual Framework and Theoretical Approaches:

This sub-theme encourages us to examine the underlying theories that explain the relationship between technology and society. How do we conceptualize the role of technology in our social lives, and what theoretical frameworks guide our understanding?

Political Economy of Technological Change:

Technological change is not neutral. It is deeply embedded in

political and economic structures, which influence how technology is developed and who benefits from it. This sub-theme invites us to critically analyze the political economy that drives technological innovation.

Technology in/and Teaching Learning: The integration of technology in education has revolutionized teaching and learning. However, it also raises questions about access, equity, and the future of educational practices. We will explore how technology is reshaping the learning environment.

Technology, Addiction, and Youth Culture: Technology plays an increasingly dominant role in the lives of young people. While it opens up new avenues for creativity and connection, it also presents challenges such as addiction and the reshaping of youth culture.

Gender, Sexuality, and Technology: Technology interacts with and impacts our understanding of gender and sexuality. This sub-theme will examine how technological innovations both challenge and reinforce traditional gender roles and sexual identities.

Migration, Diaspora, and Information Technology: Migration and diaspora communities are increasingly mediated by technology. How does information technology shape the experiences of migrants, and what are its implications for identity, belonging, and transnational networks?

Digital Divide and Social Justice: Access to technology is not equal. The digital divide remains a significant barrier to social justice, raising important questions about equity, opportunity, and inclusion in a digitally-driven world.

New Social Movements and New Media: Social movements have harnessed the power of new media and digital technologies to drive change. This sub-theme will explore how

these movements challenge existing power structures and create new forms of collective action.

Digital Technology & Innovation for the Marginalized:

How can digital technology be leveraged to empower marginalized communities? This sub-theme focuses on innovations that can address inequality and provide opportunities for those who have been historically disadvantaged.

Industrial Revolution and Work Culture: The ongoing digital revolution is transforming industries and work cultures. We will discuss how technology is changing labor markets, workplace dynamics, and the nature of work itself.

Healthcare Technology and Public Health: Technology has the potential to revolutionize healthcare and improve public health outcomes. However, it also raises ethical and accessibility issues that need to be addressed.

Environmental Justice and Sustainable Technology: Finally, we cannot ignore the environmental impact of technological advancement. This sub-theme addresses the intersection of technology and environmental justice, focusing on how sustainable technologies can support ecological balance while promoting social equity.

As we move on to these discussions, I encourage each of you to engage critically and thoughtfully with the ideas and questions raised by these sub-themes. Our role as sociologists is not only to analyze and interpret these complex dynamics but also to envision pathways toward a more just, equitable, and sustainable future.

Let us remember that technology is not an isolated force. It is embedded in the very structures of our societies, influencing—and being influenced by—the cultures, economies, and environments in which we live. In an increasingly interconnected

world of complex technology, societies will need to deliberate on the ethics and the balance between innovation and the protection of human dignity. The choices we make today will play a decisive role in shaping the future of technology, culture, and societal well-being. Through these deliberations, we may explore pathways to ensure that technology serves the broader goals of human dignity, well-being, social justice, and environmental sustainability.

I wish you all a fruitful and enriching conference.

Thank you.

The Question Concerning Technology - Enhanced Learning
(TEL)

*Arun V. B**
*Barun Mahaldar** &*
*Rachel Philip****

Abstract

Technology Enhanced Learning (TEL) involves the application of digital tools to enhance learning and includes references to technology aids such as ‘smartboards’, ‘mobile learning’, ‘digital game-based learning’, etc. While the presence of technologies in learning contexts is not something new, an important feature of contemporary discourse is an unrivaled confidence in technological interventions as the main ‘solution’

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for educational problems such as access to quality education, outmoded practices of teaching and assessment, improving learner participation and engagement, individual attention and feedback etc. This paper examines whether this discursive framing of TEL is related to the domains from which research is published on this topic. A bibliometric analysis is undertaken to compare the frequency of TEL journal abstracts published in Scopus and Web of Science databases with a view to map the disciplinary domains which produce research on this topic. The findings indicate that research on TEL is predominantly done by Science Technology Engineering and Mathematics (STEM) subjects, with computer science and engineering research areas contributing more papers to this domain as compared to humanities and social sciences. The paper draws on the theoretical work of Martin Heidegger, Neil Postman and C. Wright Mills to explore the ramifications of a techno-positivist and techno-utopian hegemony with regard to TEL. A case is made for the importance of framing research questions rooted in a sociological imagination in order to enable a more robust and situated research paradigm that explores the contribution of TEL in shaping new understandings of the learner, the pedagogue and the contexts as well as practices of knowledge generation.

Keywords: *Technology Enhanced Learning, Scopus, Web of Science, STEM.*

I. Introduction

The predominant contemporary representation of technology in education is as the solution to what J.P. Naik (1979) called the ‘elusive triangle’ in education- the challenge of simultaneously addressing ‘quantity’ (access), ‘quality’ (content in relation to the aims of education) and ‘equality’ (the imperatives of social justice in a democracy). The term ‘Technology-Enhanced Learning (TEL) specifically refers to learning experiences

enhanced by digital technologies. A bewildering array of terms presently nest under this umbrella including web-based learning, computer-mediated instruction, virtual classrooms, online education, e-learning, e-education, smart classes, human-computer interaction, open and distance learning, mobile learning, blended learning, hybrid learning, cyberspace learning environments, personalized tutoring, distributed learning and so on (Guri-Rosenbilt, 2005; Njenga and Fourie, 2010).

The representations of Technology Enhanced Learning Environments (TELE) are notable for their utopian and techno-positivist quality, i.e. the belief that technology will revolutionize society and that its benefits would accrue to the diverse stakeholders in education. These are positioned as giving greater control to students over the process of gathering knowledge and tailoring their subsequent learning (Laurillard, 2009, as cited in Sen et Leong, 2019). TEL also extends the promise of making the process of teaching and classroom management easier. Teachers are invited to use new teaching tools that excite the learner's five senses, visual (using images or videos through projection), auditory (through podcasts or audio), and kinesthetic (enabling students to learn through touch-enabled games on displays or in augmented or virtual realities), with a view of improving participation and classroom engagement (Sen & Leong, 2019). Such affordances of new technologies are lauded for their potential to enable and strengthen "inclusive education" by accommodating the differences in learning styles and also allowing students with a particular sensory impairment to learn through other senses. These technological interventions are seen as neutral and positive developments for human progress. Similar discursive trends are also visible with respect to advancements in artificial intelligence and the muted discussion of its biases including those related to ethical and privacy concerns, racial and gendered algorithms etc.

Over the following five sections, this paper argues that it is necessary to ask more critical questions with respect to Technology-enhanced learning (TEL). Its main argument is that a perspective shaped by a sociological imagination might offer a balanced view of its promise of ‘transforming education’ as well as how existing educational inequalities may be exacerbated (rather than mitigated) through an uncritical adoption of new technologies in various learning contexts. The first section of the paper presents a conceptual framework that draws on the work of Neil Postman (1992), Neil Selwyn (2010), and Martin Heidegger (1977) on the nature of ‘technology’ to interrogate the academic questions that tend to be posited with respect to TEL. This is followed by the Methodology section highlighting the bibliometric analysis of the abstracts from the “Web of Science” and “Scopus” databases to explore the distribution of disciplines that produce studies on TEL. Subsequently, the findings of the bibliometric analysis concerning the lacuna of sociological perspectives and the predominance of techno-positivist and techno-utopian perspectives in this research domain are presented. The paper concludes with the promise of the ‘sociological imagination’ which is presented for framing new research directions in TEL.

II. Conceptual Framework

Technology has always played a role in the classroom. Even basic learning amenities like chalk and blackboards can be counted as technologies (O Malley, 2006). What is new is that the mere presence of digital technologies in the classroom is often counted as a proxy for ‘quality’ education or improved learning. This kind of blind belief has also been increasingly analyzed as the result of “technopositivism,” a heavily marketed ideology that perpetuates a naive faith in the promises of technology (Goldberg and Riemer, 2006). A major lacuna in terms of the representations of the value/benefits of new technologies in diverse learning contexts has been an assumption of their neutrality and a

representation of ‘technologies’ from a mere instrumental perspective.

In the inaugural chapter titled “Judgement of Thamus” of his seminal work “Technopoly,” Postman (1992) points to the ‘enchantment’ of new technologies, such that the broader cultural and behavioural transformations resulting from these innovations may be overlooked. He draws on Plato’s depiction of the conversation between Thamus (the ruler of Egypt) and the god of invention, Teuth (in *Phaedrus*) on writing as a parable on the nature of technology itself. Thamus argues that instead of improving memory, writing might cause a dangerous reliance on external symbols, ultimately weakening the use of internal memory skills. Postman represents the figure of Thamus as providing a critical standpoint that does not fall prey to either the trap of technophilia or technophobia.

To take an example, while digital education is represented as breaking down the difference between formal and informal learning, this perspective does not adequately consider the infrastructure quality and resource accessibility, especially in the context of the global South. One such issue occurs in the form of “digital exclusion”, where developing countries consist of the “information-haves” and “information-have-less” (Selwyn, 2009). Another point that Selwyn raises is the issue of whether the “connectedness” of the internet should necessarily facilitate the constant state of being connected (Selwyn, 2009). This applies to all digital technologies involved in education, especially those designed for young learners. Such a constant state of connectedness solely in the digital can be counter-intuitive, as people dip in and out of digital spaces daily and hence, it is also necessary to address the issues concerned with “disconnectivity” (Selwyn, 2009). In this context, sociological examinations of the claims of “new and improved forms of education” due to internet connectivity are pertinent (Selwyn, 2009), especially whether the

mere fact of ‘internet connectivity’ equates to promotion of democracy and empowerment. Top-down approaches to the integration of technology are “often centered on concerns and interests of the institution”, with managerial concerns about the rationalization of spending costs, etc. taking priority over the learner’s needs and learning processes (Selwyn, 2009). Additionally, very often teachers tend to be the passive ‘objects’ of technology interventions, who may not have agency in deciding the modalities of technology integration in the classroom. The introduction of new technologies in the classroom also brings up the issue of surveillance of both the teachers and the learners. Surveillance pervades within and outside institutions, which has resulted in varying degrees of resistance from these groups themselves. Selwyn (2009) notes that new technologies also permit ‘sousveillance’ or the counter critique of the distribution of power in education contexts by the learners. Even as data protection laws make progress towards transparency, questions still arise about the TEL components such as Online Polling Applications, Clickers, M- Learning, and other interfaces with social media and to what extent they can be effective, trustworthy tools to be used in the classroom.

In this context, flagging the complexities of technology and its intricate connection to the nature of humanity itself, the German philosopher Martin Heidegger challenges the value of a mere instrumental perspective of technology in his seminal essay, ‘The Question Concerning Technology’. Heidegger (1954) stated that:

the essence of technology is by no means anything technological. Thus we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or

deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology (p. 4).

Therefore, there is a need to pay greater attention to the questions that we ask regarding the nature of technology, its impact and contributions concerning teaching, and learning and the very nature of knowledge itself in contemporary times.

III. Methodology

An important objective of this paper is to map the disciplinary domains which undertake research on TEL. In order to do so, the ‘literature review’ would seem to be an obvious choice of method, to ‘challenge established assumptions and norms of a given field or topic, recognize critical problems and factual errors and stimulate future scientific conversations around that topic’ (Krauss et al, 2022). However, if a topic has been conceptualized by various groups of researchers within diverse disciplines, it is challenging to develop a full systematic review of its development (Snyder, 2019). This point is important in studying TEL because advances in the field have not only originated from within the domain of education research.

We set out to investigate the disciplines where TEL figures prominently as a topic of by undertaking a ‘bibliometric analysis’, i.e. the use of statistical analysis to study publication patterns (McBurney and Novak, 2002; Donthu et al, 2021). Mongeon and Paul-Hus (2016) trace how large-scale bibliometric research was enabled by the genesis of the Science Citation Index (SCI) in 1963 and its subsequent incorporation into the Web of Science (WoS) alongside two other indexes: the Social Science Citation Index (SSCI) and the Arts and Humanities Citation Index

(A&HCI). The important feature of these databases is that they include all article types and index all authors, institutional addresses, and bibliographic references for each article (Mongeon and Paul-Hus, 2016, Singh et al, 2021). The second database used in this study is Scopus. This complements results from WoS, providing a broader overview of our findings. For comparison, the complete WOS database goes all the way back to 1945, while Scopus only goes all the way back to 1966. This means that WOS has more extensive coverage than Scopus. Since neither Scopus nor WOS covers every possible topic, they work well together (Burnham, 2006). However, studies suggested that there was a better representation of Social Science Research in the Scopus database (Monjeon and Paul Hus, 2006, Singh et al, 2021), which was an important factor in the inclusion of this database in our study. WoS was further employed due to its in-built “Advanced Search” features, allowing for narrower, exact searches across a large corpus of abstracts recorded in the database. Since this feature is not available for Scopus, the Voyant text analysis tool was used to conduct a more refined bibliometric analysis of the database.

While deciding to use these two databases, we were also aware of a few limitations of this approach. A comparative study on Web of Science and Scopus by Mongeon and Paul-Hus (2016) addresses existing biases of the former database since 2006 regarding its overrepresentation of certain countries such as the United States, United Kingdom, Germany, Switzerland, Netherlands and France and favours the English language as well. This also stands true for the journal coverage in Scopus. Using WoS or Scopus for research evaluation may introduce biases that disproportionately benefit Natural Sciences, Engineering, and Biomedical Research, while potentially disadvantaging Social Sciences, Arts, and Humanities (Mongeon and Paul-Hus, 2016). On the flipside, the coverage of the two databases differs vastly,

especially with the Arts and Humanities having the lowest overlap, offering a widespectrum base in order to scope the domains where TEL figures prominently in emerging research. However, conducting similar search operations across multiple databases and not restricting it to the two popular databases could validate these findings further.

IV. The Predominance of The ‘Technical’ Perspective

We employed specific keywords such as “TEL”, “Technology Enhanced Learning” and a common variation namely “Technology-Enhanced Learning” to facilitate the systematic data collection process across both databases. As a result, we received 327 abstracts (Web of Science) and 896 abstracts (Scopus) related to these three main keywords. The TEL abstracts and their distribution across Research/Subject areas (“Research Areas” in WoS filters, “Subject Areas” in Scopus filters) were tabulated and sorted using Web Of Science and Scopus Filters on 04.04.2024. Given the nature of the diverse range of research/subject areas, broader categories are introduced for the efficient presentation of data. While the categories of Science Technology Engineering and Mathematics (STEM) disciplines and Medicine and Allied Sciences are relatively straightforward, WoS and Scopus classify the Humanities and Social Sciences disciplines differently. For example, in the context of WoS, the category of “Humanities and Social Sciences” is further segregated into the subfield of “Education Educational Research” owing to the general nature of TEL. In contrast, indexing in Scopus does not allow the breakup of ‘social sciences’ into various subfields. Additionally, some fields like Psychology and Economics are indexed separately in Scopus, even though they are part of the Social Sciences. The classification of abstracts belonging to the Management Sciences, that intersect with Economics for example were added to the category called Management Studies. Therefore, the final categories into which the abstracts were classified apart

from the two already mentioned before (ie. STEM and Medicine and Allied Sciences) also included Education, Humanities and Social Sciences and Interdisciplinary fields.

Table 1 captures the distribution of journal abstracts in WoS. It is notable here STEM fields contribute largely in numbers compared to other broader disciplines, dominated primarily by Computer Science (73.1% of the STEM contributions to TEL research). Following STEM is Education, with 168 abstracts related to TEL. Notably, there arises a poor representation of Social Science contributions in WoS with 24 abstracts. Of these Social Science abstracts, Psychology is the discipline that contributes to 41.7% of Humanities and Social Science abstracts.

Table 1: Distribution of “Research Areas” across broader categories from Web of Science related to TEL

| Broader Research Domains | No. of Journal Abstracts in Constituent Disciplines | Total number of Abstracts |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Science, Technology, Engineering and Maths | Computer Science (128), Engineering (14), Environmental Science Ecology (12), Science Technology Other Topics (9), Telecommunications (5), Imaging Science Photographic Technology (4), Information Science Library Science (4), Chemistry (3), Instruments Instrumentation (1), Mathematics (1) | 181 |
| Education | Education, Educational Research (168) | 168 |
| Management Studies | Business Economics (3), Operations Research Management Science (2). | 5 |

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| Medicine and Allied Sciences | Health Care Sciences Services (10), Public Environmental Occupational Health (8), Dentistry Oral Surgery Medicine (6), Medical Informatics (5), Research Experimental Medicine (4), Life Sciences Biomedicine Other Topics (2), Nursing (2), Oncology (2), Anesthesiology (1), Biochemistry Molecular Biology (1), Cell Biology (1), Dermatology (1), Pharmacology Pharmacy (1), Psychiatry (1), Rehabilitation (1), Sport Sciences (1), Substance Abuse (1), Surgery (1), Veterinary Sciences (1) | 50 |
| Humanities and Social Science | Psychology (10), Geography (5), Linguistics (3), Art (2), Philosophy (2), Social Sciences Other Topics (1), Theater (1) | 24 |
| Inter-disciplinary and Multi-disciplinary | Communication (1) | 1 |

Table 2: Distribution of “Subject Areas” across broader categories from Scopus related to TEL

| Broader Research Domains | No. of Journal Abstracts in Constituent Disciplines | Total number of Abstracts |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Science, Technology, Engineering and Maths | Computer Science (613), Engineering (151), Mathematics (119), Environmental Science (16), Energy (12), Earth and Planetary Sciences (5), Chemical Engineering (4), Materials Science (4), Physics and Astronomy (4), Chemistry (3) | 931 |
| Humanities and Social Science | Social Sciences (480), Arts and Humanities (33), Psychology (18) | 531 |
| Management Studies | Economics, Econometrics and Finance (6) | 6 |
| Medicine and Allied Science | Medicine (39), Biochemistry, Genetics and Molecular Biology (8), Health Professions (7), Nursing (5), Pharmacology, Toxicology and Pharmaceutics (5), Dentistry (4), Veterinary (1) | 69 |
| Inter-disciplinary and Multi-disciplinary | Decision Sciences (24), Multidisciplinary (3) | 27 |

Table 2 represents the distribution of TEL abstracts in Scopus. Similarly in Scopus, STEM disciplines boast 931 abstracts (compared to WoS’ 168). Again as in the case of the WoS database,

Computer Science is the main contributor (65.8%). What is interesting here is the significant presence of Social Science Abstracts, standing at 480 (30%).

The fields which appear consistently across the two tables within STEM are Computer Science (73.1% and 65.8%), Engineering (8% and 16.2%) and Environmental Science (6.9% and 1.7%), indicating active TEL research in STEM-related domains as of 04.04.2024. Furthermore, research in TEL is also moving towards an Interdisciplinary and Multidisciplinary approach (2.9% and 2.1% across broader fields), despite the smallest number of abstracts among all the four broad categories. Figures 1 and 2 present the distribution of the abstracts in WoS and Scopus respectively. An important observation that emerges from this comparison is the notable presence of Computer Science with the broad predominance of STEM as a sizable contributor of research articles of TEL.

Using Voyant, an attempt was also made to explore if it was possible to find specific abstracts among the above that looked at TEL from a sociological point of view. Each of these databases allow for the export of specific data (Title, Abstract, Keywords) to a plain txt file, which is then uploaded to Voyant. The Keywords “Sociology” and “Sociological” are used to find specific abstracts that looks at TEL in the realm of sociology. The data from WoS returned no results on the two keywords. Scopus on the other hand, returned eleven results with the two keywords. Using the contexts tool of Voyant, which locates the Keyword in its respective context of abstracts and author keywords, it is found that there are a total of 10 studies on TEL which contains sociological inquiries or its application. Although more than the WoS results, the numbers are comparatively minuscule in nature considering the 480 Scopus documents in “Social Science”, where the 10 abstracts accounts only for a meagre 2.1% of the social science papers. It is not possible to draw definitive conclusions

from this exercise since it also depends on how authors categorize their studies and the nature of the keywords used in indexing the articles in the database. We use this data to make the limited observation that ‘sociology’ and ‘sociological’ are not predominant frames of enquiry within the domain of TEL.

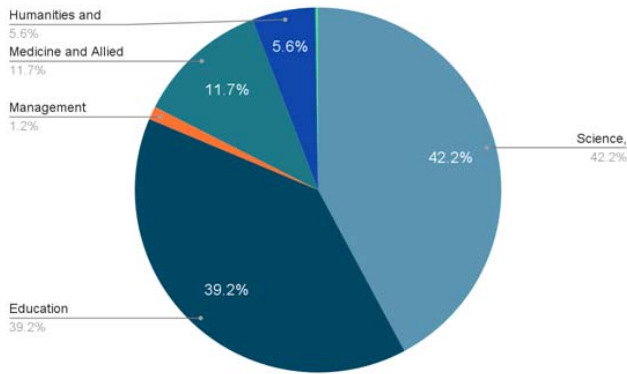


Figure 1. Distribution of “Research Areas” across broader categories from WoS related to TEL

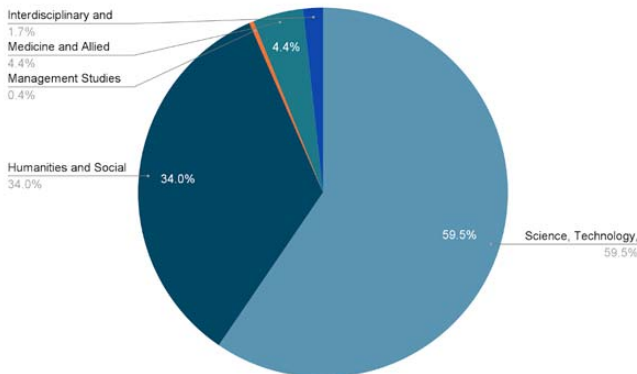


Figure 2. Distribution of “Subject Areas” across broader categories from Scopus related to TEL

V. ‘The Promise’: Towards A Sociological Imagination of TEL

Our contention is that one reason for the dominance of technopositivist attitudes could be the predominance of STEM fields in generating and shaping research agendas on TEL. We make this argument, drawing on Apple (1991), because the more new technologies transform our imaginaries of the classroom, technical logic could likely replace ‘ethical and political understanding’, with an increased focus on ‘technique’ and less on ‘substance’. A primarily ‘technical’ entry point into thinking about educational conditions obscures that technologies are not just assemblages of machines and their accompanying software. To call ‘technopositivism’ or ‘techno-utopianism’ an ideology is to locate it as a discourse created, propagated, and channelled repeatedly by those who stand to gain either economically, socially, politically, or otherwise, without regarding the tradeoffs associated with the technology to the target audience.

One would be surprised at how early and how contemporaneously this discourse was present in the policy landscape of Indian education. For example, the 1986 National Education Policy proposed a plan to expand ‘computer literacy programs’ to cover all higher-secondary schools by 1991, secondary schools by 1995, and elementary schools in the long term. The development of India’s NPTEL (National Platform for Technology-Enhanced Learning), which was an initiative to provide access to the quality lectures provided by the IITs and IISc, was almost simultaneous with the development of MIT’s OpenCourse Ware and the development of Massive Open Online Courses (Philip and Upadhyay, 2023).

The National Education Policy (2020) also pays considerable attention to the adoption, use, and management of

the affordances of modern technologies for improving teaching and learning in the classroom, for removing language barriers, for equitable access for students with special needs, for teacher training and for streamlining administrative processes. The policy lays heavy emphasis on the need for research that examines the place of disruptive technologies in the context of education. This concern is placed within a large context of global competitive processes, with the policy arguing that *'Our present education system's inability to cope with these rapid and disruptive changes places us individually and nationally at a perilous disadvantage in an increasingly competitive world'*. The example that is provided is the redundancy of burdening students at all levels with factual and procedural knowledge in a context where computers *'have surpassed humans in leveraging'* such knowledge and neglecting to build their higher-order competencies (NEP, 2020). The policy also highlights that contemporary education planners as well as all stakeholders in education have to acknowledge that *'new technologies involving artificial intelligence, machine learning, blockchains, smart boards, handheld computing devices, adaptive computer testing for student development, and other forms of educational software and hardware'* will challenge conventional assumptions about what and how children learn. (NEP 2020).

What is critical in these policy narratives are instrumentalist assumptions about education technologies as passive, obedient tools completely subject to the user. They encourage the belief that the real problem is the lack of understanding of the forms and functions of these new technologies and their potential application in the domain of education (Okan, 2007). They hide a deeper narrative about an increasing withdrawal of public sector spending on education while amplifying market-driven reforms of schools and universities (Jain, 2018; Beteille 2021). As Selwyn points out, the dominant forms of digitization that *have* taken hold in education seem primarily to reinforce and amplify

“corporate reforms” of schools and universities – supporting the creeping standardization of practice, reliance on metrics and data-driven accountability, and increased emphasis on market-led efficiencies (Selwyn, 2023).

In these debates around TEL, teachers tend to play a marginal role. More often than not, the teacher is often represented as an obstacle with respect to TEL adoption, with the attitude of educators towards technologies highlighted as an important influence on the decision to use or not to use specific technologies in the teaching process (Kreijns, Vermeulen, Van Acker, & Van Buuren, 2014; Raghunath, Anker, & Northcliffe, 2018). The lack of the pedagogical competence of teachers to organize and manage TEL has therefore begun to find a place in the academic and policy imagination. It is acknowledged that introducing technology in the classroom is not a mechanical add-on activity, where, for example, the teacher replaces a traditional item like a notebook with an iPad, a tablet, or an e-reader. There is a growing consensus that the nature of knowledge required by teachers is how technology should be integrated into their complex, multifaceted, and situated contexts. Such knowledge (eg. as in models like (Technological, Pedagogical and Content Knowledge (TPACK)) (Mishra and Koehler, 2009) however do not usually encourage teachers to critically engage with philosophical or sociological questions about the nature and relevance of technology. Rather they promote technopositivist attitudes as demonstrated by Valtonen et al (2020) in their research on the perspectives of pre-service teachers on TPACK. At the same time, the material realities of schooling in countries like India and the actual working conditions of teachers reflect that the enabling conditions for technology-supported education such as the availability of appropriate resources, teacher capabilities, and curricular adaptations at present do not uniformly exist across various states in the Indian public education system (Quest Alliance, 2021, Philip, 2023). Nevertheless, when teachers do come on board,

they tend to be techno-positivist in their approach to ICT and models like TPACK, as demonstrated by Tomczyk et al (2020) in their study of teachers in 8 countries, namely Bolivia, Brazil, the Dominican Republic, Ecuador, Finland, Poland, Turkey, and Uruguay.

Technologies are built to accomplish very specific goals that might yield good results with some tasks but not so much for others. For example, Okan (2007) notes the ambiguities associated with the use of visuals in educational software, which is widely touted to promote immersive learning. However, the fact that the relationship between these displays, the demands of the tasks, and the learner's prior knowledge, cognitive abilities, and experience, tend to be obscured. These kinds of inherent biases in technology are likely to result in incompatibility between the tasks and tools as well as between technology and pedagogy (Zhao, Pugh, Sheldon, & Byers, 2002, cited in Okan 2007). Therefore pre-service and in-service teacher training also needs to acknowledge such gaps in the nature of TEL as well.

Revisiting the Heideggerian perspective on the essence of Technology in TEL and Postman's ideas of Technopoly reminds us of a critical perspective that enables an analysis of the cultural transformations that seek to constitute the entire social world as an object of control. In particular, an important flipside of the TEL is the generation of massive amounts of data about learners, teachers, and micro-interactions in the classrooms including speech, gestures, movements etc. that convert complex classroom interactions into bytes that are raw materials for further processing (or a 'standing reserve' in Heideggerian terms). In the opening chapter, "The Promise," of his seminal work "The Sociological Imagination," C. Wright Mills (2000 (1959)) elucidates the common predicament of individuals who struggle to perceive the shifts in their circumstances through the lens of broader historical and institutional dynamics. The focus on 'personal' or 'private'

dimensions of the fluctuations that individuals experience fluctuations in their employment status, economic standing, or personal fortunes does not equip one with the conceptual tools to comprehend these changes within the context of societal transformations or structural contradictions. Extending this argument to the context of the near-hegemonic techno-positivism associated with TEL, one may argue that sociological imagination is critical for the diverse stakeholders associated with contemporary school and higher education (students, teachers, parents, administrators, etc.). By integrating personal experiences with historical context and societal forces, the sociological imagination offers a framework for comprehending the intricate connections between individual lives and broader social phenomena.

The Covid pandemic demonstrated the need for inclusive education policy initiatives in an increasingly fragile world where outbreaks of disease, the experience of climate change, and the associated rise of natural disasters, war and ethnic violence, nutritional inequalities, and crippling poverty, migration, etc. While one accepts that educational systems of countries of the Global South like India cannot rely only on traditional methods of teaching students, rather than an uncritical embrace of TEL, more in-depth sociological perspectives need to frame such interventions to better comprehend their impact. In this context, it is imperative to move towards a more critical theory of 'Technology-enhanced learning', one which approaches the domain as a contested field' (Feenberg, 1991) where individuals and social groups struggle to influence and change the technological design, uses and meanings.

Conclusion

The bibliometric analysis across Web of Science and Scopus shows that TEL-related articles are predominantly driven by STEM fields, specifically computer science, engineering, and environmental sciences. The studies by Valtonen et al. (2020) and Tomczyk et al. (2020) strengthen the assertion that there exists a technopostivist attitude among teachers while implementing ICT and TPACK in classrooms. Research driven by sociological imagination is necessary to identify and understand the change in academia driven by technology. The presence of the works of giants like Niel Postman, Niel Selwin, Martin Heidegger, and C.W. Mills has allowed us to see this far by being able to sit on the shoulders and see gaps and changes, which motivates the necessary further research.

Acknowledgement

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**Artificial Intelligence and Future of Classrooms: A
Narrative Review on Technological Integration in
Education**

**Anjali Merin Joseph* &
L T Om Prakash****

Abstract

Over the past two decades, the rapid pace of technological advancement has transformed numerous aspects of society, with cybernetics, particularly artificial intelligence (AI), playing a pivotal role. This narrative review explores the implications of artificial intelligence in the educational sector, focusing on the sociological impacts of integrating AI into classrooms and reshaping the nature of teaching and learning. The recent introduction of IRIS, an AI teacher developed by Makerlabs Edutech Private as part of the NITI Aayog's Atal Tinkering Lab project, serves as a case for this inquiry. By analysing existing literature and current developments, this study aims to contribute

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to the understanding of AI's role in redefining educational paradigms, especially in the context of social science. This paper investigates how AI in education influences social dynamics, power relations, and the role of teachers. It explores the potential benefits of AI, such as personalised learning and increased accessibility for diverse learners. It also critically analyses potential drawbacks, including the deskilling of teachers, depersonalising the learning experience, over-reliance on technology, and issues surrounding data privacy and student agency. This review aims to provide a comprehensive understanding of the transformative effects of AI on educational environments and contribute to the broader discourse on the role technology plays in shaping the future of education from a sociological perspective.

Keywords: *Technology, Artificial Intelligence, Education, Classroom Teaching, Social Science.*

The origins of artificial intelligence (AI) trace back to the 1950s, marked notably by the release of Alan Turing's influential paper 'Computing Machinery and Intelligence,' and the term itself was coined by John McCarthy during a 1956 summer workshop at Dartmouth College (Gefen et al., 2021). Kaplan and Haenlein (2019) define Artificial Intelligence (AI) as the ability of a system in interpreting external data accurately, learning from this data, and adjusting its learning flexibly to achieve particular tasks and goals. Artificial intelligence is surpassing new levels each day, and the transformation that results from this is irreversible. Computer technology and robotics have crossed beyond the imaginations shared by Isaac Asimov's¹ science fiction stories.

Earlier, technological knowledge was limited to a few, mostly the scientists and inventors in the science and technology field. Within a span of a short time, technology outgrew and artificial intelligence got a speedy and steady development over

the last few years. Access to technology widened over the same time, and the ones with data, the humans got closer to the modern technological advancements enriching and nurturing each other, the former providing vast amounts of data to the feed of AI and AI mechanisms assisting humans, lessening their intellectual labour. Human beings have started to become more and more comfortable with technology, including AI. At present, the majority has reached a phase where it has become a part of their body, a part of their self as if humans do not have an existence without their digital selves, the simulation of themselves that has been constructed based on their digital interactions.

The advent of popularising AI technology started some time ago but became visible with the launch of Open AI's² various platforms, especially Generative Pre-trained Transformer (GPT) models. Following that, the other platforms also attempted to popularise similar AI packages through their products and software. These are widely in use in all sectors, and students, researchers and educators alike started using AI for educational purposes. Today, AI has become a crucial part of the education system. As artificial intelligence tools become integral to educational practices, educators are increasingly required to develop proficiency in the evolving technologies. Those unable to adapt face the risk of becoming 'deskilled' in the modern educational landscape.

Method

This study is a narrative review developed based on a comprehensive analysis of the existing literature. It employed search strategies in various sources, including journal articles, books, and popular media, focusing on the themes of artificial intelligence and education, teaching, and social science. The databases for search included Scopus, JSTOR, and Google Scholar, employing search terms such as AI, education, classroom, teaching-learning, and technology in education. The inclusion

criteria encompassed peer-reviewed published works in English, with the year of publication no later than the past ten years. Relevant data from selected sources were synthesised as per the themes within the study.

Theoretical framework

This study draws its theoretical framing based on the sociological discourses undertaken on the technological integration of AI in education, with the theories of Social Construction of Technology (SCOT), Technological Determinism and Critical Theory.

The Social Construction of Technology (SCOT) theory proposes that the development of technology and its integration are influenced by social factors rather than by technological capabilities alone (Bijker et al., 2012). This perspective accentuates that human actions and social contexts together shape technological innovations and their implementation. SCOT indicates how various stakeholders, including educators, policymakers, students, and parents, influence the design, adoption, and integration of AI technologies in educational settings. For example, implementing adaptive learning systems may be driven by the pedagogical goals of educators and the learning needs of students rather than just technological possibilities. As the humanoid teachers are on the rise marking their presence in classrooms, how and in what ways it should function is dependent on the needs of the educational system and its agents too. This could accelerate in future diminishing the workload of teachers in a way.

Technological Determinism posits that the development of technology follows a predictable path and significantly influences the structure and cultural values of a society. Technological determinism states that technology acts as an autonomous force driving social change (Hallström, 2022). In accordance with this

theory, it could be inferred that the introduction of AI-driven personalised learning platforms could fundamentally transform traditional teaching methods, potentially reducing the role of teachers as primary knowledge providers. It also proposes that technological advancements lead to inevitable changes in the educational scenario, including increased dependence on data-driven decision-making processes in educational administration, especially possible with AI. The societal expectations of education itself could be transformed in this situation where the focus of education can be shifted to highly specialised skill-oriented learning supported by artificial intelligence analytics.

Critical Theory, particularly from the Frankfurt School, provides a lens to critique the power structures and ideological forces underpinning technological integration in society. It examines how technology can reinforce existing social inequalities and power imbalances. By employing critical theory perspective, how AI in education has a possibility to perpetuate power dynamics and social inequalities can be viewed. For instance, there is a high probability that AI algorithms may reinforce existing biases and prejudices in educational assessment, leading to unequal opportunities for students from marginalised backgrounds. With this, a critical examination of ethical issues related to artificial intelligence can also be looked into, consisting of data privacy, surveillance, and the commodification of student data. Critical theory empowers to question who benefits from AI integration and whose interests are prioritised in a social system.

Combining these theoretical perspectives provides a broad framework for analysing the integration of artificial intelligence in education. SCOT emphasises the social processes and stakeholder negotiations shaping AI adoption. Technological determinism provides insight into the transformative potential of AI on educational practices and societal expectations. Critical Theory offers a critical lens to examine power dynamics, ethical

issues, and the potential for AI to reinforce or challenge social inequalities.

Artificial Intelligence and Education: Teaching and Learning in Contemporary Classrooms

Grossman et al. (2023) stated that AI could replace humans in the domain of social science research in the future. With the training based on huge amounts of text datasets, language models are increasingly able to emulate behaviours and responses similar to humans. From taking notes in online meetings to generating responses as per customised needs, AI has stabilised its position in the human world, particularly in academic environments. The distance from industrial and university labs to school classrooms has lessened today. Kerala introduced IRIS, the humanoid, which is the first AI teacher in the state this year. With the ability to communicate in three languages, IRIS can also tackle challenging questions. Its capabilities extend to serving as a voice assistant, facilitating interactive learning experiences, manipulation capabilities, and mobility (The Indian Express, 2024). Similarly, the news of AI teaching assistant ‘Vidya’ making its debut at a school in Kumbakonam, Tamil Nadu, came out recently (The Hindu, 2024). Likewise, AI has become a part and parcel of the everyday life of stakeholders in the academic realm. Analysing data, text, language, images, and videos effectively in a very short period of time makes it convenient to use for students as well as teachers.

Technology has emerged as a core component in educational settings across various levels, amplified by the surge in EdTech platforms. This highlights the reliance on tech-driven learning approaches in the educational domain. The academic environment has transformed with the advent of smart boards and Virtual Reality (VR), offering innovative platforms for more interactive learning, enhanced visualisation and conducting experiments without physical limitations (Raja & Lakshmi Priya, 2021; Singh,

2021; Crompton & Burke, 2023). Furthermore, tailored educational experiences and innovative evaluation methods are being facilitated by the development of artificial intelligence (AI). This has led to discussions on the possibility of AI-powered robots engaging in particular teaching duties (Edwards & Cheok, 2018; Zhang & Aslan, 2021).

In the Indian context, Chavan (2024), with the evidence from the Annual Status of Education Report (ASER) 2023, noted that AI-based mentoring programmes are flourishing in the country, and the use of technological apparatuses by students, particularly mobile phones with internet connectivity, is becoming a new normal in the education sector. Literature indicates that the integration of technology in the education sector has brought about significant transformations, addressing various constraints such as access, distance, time, language, finances, and learning preferences. Chang et al. (2022) emphasise the role of AI in tailoring education to meet evolving student needs, thus improving competency and addressing challenges like poor faculty quality and student motivation. Jia et al. (2022) and Bin & Mandal (2019) also illustrate the limitations of traditional education approaches and the potential of AI to create intelligent, personalised learning environments, thus enhancing practical learning outcomes and overall educational performance. Vyas (2023) points out the multifaceted benefits of technological applications, which not only have the potential to reduce non-teaching workloads for educators but also could bridge several divides by making quality content and faculty accessible to a broader audience. Today, Learning Management Systems (LMSs) and Learning Experience Platforms (LXPs) facilitate personalised and adaptive learning, while various administrative tools streamline educators' tasks. However, these advancements have another side that contributes to the digital divide, reduced physical activity and diminished in-person interactions among students.

Artificial Intelligence and Social Sciences

The intersection of social sciences, humanities, and artificial intelligence (AI) technologies presents a crucial opportunity to examine emerging societal challenges. Social sciences and humanities aim to use an interdisciplinary approach to explore how AI is changing societal structures. This includes applications like facial recognition, robotics, human-computer interactions, decision-making algorithms, data analysis, social networking sites, and micro-labour, where tasks are outsourced online, and workers are alienated from the overall work and its context (Bucher et al., 2024). The presence of AI in various sectors such as commerce, healthcare, employment, and both public and private spheres shows its transformative impact. This widespread use of AI brings significant concerns about economic, geographic, and environmental impacts. Issues like personal data protection, legal responsibilities of AI, controlling possible biases based on ethnicity and gender, and the need for traceable AI processes are critical. These concerns highlight a range of societal questions that require thorough investigation and reevaluation (Gefen et al., 2021). Yang (2021) argues that the objective of social sciences to prepare students as active participants in society both now and in the future has positioned AI literacy, a sub-classification of digital literacy, as a crucial aspect of social sciences education. Consequently, social sciences can significantly contribute to students' understanding of the AI-permeated world they inhabit and help cultivate them as informed citizens who can utilise AI in an effective manner (Yang, 2021). Scholars from diverse disciplines need to collaborate and engage in dialogue to develop AI tools and methods that adhere to ethical, moral, and social responsibilities. Through such interdisciplinary research efforts, the academic community can help shape AI development to align with societal values and norms (Gefen et al., 2021).

Social Implications of Artificial Intelligence in Education

With the acceleration of capacities of artificial intelligence in education, where can we position the agency of humans with regard to what is to be learnt, how learning can take place, and how pedagogy can be improved? The experience received by students and teachers due to the resolving cultural lag in education is diverse and stimulates curiosity among all to explore and discover new paths by which technology takes us ahead. From making experiential learning more possible without much risk, to drafting ‘perfect’ sentences for essays or drafting innovative lesson plans, AI tools are becoming irreplaceable in the everyday lives of students as well as teachers. Yang (2021) highlights the burgeoning potential of Artificial Intelligence (AI) in enhancing human education, training, and overall performance. AI’s superior computational and decision-making capabilities, as evidenced by Banerjee et al. (2018), raise a critical question on what is left for humans to do when AI surpasses humans in decision-making or in understanding humans than they understand themselves. Yetiensoy & Rapoport (2023) note that “AI has indeed far surpassed human capabilities in computing and decision-making. However, humans have some characteristics that AI cannot match. These characteristics are their abilities regarding perception, emotion, feeling, and cognition. Although AI algorithms have evolved to imitate human behaviour, these human characteristics are still difficult to imitate in a short time.”

While the question of where human agency can be placed in this context arises, Giddens’ (1984) thoughts on structuration come as a reminder. The theory of structuration proposes that human agency and social structures are inseparably connected, suggesting that while AI can greatly enhance the learning experience through personalised content, adaptive learning paths, and immediate feedback, determining educational goals and pedagogical approaches should remain human-centred. Teachers

should be able to ensure that artificial intelligence applications align with broader educational objectives, facilitating critical thinking, creativity, and social responsibility. The role of teachers is transitioning to ones who can leverage AI to enrich learning experiences while maintaining the fundamental human connection that underpins effective education. Therefore, human agency must be reasserted to guide educational priorities and methods. The active dynamics between technology and agency promote a more engaged and proactive learning environment for all. Nonetheless, it is necessary to consider the broader social implications, including the potential for AI to perpetuate inequalities and reduce the importance of judgment and interpersonal skills of human beings. Drawing on Archer's (2003) theory of morphogenesis, which emphasises the interaction between agency and structure in social change, it could be seen that a balanced approach is vital. AI should complement rather than replace human input, ensuring that technology serves to improve the educational process while preserving the irreplaceable value of human interaction and insight. This balanced integration fosters an educational ecosystem where technology and human agency combine to drive forward a more inclusive and effective learning experience.

Artificial Intelligence, Classroom Dynamics and Inevitable Link of Digital Divide

Though AI promises personalised learning experiences, to what level it can consider the special needs sensitive to local, regional, and cultural contexts is a matter under discussion. As this process depends on the data supplied to the system, the success depends on how much humans contribute to AI by sharing their personal data. As the modern education system is moving ahead, the role of teachers is undergoing changes from being an icon of traditional authority to a rational legal authority. It is at the same time, that AI is entering into the educational sector, securing its space as a teaching assistant or as an academic support system to

clarify and clear ambiguities one has regarding studies and more. Not just students but teachers are also making use of AI advancements and improve the teaching-learning process (Huang, 2021). What will be the role of teachers in the upcoming future of a knowledge-information-rich society backed by artificial intelligence? How do existing power relations alter in academic settings when AI becomes a change-maker? When over-reliance on technology takes place, how are teachers going to not fall for ‘poverty of pedagogical innovation³’ (Reeves, 2003) or avoid ‘deskilling’ (Heisig, 2009)? These are the questions that are yet to be answered by the stakeholders of education itself in the context of technological integration.

Information spread is ongoing and it has no boundaries to the ones who can access it. It is merely based on the lack of digital-material or physical facilities, a section of the population is still unable to access the doors of AI. Even though during the pandemic, this has been in discussions and deliberations, the inequality of haves and have-nots, mostly of ‘data haves and have-nots’, has not reduced and is causing a digital divide in the world (Francis & Weller, 2022). Carter et al. (2020) demonstrated the components of this AI digital divide comprising of social, technical and socio-technical factors. Social factors include demographic, economic and other societal elements; technical factors include infrastructural and AI genetic factors; sociotechnical factors include skills, digital literacy and beliefs (Carter et al., 2020).

Emerging Ethical Dilemmas

The use of AI in education has certain ethical concerns. Akgun & Greenhow (2021) have highlighted four key areas to explore while using AI in classrooms: a. privacy, b. surveillance, c. autonomy and d. bias and discrimination. Privacy refers to being mindful of how the personal data of students or teachers could be used by AI systems and regarding giving consent to the terms and

conditions of the AI systems before using it. Surveillance refers to how AI algorithms can track the actions of a student or teacher, thereby providing customised experience to the users, at the same time, the AI system, through constant monitoring, understands its users well. Autonomy is regarding the extent to which AI is depended on by teachers to evaluate a student's test score. Bias and discrimination are associated with the chances of algorithmic biases within an AI system, developed based on the data on sociohistorical biases thriving in society. Chen et al. (2020) underscore the importance of ethical and privacy considerations in the use of AI technologies for analysing educational data. As the deployment of AI often necessitates the collection and use of vast amounts of data, consisting of sensitive information about both students and faculty, it is crucial to address privacy and data protection concerns when AI applications are undertaken in education. It is therefore required that teachers and students be mindful of the limitations of artificial intelligence in the educational domain.

With the extensive use of AI in education, concerns of academic plagiarism, intellectual theft and fabrication, which could affect academic integrity, also arise (Yu, 2023). At the initial times when Open AI's Chat GPT became popularised, there was a dilemma on how to approach this technological advancement in the educational landscape. Whether teachers should allow their students to explore novel paths and possibilities opened by AI or take a separatist approach. It is a topic that is still under debate and requires more dialogue. Studies suggest that an ideal path is to use it with caution in a reflective and mediating manner and also to consider AI tools as support systems and facilitators in effectively experiencing education (Herbold et al., 2023; Yu, 2023; Imran & Almusharraf, 2023).

Conclusion

The presence and significance of AI in the education and social sector are advancing and inevitable as per the developments taking place in research and development. The future is uncertain or characterised as volatile, uncertain, complex and ambiguous (VUCA) (Reeves & Reeves, 2015), and research suggests that AI has the potential to become human-like with higher capabilities. In the prospective future, human teachers could be substituted by robotic teachers; generative bots could become better writers and guides for students. But one ethical aspect aligning with this is regarding the future of social values embedded within traditional forms of education. What could be the future of experiential learning and exercising one's own creative imagination and freedom of thought, especially in the field of creative disciplines? A possibility is to uphold the integrative approach rather than complete assimilation or alienation from AI technology. Teachers and students could adapt to the technology, harnessing its positive aspects, enriching knowledge, and at the same time not compromising their own creative and intellectual capabilities. Therefore one critical observation based on the analysis is the need for an integrative approach where AI complements rather than replaces human creativity and intellectual freedom. This balance is especially crucial in creative fields that rely heavily on these human traits.

This paper explored the transformative reality of the present, analysing the sociological implications of AI integration in education and its impact on skills, knowledge dissemination, and the changing roles of educators and learners. It attempted to throw light on the dynamics of humans and AI in the educational context, looking into prospective changes in teaching-learning. It also explored the context of AI in relation to the field of social sciences. The benefits and limitations of technological integration in

education were discussed, providing a broad reflection on social implications with sociological theoretical underpinnings.

In spite of the review, a notable research gap remains in understanding the long-term sociocultural effects of AI on experiential learning and arts disciplines. Most current studies emphasise on technological capabilities and immediate educational benefits, often overlooking how deeply rooted social values and human-centric teaching methodologies might evolve in the context of advancements in AI. Future research should aim to investigate strategies for maintaining this balance, ensuring that benefits of AI are utilised while preserving the core aspects of human creativity and critical thinking essential in education and social sciences.

Notes

1. Isaac Asimov (1920–1992) was a prolific American author and professor of biochemistry, best known for his works of science fiction and popular science books, who wrote extensively on the way robots and artificial intelligence are conceptualised.
2. OpenAI is an artificial intelligence research laboratory, founded in 2015 which conducts research in the field of AI.
3. The poverty of pedagogical innovation refers to the inability of individuals to keep pace with technological advancements, which hinders their capacity to adapt to evolving educational needs.

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**Political Sociology of Technoscience:
'Democratic Deficit' and Public Engagement in India**

Jawhar Cholakkathodi *

Abstract

This paper explores the shifting landscape of science, state, market, and civil society relations in post-independence India, focusing on science and technology policy. It tracks the transition from Nehruvian socialism, which prioritized science and technology for nation-building, to a more complex environment influenced by globalization, neoliberal policies, and right-wing politics. The paper underscores the changing role of science and technology in society, particularly the transformation of modern biotechnology from a technical innovation into a socio-cultural and political force. It delves into the development of biotechnological innovations, notably in agriculture, and their evolution through the involvement of diverse stakeholders and

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networks. Using the lens of Science and Technology Studies (STS), the paper highlights two primary STS streams: one examining the social construction of technoscience and the other assessing the societal impacts and control of science and technology. The paper advocates for a 'democratic turn' in science and technology policy, emphasizing the need for public engagement and active citizen participation in decision-making. It addresses the 'democratic deficit' resulting from concerns about representative democracy and the call for more meaningful public involvement. The paper also explores the changing dynamics of relationships between science, the state, and the market. Additionally, it discusses the rise of regulatory science and citizen science, spurred by civil society movements against various aspects of technoscience. This has redefined the social contract between science and society. Paper calls for thorough examination by both academia and the public to better grasp the governance processes in post-independence India.

Keywords: *Nehruvian Science, Democratic Deficit, Bio-technoscience, Science and Technology Studies (STS), Democratic Turn, Public Engagement*

Introduction

We are living in a period wherein the socialist democratic imaginaries of Nehruvian India are totally emptied from the institutional and ideological terrain. Key institutions like the Planning Commission of India, carrying Nehruvian socialist democratic imaginaries have been dismantled by new political regime. In this paradoxical context, we are witnessing a new coalition which is supporting the new regime of neoliberal economic order and the right-wing political ideology. These developments have influence upon policymaking in science and technology as well. Thus the mapping the trajectories of shifting terrains in relation with science, state and society in the post-

independent India helps us make sense of the complexity involved in the policy-making in science in newly developing countries.

Here, biotechnoscience becomes a lens through which one can look at the interface between politics, science and policy in India. Now, modern biotechnology is not only a technical artifact but it has become a socio-cultural and political artifact in the larger context of its development. The innovation cycle of biotechnology, for example in the area of agriculture, from laboratories to market and then to field crossed over different stages with the involvement of diverse stakeholders. In these transitions different actors and networks were constructed and they imagined a socio-technical future in accordance with this technology.

This is an attempt to review the current debates on the Science, Technology and Society perspective on the interface between science, technology and democratic participation in the context of Global South. Most of the literature on the interrelation between science and politics concentrated on the context of the West. Here I want to look at the context of India and the GM Crops became a site of inquiry to understand this interaction.

STS beyond Science and Technology: Politics, Market and Law

This paper uses the Science and Technology Studies (STS) perspective to understand the political sociology of technoscience. STS is identified as a thriving field of study and research in social studies of science, technology, and their interrelation with society and culture. As an academic field, STS's roots lie in the early 20th century and developed in the time of 1960s and 1970s in the time of the start of the Cold War. As an interdisciplinary or intradisciplinary (Jasanoff, 2010) field of inquiry, scientists, historians, philosophers and sociologists of science became interested in the interface between scientific knowledge,

technological artifacts, and socio-political systems. As Hackett et al. noted

STS has become an interdisciplinary field that is creating an integrative understanding of the origins, dynamics, and consequences of science and technology. The field is not a narrowly academic endeavor: STS scholars engage activists, scientists, doctors, decision-makers, engineers, and other stakeholders on matters of equity, policy, politics, social change, national development, and economic transformation (Hackett et al., 2008).

As different scholars noted, in Science and Technology Studies there are two streams of scholarship. The first stream of scholars concentrated on the nature and practice of technoscience. This stream of STS looks at the 'nature and practices of science and technology' and argues that science and technology are socially constructed and culturally embedded practices of knowledge production. It questioned the conventional understanding of science and technology and considers 'other than scientific and technical' concerns in constituting scientific knowledge and technological artifacts. The second stream of STS works concentrates on the 'impacts and control of science and technology on the socio-cultural-environmental and political fabrics of the society. This stream of works in STS concerns about policy issues, political and power-related questions, and environmental issues etc.

In fact, in STS literature, scholars have paid a great amount of attention to knowledge production in hard science and hard technologies but little attention has been paid to the 'socio-political' aspects of technological development. Though the contract between science and politics has been a prime-time question since a long time, but as Brown (2015) pointed out 'most

STS scholars have devoted far more conceptual scrutiny to science and technology than to politics or democracy'. Hence, the recent attempts to look at 'hard politics' in a new context to understand the transformation of knowledge and the impact of new technological artifacts on the socio-political order demands serious academic and public attention. One important development in the STS in recent times is the attempt to analyze the 'co-production' of science and social order (Jasanoff, 2004). Another attempt in this regard is the critical and reflexive engagement with modalities, methods, and practice of public participation in science and technology.

In this paper, I will try to extend these two traditions of STS literature to understand the public engagement with the governance of Biotechnology in the context of India. Both sets of literature take technoscience as an institution shaped or reshaped by existing socio-political order and acknowledge the multiple frames and hybrid publics in constituting scientific knowledge and technological artifacts. The conflicts and contestation over the meanings and interests of society create new forms of politics around technology. In this paper, I use some conceptual and theoretical frameworks developed in STS and the new political sociology of Science and Technology to understand the empirical context of India.

In liberal democracies politics and public participation play an important role in the scientific and technological decision-making process. STS's perspective on politics is not limited to the process of election and voting patterns or policy-making in the realms of health, IT and environment. Instead, it looks at the nature and characteristics of political systems and political institutions. It also examines the qualifications, roles, and responsibilities of the participants who are the active and passive stakeholders of scientific and technical development. Other than abstract intellectual puzzles STS scholars use empirical and

concrete technologies, practices and institutions to understand challenges and limitations in the democratic participations.

Democratic 'turn' and Public Policy in India

In 1950, India became a sovereign democratic republic. The citizens of this sovereign state have the right to elect their representatives and form policies for their development. Hitherto, it led to the development of a social and political democracy of institutions and procedures which is the constitutional vision. After the seventy-five years of independence and development of social and political democracy, the Indian political system and its institutions demand a serious critical reflection on the practice of democracy and the participation of the citizens in the procedural dimensions of the governance. Here technoscience become a lens through which we are examining the possibilities and challenges of these democratic and participatory experiences.

Democratic participation in the process of development of science and technology is highly contentious issue in STS and public policy literature. In our public debate and discussions, we share our normative commitment to the idea of democratic science policy and the participation of the wider public in the decision-making processes. As Haldane (1939) puts it in the first half of the 20th century itself: without a much broader knowledge of science, democracy cannot be effective in an age when science affects all our lives continually (p. 8). In other words, the relationship between citizenship and democracy can be understood as both a pre-condition as well as an essential for the procedural or performance of the citizenship. The new developments in science-society relations and the emergence of new scientific knowledge and technological artifacts demand a wide range of public participation in different stages of innovation.

The recent 'democratic turn' (Dryzek, 2000) in public policy and in the governance of emerging technologies, public

engagement and democratic participation has become a hot topic of discussion in different domains, such as academia, public policy clusters, media and civil society movements. The ‘democratic turn’ in science and technology means two important things- first, access to information regarding the design of technology, risk and benefit of the particular products and uncertainty around it. Secondly, demand for access to the domain of policymaking and gets ‘cognitive right’ to actively participate in the policy-making process.

The shift in the participatory mode of governance was a result of different issues related to the existing practices. The first important concern was the risk associated with new developments which affected the daily life of the people and the environment. The second major reason was that the trust in experts drastically decreased and this ‘trust deficit’ led to questioning the legitimacy of science and its role in socio-economic and ecological development. The third issue was related to the notion of corporate control on research and innovation which led to commercialization of knowledge and control of MNCs on natural resources and creative common.

The fourth reason is connected to the questioning of the hype and illusions of technology-led development propagated since the independence through the Nehruvian development model. The fifth development is marked with the emergence of new actors in knowledge production and the role of critical insiders in the science and technology field. Finally, the aggressive campaigns organized by civil society groups and environmental movements have changed the conventional understanding of science and its social and environmental impact. These reasons led to the emergence of public participation in technoscientific related issues in the context of India.

'Democratic Deficit' and Public Engagement with Biotechnoscience

In the case of agricultural biotechnology in general and Bt brinjal in particular, this same call intensified during the last two and half decades. The adverse effects of green revolution in different parts of India, the experience of the experiments in Bt Cotton in different states of the country, the displacement of agricultural research from public-funded institution to the new public-private setups, the corporate control over seeds, the intellectual property regime and appropriation of nature led to call for some new modalities in governance, instead of old expert-technocratic led modal.

In India after the introduction of Bt cotton in the late 1990s and the Bt brinjal controversy in the mid-2000s, biotechnology and life sciences have become contentious subjects. This quarter-century (2000-2024) represents a unique point in history in which India has tried to address different kinds of ethical, socio-political, legislative and administrative dilemmas related to the agricultural biotechnology. These public debates produced a mixed response in the society. On the one hand, the policymakers, mainstream scientists and technocrats consider it as a solution for the local and global food crisis engendered by the unprecedented increases in the population. On the other hand, environmentalists, anti-globalisation activists, and farmer's collectives consider this technocratic intervention in agriculture as a threat to the environment, biodiversity and local agricultural systems. Largely, there are multitudes of stands and opinions or meanings attached with the application of biotechnology and GM crops in agriculture (Jawhar, 2022).

The recent literature in STS investigated the relationship between those normative ideals and their empirical manifestations in different socio-political settings (Rowe, G., and L. J. Frewer; 2004, Rowe, G., R. Marsh, and L. J. Frewer; 2004, Sclove, R. E;

2001, Stirling, A; 2008). These studies of public participation in the development of technoscience start from questioning the legitimacy of the call for citizen participation itself and different manifestations of public participation such as citizen jury, science shop, public consultation, consensus conference, stakeholders meeting and technology assessment. This genre of literature examined the complex and dynamic nature of the deliberative process, the quantitative and qualitative aspects of participatory excises and it moved to the paradox of deliberation and participation of the public in decision making. As Aga (2022) noted:

India leads the world as far as the intensity of *democratic* engagement with GM crops is concerned, that is, in terms of the diversity of concerns, groups involved, and the range of political, legal, and social institutions pulled into the debate—from consumers and farmers to doctors and scientists, and from political parties, state and national legislatures to regulatory bureaucracies and constitutional courts.

At the same time, there is a wide range of literature on democratization of science and policy making highlighted the ‘democratic deficit’ that prevails in our existing policy sphere. The ‘democratic deficit’ due to the failure of representative democracy, the mismatch between the promise of liberal and representative democracy and its practical outcome in the domain of policy decision-making, considering citizens as passive end of the democratic practices etc. obliged different groups to demand active and meaningful participation in decision-making process. The inclusion of different knowledge claims and diverse expertise and experience in the domain of policymaking challenged the conventional model of ‘science-based’ decision-making practices.

As I have mentioned, the process of 'opening up' the domain of policy-making and governance of science and technology to diverse actors has questioned the normative assumptions about science, the public, and the policy. Wynne (2002) has proposed for a critical engagement and dialogue by the citizen-science for the development of science and technology against the traditional model which sees the citizen as a passive end of policy making. By extending this question into a more concrete domain of decision-making Jasanoff (2007) challenged the conception of common good, public reason and choice, such as on whose behalf decisions are taken or on whose behalf choices are made, and who will decide the common good.

The recent academic research on 'public engagement with science' take a closer look at the explicit and implicit goals of the people's participation in the decision-making of science and technology and also to what extent the practice of public engagement works in different socio-cultural contexts (Weingart P,et al. 2021). It also looks at the problems faced by the existing engagement practices, how these problems can be reduced and how to facilitate meaningful public engagement in the future. In this context, the normative understanding of democratization of expertise or civic participation in technoscientific decision-making demands inclusion of all stakeholders, all people who will be affected by the decision taken on behalf of them. The wider representation of the stakeholders' concerns, the meanings they attribute to technology and the worldviews they formed throughout their engagement will decide the intensity of the participation.

New Social Contract between Science and Society in Globalized India

In post-independent India, the state policies and programs on science concentrated on developing self-sufficiency in research and development. The underlying principle was to develop socially relevant scientific knowledge and technological artifacts for the

social and economic developments of the country and people at large. Indian state spent a significant amount of money for establishing basic infrastructure and industrial complexes. Haribabu (1999) has highlighted different dimensions of the changing contract between science and society in the post-independent India. According to him, context of the practice of science and its products are increasingly getting intertwined with economic, social, legal and ethical issues (Haribabu, 1999). Different policy statements in the early period of independence, such as the Industrial Policy Resolution of 1956, Scientific Policy Resolution of 1958, and Technology Policy Statement of 1983, highlighted self-reliance in science and technology (Haribabu, 1999).

The discourse about the public engagement and governance of science can't escape from the socio-political location of its development and the periods, in which it emerged and flourished. The sociopolitical, geographical and cultural situation of the development of science or technological artifacts will influence the governance architecture and technologies. The 'displacement' metaphor helps us understand this contextuality of technoscience and changes that happened in the developments at institutional and epistemological levels.

The academic discourses on technoscience, democracy and public participation in the process of governance show that the traditional constituencies are becoming fluid and the boundaries are blurring. In other words, to understand technoscience, we have to employ new categories and concepts. To make sense of these developments, I think, we should analyze the changes that have been happening in the existing social contract between politics and science.

Here I use the term 'displacement' to understand the changes that have taken place in these two domains. Here 'displacement' is not a process of replacement or a complete move away from

the previous ontological situation, but it is a modification and transcendence according to the existing socio-political and cultural context. The concept of 'displacements' helps us to explore the different ways in which the relationships between science and society in India have been transforming in the context of different socio-political changes. In other words, what I am trying to do is to understand the three categories such as politics, science and gene, not as 'abstract' or formalized categories but as more situated and often contextual to the social and collective orders. These categories are shaped or reshaped by the socio-cultural changes in the existing social space and geographical places (Jawhar, 2022).

The social contract between science-society, science-state, and science-industry witnessed tremendous change in the last few decades. Now, locating these changes and their implications towards science, as a social institution and political sphere, in the context of India demands careful academic and public scrutiny and understanding. Simultaneously, it will contribute to better understanding of the governance process and technologies of governance or tools we developed and experimented during post post-independent period in the country.

Science, State and Market

The displacement of politics and the changes in the political institutions and practices, from the Nahruvian period to post-LPG, have a huge impact on the social, cultural, and economic spheres of the society. The changes in political institutions also have had a similar impact upon the social fabrics of science, and subsequently on the social contract between science and society in post-independent Indian imaginations. And in its modernization project, science became most influential and highly powerful institution. During this period, we saw a clear-cut collaboration

and strong contract between science and state for the development of country at large.

Krishna (2014) has mapped three important 'societal forces impacting the social institution of science: (i) the forces of globalization; (ii) industrial and post-industrial forces and (iii) the impact of climate change and sustainability'. He has also marked the emergence of globalization during post-1990 as a bench mark in the changing the social contract between science and society. As he puts it,

With the onset of contemporary phase of globalization from the 1990s, a definite cleavage merged in the social institution of science. The social contract that emerged immediately after the Second World War, which legitimized autonomy of science and considerable public funding for research for almost five decades begun to weaken. Ethos and norms of science such as public good of knowledge; peer evaluation and peer review of science from groups within the discipline-based scientific elite; social control of science exercised by the social institution of science; prominence attached to open science which was conducive to the advancement of knowledge; premium placed on professional recognition and rewards and various other values which remained the hall mark of science begun to transform under the impact of globalization (p.141).

The prominent change in the post-1990s is the dominance of financial interest over the public interest. As different scholars have rightly pointed out, the IPR regime and widening of the research and development in the corporate sectors put a lot more constraints on the existing social contract between science and

state and science-society at large. Krishna has mentioned the shift from public good to market interest and from the production of knowledge to the creation of wealth poses critical questions on the governance of science and the role of state and public in this process. The corporate and IPR regime also led to impose secrecy in science and a threat to the transparent and open system of innovation and development. It prevented the public, those who are not in the cycle of corporate and state power structure, from accessing and using knowledge for the societal good at large. It also created hindrances to traditional and indigenous communities to use their knowledge and technologies in their daily engagements.

The corporate entered into the public institutions and university sphere and they started setting agendas for the future research and innovation led to disturb the integrity of the public institutions and research. The involvement of civil society actors in setting the agenda for deciding new pathways for imagining new technoscientific futures influenced the policy-making and governance. Another important development in the 'triple Helix' model development, which is the contract between science, state and industry, took science and technology research and development onto a different level. According to Krishna (2014) innovation and commercialization of academic research has now become an integral part of the university governance and academic policy along with teaching and research. In other words, universities are moved from knowledge centers to entrepreneurial hubs.

Science, State and Civil Society

During the last three decades, the emergence of regulatory science and the wider participation of the citizens in the making and unmaking of knowledge played an important role in the process of changing the governance of science in India. The risks

related to uncontrolled development in technoscience forced the state to critically engage with new developments in sciences and technology with the tools of regulation. The monitoring of the interaction between science, industry, universities, and market became the prime concern of the state. The environmental, ecological and health hazards compelled civil society groups and movements to question the risks and uncertainties related with new technologies.

In the Indian subcontinent, we witnessed the emergence of a different kind of civil society movements, such as ecological and environmental movements against scientific forestry and appropriation of forest land and resources, local communities movements against nuclear power plants in Kudamkulam, Tamil Nadu and Jaidapur, Maharashtra, people's movements against big dams and mining companies, widespread civil society movement against GMOs, farmers' movements against accumulation of land for industrial purposes, such as SEZ, movements against industrial pollution, etc. All these movements contributed to develop a 'trust deficit' among the public and also gave a big blow to the Nehruvian imagination of science and development.

The engagement and participation of the civil society in the abovementioned movements led to the strengthening of regulatory science and citizen science in the country. This regulatory science and citizen science, according to Krishna (2014), emerged as important actors in the democratisation of science and society relationships. Representatives of civil society should be given more space in the governance of science and technology. There is a need for a new dialogue between professional bodies, scientific societies and academies of science and citizen science groups (Krishna, 2014).

The involvement of different actors, including civil society changed the science and society relation. As Krishna (2014) noted,

the discourses and politics emerging around climate change have affected the social contract between science and society and its impact of climate change on the present and the future of the planet poses different kinds of questions on science and society relation. It widens the canvas of the risk and benefit sharing from local, regional, and national to global scale. The issues concerning the technological development models are not limited to the nation-state boundaries and regulatory architecture. In this context, transnational civil society organizations, institutions, and frameworks play an important role in the process of regulating new technological development.

This shift in social contract between science and state, science and market and science and civil society invited different actors and networks in the debate. The interaction between science, state, market and civil society in the context of India widened the canvas of governance and made policy-making a complex issue. This complexity and dynamics made technoscience a site for political action.

Conclusion

In conclusion, the paper discusses the profound shifts in the social contract between science, the state, the market, and civil society in post-independence India, particularly in the context of public engagement with science and technology policy-making. The paper highlights the transformation from the Nehruvian socialist democratic vision of India, where science and technology played a pivotal role in shaping the country's future, to a more complex and multifaceted landscape influenced by globalization, neoliberal economic policies, and right-wing political ideologies.

The central theme of the paper is the changing role of science and technology in society, where modern biotechnology is no longer just a technical artifact but a socio-cultural and political field (Raimbault&Joly, 2021). The development and application

of biotechnological innovations, especially in areas like agriculture, have evolved through multiple stages, involving diverse stakeholders and networks that shape the technology's future according to their visions.

I used Science and Technology Studies (STS) as a lens for understanding these shifts, particularly in two streams: one focusing on the nature and practice of technoscience as socially constructed and culturally embedded, and the other examining the impacts and control of science and technology on various aspects of society, including policy, politics, and the environment.

Paper argues for the growing need to explore the intersection of science, politics, and democracy in contemporary society, a development highlighted by scholars like Brown (2015). And it further argues for a 'democratic turn' in science and technology, emphasizing the importance of public engagement, access to information, and citizens' active participation in the policy-making process. This shift is driven by several factors, including increasing risks associated with new technologies, declining trust in experts, concerns about corporate control over research and innovation, and the questioning of technology-led development models.

The paper highlighted the problem of "democratic deficit," which arises from a perceived failure of representative democracy and the need for more meaningful public participation in decision-making processes. The involvement of different knowledge claims and diverse expertise challenges traditional science-based decision-making models. The paper also delves into the changing landscape of science, state, and market relationships. It highlights the impact of globalization, the dominance of financial interests over public interests, and the influence of intellectual property rights (IPR) regimes on the governance of science.

Furthermore, the involvement of civil society in movements against various aspects of technoscience has led to the emergence

of regulatory science and citizen science, with civil society groups demanding a more significant role in science and technology governance. This has reshaped the social contract between science and society, and actors such as regulatory science and citizen science have become influential in democratizing science-society relationships. I conclude by underlining the complexity and dynamism of policy-making in the field of science and technology, highlighting how technoscience has become a site for political action and contestation, inviting various actors and networks into the debate. This evolving landscape necessitates careful academic and public scrutiny to better understand the governance processes and technologies developed in post-independent India.

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Impact of Social Media on Academic Performance, Career Aspirations and Societal Engagements of Post Graduate Students in Kerala: A Mixed Research Design Based Inquiry

Mohiny G *

Abstract

Social media applications have a high impact on youth in their personal, academic, professional, and social life. The present article is a systematic investigation of how Social Media provides opportunities and challenges to students in higher education. The study employs a Mixed Research design to combine both qualitative and quantitative data. The article dwells into the details of how college students adapt to the learning ecosystem provided by Social Media platforms and at the same time deals with its addictive nature. The youth are burdened with the responsibility of building careers and also actively engage in

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societal issues, the article indicates how college students handle them with diligence.

Keywords : *Social Media Platform, Higher Education, Learning Ecosystem, College Students, Addictive Nature*

Introduction

Online spaces are based on the information generated by humans and they influence human behaviour, mostly in unpredictable ways. Social media platforms allow individuals to establish their roles as influential by sharing opinions, insights, experiences, and perspectives with others. Thus have emerged as integral communication for the public to voice their opinion The Digital 2024 Global Overview Report mentions that the number of social media user identities is 5.04 million and Social media user identities are expected to be 62.3 percent of the total population. The primary reason for using social media as reported by 49.5 per cent is ‘Keeping in touch with friends and family’, for 38.5 per cent it is for ‘Filling spare time’, and for 34.2 per cent it is for ‘reading news stories’. The average amount of time spent using Social Media arranged based on the years of age indicates that it is highest among the 16-24 age old, which is 2.59 hours per day among females and 2.32 hours among females (Global Overview Report,2024).

The very word ‘social’ associated with media implies that platforms are user centred and that they facilitate communicable activities, indeed, social media can be seen as online facilitators or enhances of human networks web of people that promote connectedness as a social value (Dijck, 2013). Castells (2001) considers ‘social media’ as a form of mass self-communication and as a social realm where communication power and counter-power are exerted. Social Media is ‘manifest a convergence between personal communication (to be shared one to one) and public media (to be shared with nobody in particular) (Meikle &

Young, 2012, cited in Fuchs 2018). The power of social media is the ability to connect and share information with anyone on earth as long as they also use social media (Shrinivas, 2009). According to Leadbeater “You are what you share” (Cited in Fuchs, 2018), the people who were born between 1980 to 2000 are known as ‘Millennials’. They are also known as ‘Digital Natives’. They are connected to smartphones, tablets, computers, the internet, social networking, AI, etc. With the help of technology, youth create new ideas and content (Dadich, 2023).

Social Media and Student Life: The Context of the Study

Social media is rapidly changing the communication setting of today’s social world. Virtual education is the most preferred mode of education at this time of crisis due to the outbreak of Covid-19. The post Covid-19 education seems to be an education with widely accepted online/virtual education which may perhaps be a parallel system of education. Social networking environment, the virtual space opens the opportunity for students and teachers to interact with each other, exchanging information and sharing experiences both personal as well as professional. Due to the growth and revolution in social networking sites (SNSs), educators are continuously looking for their potential use in the education field by using social networking sites through active learning. SNSs are digital online platforms through which scholars, teachers, and educators communicate globally (Hollis & Was, 2016). Students can quickly exchange knowledge and connect via social networking platforms (Alloway, 2012). In the present study, an attempt has been made to evaluate how indulgences in Social media platforms influence the Academic performance, Career aspirations, and Social engagements of post-graduates while pursuing their studies in different Arts and Science Colleges in Kerala.

Methodology and Methods

Mixed research design employing Sequential, Concurrent, and Transformative mixed methods. (Creswell,2012) has been used in the present study, for integrating quantitative and qualitative data and its integration with the theoretical perspectives. As per the information obtained from the Directorate of Education, Kerala, in 2019, there in total of 32,510 postgraduate students in different arts and science colleges in Kerala including Government, Government Aided, and Self Financing colleges. A stratified random sampling method was used to select respondents from students studying in different Arts and Science colleges in Kerala. A list of three colleges from the districts where the Post Graduate enrolment was highest was prepared and from these colleges through a Random sampling technique 10 students each were selected from Commerce, Humanities, and Science streams, thus the sample for the present study is 450 postgraduate students. Quantitative data was collected using an interview schedule and In-depth interviews, Focus Group Discussions, and Narratives were used for collecting Quantitative data.

Profiling the Student Social Media Users and the Pattern of Usage

In this study, 93.6 per cent of the respondents fall in the age category between 21 to 24 years which is popularly referred to as 'Generation Z', Stratified random sampling technique ensured that 50 each per cent of the sample were female students and male students. 90 per cent of respondents were unmarried. 37 per cent were from the General category, 45 per cent were from Other Backward Castes and 8 per cent represented Other Eligible Castes and 10 per cent of the respondents were from SC/ST. The religious background of the respondents indicated that 54.4 percent were Hindus, 37.3 per cent were Christians and 8.3 per cent were Muslims. 50.2 per cent of respondents were from rural areas, 36.2

per cent were from semi-urban areas and 13.6 percent were residing in urban areas. 74.9 per cent were day scholars 20.7 were hostellers, other 4.4 were staying as paying guests. 84 per cent of students were doing part-time jobs and 22.4 per cent of them came to know about part-time job openings through Social Media platforms. 86.7 per cent accessed the internet using Smartphones. 64.9 per cent of the respondents reported that they spend 100 to 300 rupees per month to recharge the internet. Only 3.1 per cent of the respondents said that they spend above 500 rupees on the internet per month.

The frequency of usage of Social Media in a day was analysed and it was found that 69 per cent of students were most frequently using WhatsApp, followed by YouTube (47.8 per cent) and Instagram(40.4 per cent). 53.8 per cent of the respondents have one to five Social Media profiles. 34 per cent of the respondents have profiles in 5-10 social media applications.44.2 per cent of the respondents keep their photo as a profile picture on social media platforms. 18.4 per cent were using images of famous thinkers/writers or actors in their profile pictures, and 4 per cent of the respondents were not using any kind of display picture. 71.3 per cent of respondents did not create more than one account on a single Social media platform. More than one account was created by 28.7 percent of respondents and the reasons for the same were privacy, academics, job searches, social service, religious activities, and political interests. The ANOVA test results show that male students created more profiles on social media than females because they are likely to experiment with different online identities. Female students felt more vulnerable to online harassment and stalking so female students were unwilling to create different social media platforms. But there are a few exemptions, which can be understood from the narratives.

Swathi N. Thampi aged 22 is pursuing a post-graduation in Political Science in the fourth semester. She belonged to a middle-

class family in the Kottayam district. Swathi has accounts on major social networking sites like Whatsapp, YouTube, Instagram, Telegram, Facebook, etc. Commenting on the gender-based discrimination and misogyny practiced in the cyberspaces, Swathi mentions that *“my last Facebook live was related to Gender Equality. But I think it is not an absolute solution to the problem. Many members supported me in the comments. The growing use of hand-held digital recording devices has increased the scope for news gathering and bringing to light injustices. Initiatives like it, I believe can leave a spark in the mind of the viewers. In this way I hope it is my responsibility and obligation even in the virtual world”*. Swathi has created her YouTube channel during the COVID-19 pandemic and the content is women’s health tips. She said *“I am very comfortable publishing videos on YouTube. With the help of my cousin, I have started my channel not for profit making but to create an identity in virtual space”*.

Involvement in Social media and Academic Performance

Academic performance or achievement is the outcome of education and the extent to which a student, teacher, or institution has achieved then educational goals academic performance is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important procedure knowledge such as skills or declarative knowledge such facts (Annie & Mild, 1996). Positive relationship between Social media and improvement in academic performance of students through collaborative learning with peers, interaction with friends for doing classroom assignments, promoting interactions after lectures, promoting informal learning, facilitating exchange of learning materials, video conferencing, creating room for educational and video sharing, low usage and maintenance costs, little training requirements, direct delivery of information to users, to post and receive of instant feedback and enhanced inter-institutional

communication have been documented in many research studies (Seth & Sharma,2018, Al-rahmi and Musa,2014).

The present study indicates that 45.1 per cent of Postgraduate students mainly used Social Media to get academic information, especially from YouTube and other apps. 63.6 per cent of respondents opined that they share documents related to their course via messaging apps. Instant messaging apps play a vital role in a students' life because they can connect with everyone else all the time not restricted by the physical and geographical boundaries of the area. The students preferred to use multiple platforms in SocialMedia for maintaining existing relationships, academic/professional purposes, entertainment, and leisure time. The uniqueness of the Social Media platforms as identified by the respondents was analysed .33.1 per cent of respondents were using Facebook for creating friendship networks, 41.6 per cent were using YouTube for keeping a check on trending videos, 64.2 per cent of respondents used Telegram for joining the community for sharing Films, and the most important feature attracting students to Telegram are unlimited server storage, group member number capacity, user name feature, secret chat, and bots.

53 per cent of respondents prefer WhatsApp for getting information relating the classes and assignments/seminars/Project Works. WhatsApp supports free voice and video calls so teachers and students can stay in touch, even outside the stipulated study period. The present study analyzed the reason behind the use of WhatsApp for academic studies and it was found that the majority of the students use WhatsApp because of its simplicity and accessibility. The academic-related use of YouTube was reported by 44.9 percent of respondents as watching videos regarding educational content. 43 per cent of respondents were using telegram for sharing exam-related information, sharing and receiving notes, contacting friends and academic persons, watching educational videos, and sharing files and documents.

The below narrative will make it clear how students design innovative ways of learning to improve their academic performance.

Keerthi aged 22 is pursuing a post-graduation, third-semester student in English Literature. She belonged to a middle-class family in Kottayam district. Keerthi has been using several social media applications to satisfy her various needs. She used the internet mainly for learning purposes, for example watching educational classes, collaborative learning, video tutorials, sharing notes with classmates, etc. She thinks that social media is not for entertainment purposes but for different modes of teaching and learning. She uses WhatsApp as an extensive medium for academic communication. She regularly uses social media platforms to collect materials for preparing assignments and examinations. She says *“In my first semester I didn’t get good scores in the examination. The total number of students in my class depended on faculty members to finish our syllabus. But we realized that it was only wishful thinking. In the next semester, we downloaded the syllabus and started collaborative learning via Telegram and WhatsApp groups. It was a success and all of us got good scores in the next semester’s examination.”*

The narrative of another student highlights different perceptions of learning using Social Media and its relations with consistency in academic performance. Manu aged 24 is pursuing a post-graduation, fourth semester student in Commerce. He belonged to a middle-class family in Trivandrum district. He is a day scholar and lives with his parents. Manu got a smartphone four years back and it changed his life worse. In the earlier days, he was not addicted fellow of smartphones. Now he is taking treatment for de addiction.

Manu said *“Before getting a smartphone minimum of 3 hours I used to read. I think the library is a good source of*

knowledge and I preferred printed books for teaching and learning”, he added, that during degree classes he had used the notebook for taking notes in the classroom. But now he is not taking notes to prepare for the examination. Manu says “A day before the examination is enough to learn the entire syllabus. We depend on YouTube classes for examination purposes. We don’t have deep knowledge of the topics. But, surely, the majority of the students will pass out in the examination”.

“When the time of watching YouTube videos I select the most important questions for getting a good score. We didn t get enough time to attend classes due to strikes, cultural and other programs. So the situation makes us depend on social media for learning. I think it is dangerous and only we get a peripheral knowledge regarding the topic.

Career Aspirations and Social Media

A career is a long-term occupation or profession that a person chooses to pursue. It is often associated with personal fulfillment, financial stability, and professional success. Social media plays an important role in job search as employees can get a glimpse of who you are by searching for you online. The use of social media when finding a new job has been increasing for over a decade. 99.2 percent of the respondents said that they adjust their privacy settings before starting a job search. 47.6 percent of the students’ social media profiles are public, whereas 50.7 percent of them set their privacy as private. 40 per cent stated that they had been posting a resume on publicly accessible profiles. The highest percentage of students from the Commerce stream attended Jon interviews in online platforms, while the students from Arts and Science are not as adept as Commerce stream students in attending job interviews in online mode.

The job search with the assistance of Social media platforms provides immense possibilities for postgraduate students. Some

of the students landed in bogus companies, while others were satisfied with the job opportunities they got vide Social media. The narratives of Postgraduate students on their experiences with job searches and career building are presented below, Mr. Akash, 22 years old, Post Graduate Department of Science student in Thrissur, comments,

“I regularly used social media for jobs during my undergraduate period. After two years I found a chance from a WhatsApp reference. I attended a job fair that was conducted in Thrissur, in 2018. It is purely a private company, now I am doing the job with my studies and I am getting a good salary. „Work from Home is the nature of my work and it is like a freelance job.”

Ms. Bala, 23 years old, Post-Graduate, Department of Commerce student in Trivandrum comments, *“I have joined a telegram channel for getting information regarding job opportunities. From there I got an opportunity to participate in an interview. They invited me to the interview which was conducted in Ernakulam. I had come with my friend. After I reached the railway station, I tried to contact them for the proper location. But I couldn't connect them. I lost my hope. I realized that this is not an apt way to find a job.”*

Mr. Jeevan, 22 years old, Post Graduate, Department of Science student in Thrissur, comments, *“I regularly use social media sites for different purposes. Two weeks ago I received a memo, I appointed as University Assistant under the Government of Kerala. I had not attended any coaching. But I subscribed 4 channels on YouTube. I frequently watched the videos which are based on the university assistant exam syllabus. I had spent a Minimum of 3 hours per day on YouTube. I did not get any extra entertainment from social media applications. I focused only on my career.”*

Social media and Social Engagements

There are numerous social activities that young people can engage in via Social media platforms. The social activities that youth engage in can vary widely depending on their interests, culture, and the available resources. SM provides a powerful platform for advocacy and activism. Youth can use these platforms to raise their voices, express their opinion, and advocate for positive change in areas such as climate change, human rights, or social justice. The present study indicates that 36 per cent of Post Graduate students were using the medium of Social media to engage in environmental protection-related activities, 33 percent in charity activities, 17 per cent in health-related engagements, and 14 percent in literacy-related activities. Internet and social networking sites have revolutionized the way information about social issues is accessed, shared, and discussed. Websites, Online forums, news portals, and comprehensive data and reports. In addition, the internet and social media provide real-time updates on social issues, enabling individuals to stay informed about current events and ongoing discussions. 46.2 per cent of the respondents joined blood donation groups, 26.3 per cent joined groups for promoting organ donation, and 14.4 percent in groups for fund collection for the treatment of the poor.

Case Analysis: The Case of How College Students were Saviours During the Kerala Floods Using Social Media as a Tool

The capital of Kerala state, Trivandrum, is one of the districts affected by the Kerala Flood in 2018. During times of natural disasters like floods, earthquakes, or cyclones, when all the other modes of communication are found incapable, social media platforms such as WhatsApp, YouTube, Instagram, Facebook, etc. are found to be the most efficient and beneficial. During the Kerala flood in 2018, several collection centers were

established in Trivandrum to coordinate relief efforts and provide assistance to the affected individuals.

Numerous collection centres were working restlessly to provide materials. College students, full-time and part-time workers, etc. are the major participants in the collection centre. These collection centres played a crucial role in mobilizing resources, managing donations, and co-coordinating volunteers. They can coordinate resources: and collect donations from various sources, including individuals, organisations, and other agencies. The collected relief materials were sorted and distributed to the affected areas based on their immediate needs. Collection centres worked closely with local authorities, NGOs, and volunteers to ensure efficient distribution, to the flood-affected people.

Abhiraj Unni, a Nurse was one of many volunteers. He created a team for the collection point at Kanakakkunnu, Trivandrum, and named it “SIGNATURE OF NISHAGANDHI” which was inaugurated by Dr. Vasuki IAS (Former district collector in Trivandrum). This collection centre has more than 100 social servants working for the relief of many flood-affected people. The majority of the people joined and participated here due to social networking sites. They could realise the seriousness of the flood of 2018. All members of the collection point are part of “SAVE KERALA”. Abhiraj Unni said “*Lekshmi, a teacher working in Germany, wanted to contact her family in Trivandrum. Her Facebook Live message finally helped my team to contact her family members. Several people have also started special teams through Whatsapp and Facebook for relief and rescue operations*”. #Doforkerala, #Anbodu Trivandrum, and #Kodeundu have already started supplying food, drinking water, and bed sheets to the affected people staying at various relief camps in the district.

Abhiraj Unni said “*We got a message in the Whatsapp group, that there is an urgent need for food and clothes for a relief camp in Alappuzha. We packed and arranged all the necessary items within an hour with the help of my team. Google Maps is a tool for helping us locate people. Many people shared their locations on Whatsapp to help track them down*”.

Conclusion

Postgraduate students prefer to use Social media platforms for education-related communication and social connectedness. A large number of academic-oriented social networking sites are available online and a huge number of students are using them for their academic betterment and knowledge sharing. It is found that social networking sites as an expandable tool to promote their academics and at the same time they are well aware of negative influences. The present study has tried to analyse all the engagements of students including the career aspirations and the social engagements. Social media platforms allow students to find their social/personal space. It helps not only to find a job but also to reveal their talent in front of others in virtual mode. They think Social Media is a stepping stone for their success. In conclusion, the majority of the postgraduate students prefer social media applications for more than one purpose which means for information and education. The students wish there should be one particular Social Media application that includes all the major features of different social media platforms. They opine it helps them to abstain from complexity and confusion.

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**At the Juncture of Virtual Reality and Extended Self: A
Review Analysis on Social Concerns of Video Gaming
Addiction**

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N R Suresh Babu**

Abstract

Video gaming is a crucial component of contemporary social reality, evolving into a significant participatory subculture. These gaming experiences offer personalized alternative realities that transcend traditional limitations of place, time, and tangible existence. As a result, gamers form robust networks within virtual spaces, developing intricate meanings around their gaming experiences. This blurring of the lines between the social and virtual worlds illustrates the deep integration of gaming into daily life. However, when video gaming becomes an addiction, it raises significant social concerns. Video game addiction profoundly

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impacts individuals' social realities, influencing their behavior, relationships, and self-perception. The immersive nature of modern video games leads to the formation of strong, sometimes exclusive, virtual communities that replace or overshadow real-world interactions. For addicted gamers, the virtual world becomes a primary source of identity and social connection, often at the expense of their physical and social well-being. This paper examines the impacts of virtual game worlds on the social reality of individuals heavily dependent on video gaming. By analyzing relevant literature, the study uncovers how video game addicts integrate elements of gaming into their social life and self-identity. It explores the ways in which addicted gamers navigate their dual existence in both virtual and physical realms, highlighting the challenges and implications of this integration. The findings provide insights into the complex relationship between video game addiction and social reality, offering a nuanced understanding of how digital and social dynamics interplay in the lives of those affected by this addiction.

Keywords: *Addiction, Gamer Identity, Screen time, Virtual Reality, Gaming Culture*

Background

Video gaming has become a major force in contemporary culture, reshaping entertainment and social interactions. This literature review delves into the growing issue of excessive use and addiction towards video gaming, exploring its social ramifications and impact on individuals' lives. As gaming technology advances and becomes increasingly immersive, concerns about its potential to foster addictive behaviors have intensified. By examining the existing body of research, this review aims to provide a nuanced understanding on the implications of video game addiction on social relationships, social achievements, well-being of individuals, highlighting the

sociological significance of the interactions of self between the social world and virtual world of video gaming.

The profound influence of video games on cultural and social dynamics highlights their inseparability from contemporary society. From the observation, the ubiquity of gaming underscores its role as a major source of entertainment and social engagement, particularly evident during the Covid-19 pandemic when people turned to video games to cope with isolation (Luz et al., 2023). The industry's prominence, generating more revenue than the combined movie and music industries, underscores its cultural significance in the digital age (Daniel & Garry, 2018). However, alongside its growth, I have noticed growing concerns about video gaming addiction, raising questions about its impact on social engagement and social well-being. The addictive nature of video games can lead to negative consequences such as reduced academic performance, social withdrawal, and increased mental health issues, necessitating a balanced approach to gaming (Heng et al., 2021).

In line with this, video games are a major part of modern culture, driven by the commercial efforts of developers and the inherent appeal of gaming (von der Heiden et al., 2019). Despite the enjoyment and achievements gaming offers, it also raises social concerns, particularly related to addiction. The immersive experience of video games, which combines animation, music, screenplay writing, and technology, serves as a powerful medium for both expression and engagement (Keukelaar, 2019). Players become avatars in a simulated world, contributing to a 'participatory culture' where they actively shape and modify game content (Nielsen, 2022). However, issues arise when individuals become so engrossed in gaming that other social aspects of life are neglected. This can lead to video game addiction, characterized by compulsive and uncontrollable engagement in gaming activities (Heng et al., 2021). Additionally, video game addiction involves

more than just excessive gaming; it also includes the role games play in an individual's life and their impact on personal performance and social interactions (Carbonell & Blanquerna, 2020). This addiction can result in poor academic performance, social isolation, and mental health problems, underscoring the importance of awareness and balanced gaming habits.

The social consequences of video gaming addiction are significant and multifaceted. When individuals become excessively involved in gaming, it can lead to isolation from family and friends, as their primary focus shifts away from real-life interactions to the virtual world (Nasution et al., 2019). From the observation, this preoccupation with gaming often results in the neglect of responsibilities, such as academic or work obligations, leading to poor performance and potential job loss or academic failure (Buono et al., 2017).

To adequately understand video game addiction, it is essential to analyse issues beyond the physiological and psychological levels, considering its societal impact as well. Understanding how excessive video gaming affects an individual's relationships, societal norms, and social structures is crucial. This article aims to explore the emerging social concerns associated with video gaming addiction, focusing on the rise of virtual identities, parasocial networks, and participatory subcultures. By examining existing literature, we aim to shed light on how these factors influence and are influenced by video gaming addiction, providing a comprehensive view of its broader social implications.

Methods

An extensive literature search was conducted using databases Web of Knowledge, OECD, JSTOR, SAGE, and PubMed, in the areas of social sciences, health and technology. Additional databases such as Google Scholar and ResearchGate were also employed to find additional sources to produce an all-

encompassing review. The key search terms for finding the sources included “addiction”, “virtual reality”, “videogames”, “entertainment”, and “online”. The derivatives and outshoots of these key search terms were utilised to obtain literature which will serve the objective of the current study.

Additionally, the studies selected for the review were narrowed down using the inclusion criteria,

- 1) should deal directly or indirectly with the influence of gaming addiction on society,
- 2) availability of full text in the English language, and
- 3) should be published after 1st January 2014 so that the selected studies remain relatively recent.

Discussion

Video gaming is essentially a vital element of contemporary social reality. These marvelous experiences of video gaming have only been relevant at the macro level since the 1980s (Kirkpatrick, 2016). The rise of video games can be read along with the time when discourses of the post-industrial and the post-modern ideas found its significance in society and the restrictions on media became more or less liberal. But currently, video games have reached a stage where technological advancement such as augmented reality, virtual reality, and facial/audio recognition utilised denotes an incline towards digi-modernism, which is a leap ahead beyond postmodernism (Daniel & Garry, 2018). So what video gaming can offer is an alternative reality which is not furthermore confined to the dimensions of place, time or tangible reality. Video games are influencing the gamers to construct meanings in relationship with games that they are occupied with. The participatory culture around it narrows down the distinction between the social world and the virtual game world, and it is how the gamers interact with their environment (Kaczmarek &

Drazkowski, 2014). When video gaming becomes an over-dependency/addiction among individuals, the complexity of this social transformation to a digi-modernism era raises certain concerns.

Hyper Consumerism

A consumerist society is a society in which the substantial augmentation in the consumption of goods and services purchased in the market is legitimised as a desirable cultural goal. This happens when the belief arises that consuming more goods and services can always lead to people's prosperity and contentment (Arikan Saltik et al., 2013). In the consumerist society where the individuals are inducted with dullness, hollowness and alienation, the primary method to find meaning in life is to consume maximum goods and services they are able to acquire. This makes video games also a good that can be utilised to give meaning to life (Kaczmarek & Drazkowski, 2014). In 2020 alone the income generated 110 billion US dollars approximately ("Newzoo Global Games Market Report, 2022).

The whole revenue made by the gaming industry comes from sales of video game software, gaming hardware, fashion accessories and virtual gaming goods. The sales of virtual gaming goods are entirely different from other video game related services as it has no existence or use value in the real world. The outfits, ammunition, accessories for characters, cheat codes, achievement unlocking etc., are mostly consumed as virtual goods by the video gamers (Hamari et al., 2017). The market value for video game virtual goods alone is estimated at around 50 billion US Dollars. This shows a shift from consumerism to hyper-consumerism in the video gaming community, where video gamers show strong enthusiasm for consuming virtual goods at a bulk rate using genuine money. Most video gamers who are overly engaged in video games don't even make the distinction between virtual

goods and actual goods (Hamari & Keronen, 2017). Thus the hyperreality of the video gaming world makes the video gamers unable to recognise the reality from virtuality, and pushing them to passiveness.

Stigma

The notion of stigma can be defined as a form of undesirable divergence from the expectations of the society in which an individual resides in. The stigma can be pinned on an individual based on three main divergences. These include 1) physical abnormalities of an individual, 2) flaws and faults in character of an individual and 3) tribal stigma based on the social group identity of an individual (Kusow, 2015). Video gaming addiction is associated with preoccupation and overreliance on video games, which is a flaw and fault in the character of an individual (Kusow, 2015). These stigmas regarding video gaming addiction come as characters of the video gamers manifest a certain kind of deviance from the accepted behaviour. Each society has cultural goals and legitimised means to achieve them. But gamers reject these cultural goals and the means to achieve them. They withdrew themselves into retreatism (Galanis et al., 2021). Their goal is to be successful in the virtual world of video gaming and the means to achieve it is to perfect their video gaming skills and abilities. The media have also played an important role in creating stigmas around video gaming addiction. The mainstream media has given a stereotypical image to video gamers as lazy, isolated and socially incompetent (Smarr-Foster, 2017). In the contemporary scenario of rising video gaming addiction, the stigmatisation regarding video gaming has become an important social concern.

Moral Panic

Moral Panic can be defined as a disrupted state that occurs in society when a group of individuals are anticipated to be a menace or threat to societal expectations and interests. The moral

panic will be stirred out by the so-called elitist intelligentsia and is supported by mainstream media. In order to portray a group as a threat to the moral fabric of society, they will be presented as a sensualist and stereotyped with immoral undertones (Goode, 2018). Moral panic in society is evident through enhanced societal apprehension and antagonism towards the behaviours of the threat.

There was moral panic in the case of over usage of radio, television and any new technological innovation that had the potential to bring about social change. The same has occurred in the case of certain individuals growing more attached to video games. Many stigmas and stereotypes are formed regarding video games and video gamers (Walsh, 2020). As the majority of video games belong to action and shooting, there is a prevalent argument that people who are addicted to these kinds of video games and have low morality will commit violent acts (Kowert et al., 2022). There is also another concern that sexualisation within video games can lead to sexual perversion in individuals (Mortensen et al., 2015).

Mass culture theory states that in modern society, people are atomised. The linkages between individuals are more or less contractual. Individuals are incapable of forming purposeful, sincere and morally coherent relationships. This leads to the degradation of traditional moral order and it will be replaced with counterfeit and proxy moral ideas (Macdonald, 1953). Devoted or addicted video game players have already constructed many sub-cultural elements. The video gaming events such as tournaments, cos plays, modding etc., are acquiring deeper meaning in popular culture (Daniel & Garry, 2018). The expanding video gaming is creating new social identities, norms and lifestyles. The moral panic is from the fear that the sub cultural elements of the devoted video game culture will substitute the accepted cultural elements of the broader society (Khanolkar & McLean, 2012).

Compartmentalised and Fluid Identity

Any given individual in a society has two identities. One is personal identity and social identity. While personal identity is the distinctive way in which an individual defines themselves, social identity is derived from the social groups of which an individual is a member (Hogg & Vaughan, 2018). The foundation of forming social identity is to socialise, individuals must be equipped with sufficient social skills to interact and develop social relationships through which they can form social identity. It is important to note that one individual can have multiple social identities. This means that individuals form identities depending on which social groups they identify with (Hogg & Vaughan, 2018).

Over dependency of an individual on video games can influence their personal identity. A video gamer is capable of steering a gaming avatar or playable characters in every possible direction in the virtual world, which may not be achievable in social life (Hussain et al., 2021). Thus, the accomplishments in video games may appear for several video gamers as more rewarding and satisfying than what is possible in social life (Kaczmarek & Drazkowski, 2014). The avatar in the game becomes an “ideal self” for certain individuals. But in actuality, the game cannot be merged with the “real self” in the social world, resulting in fragmentation of identity and inability to acquire self-actualisation. When individuals become dissatisfied with what they are or feel incomplete within themselves, they tend to consider entities to which they are affectionate as extensions of themselves. For video gamers who are addicted, video games become an extension of self. This contributes to the construction of fluid, multiple, and fragmented identities (Costa Pinto et al., 2015).

Video games are essentially a magic circle where the

regulations of the social world are suspended, reality is distorted, and laws of virtual worlds will take on action. But the boundary of this magic circle is not rigid, it is porous in nature. The individuals who are continuously engaged in video games are moving in and out of the fictional world of video gaming to the life world of society (Cassidy & Walsh, 2019). The extension of the virtual world of video gaming can be seen in society through video gaming coaching, video game quizzes, discussion of Easter eggs, fanfiction literature, cosplay, video gaming events and more (Costa Pinto et al., 2015). Symbolic convergence theory acknowledges that people who share similar types of fantasies can form groups with strong bonds. The video gamers who are over-dependent on video games and are preoccupied with the virtual world of video games create groups, thereby creating a new social identity (Guegan et al., 2015).

Medicalisation

Medicalisation is a process through which common aspects of life have converted into pathological or medically deviant. Many of the important studies conducted on video gaming addiction show that it is nothing but over-dependency on utilising video games. In the medical field itself, video game addiction is still a relevant topic of discussion among researchers and medical experts (Markey & Ferguson, 2017). According to the DSM-5 (American Psychiatric Association, 2013), the clear evidence which proves that video gaming addiction is a medical problem was scarce and limited at the time. Even though it is unfathomable to specifically demarcate the difference between video gaming addiction and excessive video gaming (Parrott et al., 2020), the medical treatments are given to individuals who are diagnosed using criteria which are complex and not well precisely established. In earlier eras, the intervention of medicine without accurate criteria can be observed in the case of medicalisation of homosexuality and transgender. This has been now de-medicalised

and established as normal in contemporary society, it is logical to assume that the medical and psychiatric definition of addiction does not merely involve the excess consumption and dependency on toxic substances (for eg: Alcohol, smoking and gambling) but it is inclusive of other problematic and habitual behaviours such as consumption, food addiction and work addiction etc. (Parrott et al., 2020). Video gaming addiction is also an additional inclusion to this list with medical theoretical speculation rather than based on sufficient, appropriate evidence (Markey & Ferguson, 2017). The medicalisation of video gaming is indeed another push by the medical community to cultural iatrogenesis, where medicine is compromising individuals' ability to manage their own health, pain and over-dependencies (Zastrow, 2017).

Juvenioia

Juvenioia is the suspicion and malevolence manifested by the older generation towards the younger generation. As the statistics show that most of the video gamers are adolescents and youth, and proportionately the demography, which shows higher rate of video game addiction, is also the same (Djannah et al., 2021). Parents, policymakers and medical experts are looking at the increased attachment to video gaming with agony. This fear or worry originated from the uncertainty of how this is going to affect the individuals and greater society in the longer run (Walsh, 2020).

As new technologies arrive, there will be a lag among the individuals of a society to form an understanding regarding the same. The creative destruction that replaces the technologies with new forms of technology is also observed in the case of video gaming too. Improvised graphics, additions of virtual reality, augmented reality, and interactive playing have found its way into the core of video gaming (Keukelaar, 2019). The children, adolescents and youth who are socialised early into these

technologies can adapt to them very easily. But the older generation, who is witnessing a cultural shift, faces a delay in forming the understanding of new technologies and shows a hesitation towards the culture as it contradicts with culture they sustained (Madrigal-Pana et al., 2019). If the suspicion that the negative effects of video gaming addiction are corrupting more youth, adolescents and children, Juvenioia will further develop.

Conclusion

The technological advancement in contemporary society has habitualized the usage of digital devices. Consequently, video gaming using these devices has become a culturally accepted mode of leisure. As society exhibits strong organic solidarity, the detachment from interpersonal recreational activities has paved the way for an increased number of video game users. The rising trend of problematic video gaming is creating multiple concerns. It has been observed that addiction displaces people from their regular social roles and effective participation in communal activities. Furthermore, a segment of these addicted video game players associate their identity with the virtual world, spending large amounts of money on virtual goods. The larger society, which views this new phenomenon as problematic, constructs a negative perception towards it. Over time, these perceptions precipitate as stigmatization, moral panic, and Juvenioia.

The intervention of medical science from the same viewpoint pathologizes excessive video gaming and contributes to over-medicalization. Although there are dilemmas in using the term video gaming addiction, the literature shows that social factors, in fact, cause problematic video gaming. Additionally, the same phenomenon generates new social concerns. These concerns should be addressed by promoting healthy gaming habits, enforcing strict laws and guidelines for gaming design that intentionally trap players, and producing reliable knowledge

regarding video gaming addiction to expose its true nature. Despite the existing research, gaps remain in understanding the extent to which video gaming addiction affects social roles and obligations. A more nuanced analysis is needed to explore how addicted gamers navigate their dual existence in both virtual and physical realms, highlighting the challenges and implications of this integration.

Based on this findings from literature, there is a pressing need to study video gaming as a form of detachment from social roles and obligations. This can be achieved by further exploring first-person accounts to understand the subjective experiences of those affected. Examining video gaming addiction from this angle will shed light on the complex relationship between digital engagement and social reality. Furthermore, this can lead to more effective interventions and support systems for those struggling with video game addiction. By doing so, there will be better understanding of the dynamics of self between digital and social worlds in the lives of addicted gamers and develop strategies to mitigate the negative impacts on their social reality.

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**e-Shram Portal: A Revolutionary Platform for Migrant
Workers**

Surabhi Ghai* &

Sandhya R S^{*}**

Abstract

Indian migrant labourers play a crucial role in the nation's economic growth; however, they frequently deal with a range of issues, such as exploitation, a lack of social safety, and constrained prospects for progress. The COVID-19 pandemic's arrival heightened these difficulties and highlighted this population's vulnerabilities. In August 2021, the Ministry of Labour and Employment launched the e-Shram portal to respond to these difficulties. With a significant focus on migrant labourers, this innovative digital network aims to register workers in the unorganised sector. With the help of the portal, the employees can access a range of social security programs. This discussion paper uses a descriptive approach to clarify the goals and advantages of the e-Shram portal for migrant workers. The theoretical framework emphasises the inherent human urge for

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acknowledgement and is based on Axel Honneth's recognition theory. Based on Axel Honneth's theory of Recognition, the theoretical framework emphasises the necessity of recognition for all living things. By offering formal acknowledgement, the e-Shram site aids migrant workers' integration into society. This, in turn, results in a more inclusive labour market, decreased vulnerability, and reduced tensions, especially in times of crisis like the COVID-19 pandemic. The paper also looks at the challenges concerning registration, age limitations, problems with digital literacy, and issues with the perceived worth of digital goods.

Keywords: *Unorganised Workers, Recognition, e-Shram, Migrant Workers, Inclusion.*

Introduction

An essential aspect of India's socio-economic environment is labour migration. It creates a tapestry of tales, aspirations, and challenges for many people who travel to pursue employment and livelihood. Migrant workers are critical to economic growth and development in their native places and destinations. Migrant workers frequently encounter various difficulties and vulnerabilities, such as exploitation, a lack of social protection, and constrained prospects for progress. The COVID-19 pandemic, which disrupted the economies and resulted in job losses and inequities, worsened these problems. The e-Shram portal introduced under the Ministry of Labour and Employment, Government of India, emerges as a transformative tool. The Indian government introduced the e-Shram portal in August 2021 as a groundbreaking platform designed to register workers in the unorganised sector, notably migrant workers, and give them access to different social programmes in response to these difficulties. The e-Shram portal is an essential step towards empowering migrant workers and resolving the disparities that already exist

in the unorganised sector. The e-Shram portal aims to act as a complete database of migrant workers, facilitating access to welfare programmes and social protection measures. Migrant workers can either register themselves or with the help of other online service centres like Digital Seva Kendra. The e-Shram portal intends to streamline the provision of numerous services to Indian workers in the unorganised sector. The platform offers workers advantages, including social security, health and welfare programmes, and opportunities to advance their skills. This article explores the e-Shram portal, elucidating its objectives, functions and challenges, thereby highlighting the importance of registration of interstate migrant workers.

Methodology

This discussion paper employs a methodology grounded in a literature review supplemented by the author's insights and perspectives. A descriptive design is used to explain the e-Shram platform and how it would benefit the migrant workers. The paper focuses on exploring the key features and benefits of the e-Shram portal and how it is advantageous for migrant workers.

Theoretical Framework

According to recognition theory, human beings have a fundamental need for recognition (Honneth, 1995). This need encompasses accepting one's true identity and worth rather than just the desire for surface acknowledgement. People may experience misrecognition, denial, or distortion of one's worth or identity. It can cause psychological and social suffering and frequently sparks a struggle for recognition. The theorist argues that political and social institutions are crucial in promoting or hindering recognition. Institutions must ensure that individuals have equal access to recognition for a just and inclusive society. The e-Shram portal thereby helps to include the migrant workers into the mainstream by providing them dignity and identity for

their work through the portal. These outcomes would create an inclusive labour market, reduce vulnerability, and reduce tensions created in an emergency like the COVID-19 pandemic.

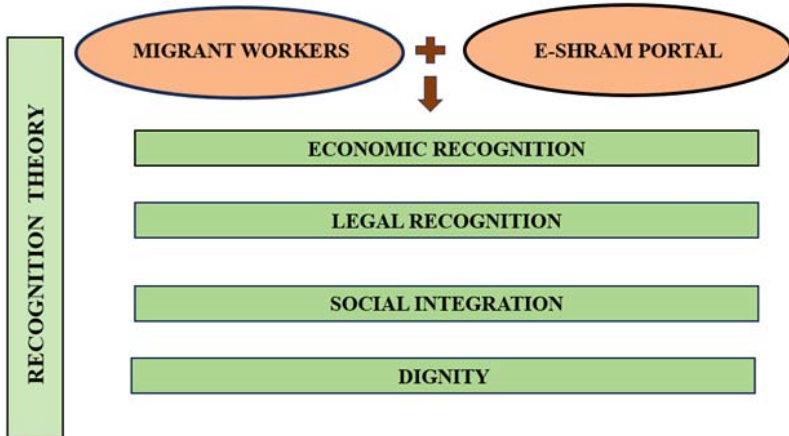


Figure I. Theoretical Framework

With the help of the e-Shram portal, the migrant workers will be able to achieve Economic Recognition. It involves acknowledging a worker's economic contributions and ensuring fair wages and financial security. The labour in the unorganised sector is often invisible. Since there is no actual data on the registration and identification of migrant workers, it is often undervalued and discriminated against on various grounds. Thus, recognition in the government portal lessens exploitation and thus economically recognises the workers. Apart from Economic Recognition, the e-Shram portal will also help achieve legal recognition and social integration. Legal recognition is the acknowledgement of a worker's rights under the law. It provides them with the legal tools to assert their rights. One of the prime missions of the e-Shram portal is legal recognition.

The e-Shram platform promotes social inclusion in addition to economic and legal recognition. Involving people in social

networks, groups, and organisations to develop a sense of solidarity and belonging is known as social integration. The e-Shram site assists in migrant workers' social integration by formally recognising them and providing them with access to welfare programmes and social protection measures. By enhancing their sense of belonging within the labour market, it lessens the isolation and exclusion that these workers frequently experience in the informal labour sector.

These recognitions and integration efforts result in a more inclusive labour market, decreased susceptibility, and reduced tensions, especially during emergencies like the COVID-19 pandemic. The e-Shram portal essentially links the fundamental demand for recognition in recognition theory and the actual needs and rights of migrant workers, promoting a more equitable and inclusive society.

Understanding the e-Shram Portal

According to a study published by Azim Premji University in 2021, the size of informal workers in the country is around 415 million (State of Working India, 2023). The e-Shram portal stands out as a transformative endeavour in India's dynamic labour and employment scene that aims to alleviate the numerous difficulties experienced by migrant labourers. The tensions created during the COVID-19 pandemic caused the Supreme Court to order the creation of a database for migrant labourers. However, even though it started as an initiative, especially for the migrant workers, it later became an initiative for the unorganised workers.

The e-Shram portal, launched on 26th August 2021, has established itself as a trailblazing project and signalled a paradigm shift in labour migration management. It signifies a noteworthy advancement in the nation's attempt to regulate labour migration successfully. The database is the first nationwide collection of unorganised workers ever created, and it includes gig and platform

workers as well as migrant workers, construction workers, and others unable to access government policies and schemes. It is a digital archive that aims to gather thorough data on unorganised sector workers, who comprise a sizeable share of India's labour force. A worker's information is collected on the e-Shram portal under various categories, including Aadhaar details, marital status, disability status, contact details, address, occupation details, bank details, etc. Any unorganised worker with a bank account, Aadhaar card, and sim card can register with the portal to avail of the services.

Objectives of e - Shram Portal

The e-Shram portal's primary goal is to compile a national database of all unorganised workers, including migrant workers, gig and platform workers, domestic workers, street vendors, and other workers in the unorganised sector who have their Aadhaar numbers seeded (Vikaspedia, n.d.). It attempts to increase the effectiveness of social security services for unorganised workers. To deliver various social security and welfare programmes, it also communicates information about registered unorganised workers with various partners, including ministries, departments, boards, agencies and organisations of the federal and state governments.

Workers employed in the unorganised sector between the age group of 16 - 59 are eligible to register on the e-Shram portal. The unorganised sector comprises businesses or establishments that produce, sell, or provide services but have fewer than ten employees. ESIC (Employees State Insurance Corporation) and EPFO (Employees' Provident Fund Organisation) do not provide coverage for these units. An unorganised worker works from home, is self-employed, or earns a wage in the unorganised sector. It includes unorganised sector workers who are not government employees, Employees State Insurance Corporation (ESIC) members, or the Employees' Provident Fund Organisation

(EPFO). The registering employee must have an Aadhaar number and a mobile phone associated with the Aadhaar. They should also have a bank account (e-Shram portal, n.d.).

Each unorganised worker is given a 12-digit Universal Account Number after registering on the eShram portal. The UAN number will be lifelong, meaning that once it is assigned, it will never change. Also, the unorganised workers will receive two lakhs of accidental insurance coverage under the Pradhan Mantri Suraksha Bima Yojana (PMSBY). All social security benefits for unorganised workers will eventually be provided via the e-Shram portal.

Social Security Welfare Schemes available under the e-Shram Portal are:

- Pradhan Mantri Shram Yogi Maan-Dhan Pension Yojana
- Pradhan Mantri Suraksha Bima Yojana (PMSBY)
- Pradhan Mantri Jeevan Bima Yojana (PMJJBY)
- Pradhan Mantri Awaas Yojana – Gramin (PMAY-G)
- Atal Pension Yojana (APY)
- National Pension Scheme for Traders, Shopkeepers, and the Self-employed Persons
- National Social Assistance Programme (NSAP)
- Health Insurance Scheme for Weavers (HIS)
- Ayushman Bharat Jan Arogya Yojana (AB-PMJAY).
- National Safai Karam Charis Finance and Development Corporation (NSKFDC)
- Self-Employment Scheme for Rehabilitation of Manual Scavengers

Apart from receiving the above welfare schemes, an e-Shram cardholder will also receive a monthly pension of thirty thousand once they reach sixty years of age. Furthermore, there is also a provision for the workers to submit their grievances concerning their employment via the e-Shram portal.

Significance of e-Shram Portal for the Migrant Workers

A migrant worker, according to the e-Shram portal, is any person who is employed in an establishment or has come on their own to another state and draws wages not exceeding Rs 18,000 per month (Vikaspedia, n.d.). The unorganised sector often lacks sufficient regulations and social protections and employs migrant workers frequently. Because of this, migrant workers are more susceptible to exploitation, low pay, hazardous working conditions, and a lack of access to social services. By giving migrant workers a place to register and access various social programmes, the e-Shram portal seeks to alleviate these problems. Migrant workers can ensure that their employment history, skills and other pertinent information is recorded by enrolling on the portal. The e-Shram portal not only aids in developing a thorough database of migrant workers but also makes it possible for the government to recognise and address particular problems experienced by them.

The e-Shram portal provides a wide range of advantages to migrant workers in India, intending to enhance their living standards, social security, and working circumstances. The first and foremost benefit for the migrant workers would be acquiring a formal identity and recognition, formal recognition is what every migrant worker lacks. They often work informally in the informal sector, i.e., without formal recognition in society. Women migrant workers, compared to their male counterparts, are more invisible in the labour market and are the most excluded (Prasad, 2017). Thus, receiving the Universal Account Number (UAN) will give

them a formal identity in society, especially in the labour market. Hence, recognising their work by providing them with a formal identity is an essential step towards including them in mainstream society, thereby acknowledging their contribution to the labour market.

The lives of migrant workers are frequently unstable; they frequently operate in foreign settings and run higher risks due to the nature of their jobs. The E-Shram portal recognises these weaknesses and works to mitigate them by providing various social security benefits. Health insurance access through the E-Shram site implies that employees will have access to medical care in a medical emergency like illness or injury. Given the fact that many migrant workers lack access to high-quality healthcare, this coverage is a vital safety net. There are high chances of receiving prompt and appropriate medical care if they have the gateway's health insurance, which eases the financial strain on their families and protects their well-being.

The portal also offers accident insurance coverage in addition to health insurance. Migrant labourers frequently toil in physically taxing and occasionally dangerous environments, such as factories or construction sites. Accident insurance made available through the E-Shram portal provides injured workers with financial assistance in the case of an injury or accident at work. This assistance can cover medical costs, assist with rehabilitation, and compensate for lost wages while recovering. In times of crisis, it lessens the financial burden on employees and their families, promoting financial stability. The availability of insurance significantly lowers the financial risks related to illnesses and injuries sustained at work. Now that a safety net has been put in place, migrant workers who would have otherwise faced the possibility of high medical costs or income loss due to accidents are protected. This helps build a more secure labour force and benefits workers and their families. It also gives migrant

workers a sense of worth and well-being by reiterating how important and well-protected their health and safety are. It improves mental and emotional health and reduces the stress and anxiety that frequently come with a migrant worker's unpredictable life.

Because of their sporadic and unregulated employment, migrant workers frequently risk exclusion from financial institutions and government support programmes (ILO, 2007). The E-Shram portal addresses this exclusion by encouraging financial inclusion and making various government programmes more accessible. The connection between employees' Universal Account Numbers (UAN) and bank accounts is a key component of the E-Shram platform. The direct deposit of subsidies and benefits into employees' bank accounts is made simpler by this connectivity. This feature offers a secure financial anchor for migrant workers who frequently migrate from one place to another in pursuit of employment. It guarantees that even if individuals switch employment or regions, they can still access their benefits and earnings. This lessens the need for cash transactions and gives employees more control over how securely they keep their money. It reduces the possibility of exploitation and guarantees that employees get the maximum amount of financial assistance to which they are entitled under government programmes.

When looking for work, migrant workers frequently find themselves in a precarious situation, especially in foreign places. They have frequently relied on mediators or labour intermediaries who stand between employers and employees. These middlemen may impose fees or commissions, frequently take advantage of employees, and subject them to abuse. The E-Shram portal significantly reduces migrant workers' reliance on these middlemen. Workers can register directly through the E-Shram portal. Workers can register on the platform instead of depending on intermediaries to connect them with employers.

The e-Shram portal offers a legal channel of appeal in cases of labour disputes or worker exploitation. This allows employees to stand up for their rights, report unfair labour practices, and ask for help from the appropriate labour authorities without worrying about facing the consequences from mediators.

Challenges and Way Forward

An estimated 380 million workers are to be registered through online and offline channels through the target-oriented e-Shram platform (Azim Premji University, 2021). However, close to 415 million people are working in the informal sector in India. The E-Shram portal is admirable in terms of its goals. Since no extensive database offers details on workers throughout the informal sector and the migrant workers, it stands as one of the crucial inventions. With the initiation of the portal, the government can have a systematic database of the floating population. While the portal offers numerous advantages to unorganised workers and the government, it also presents certain drawbacks that must be addressed for the portal to function effectively.

According to a report on *The Wire* (2022), the e-Shram registration process has been a subject of confusion for many. Registering for an e-Shram is complicated, and employees are generally nervous and unclear about its potential advantages. The portal gathers information on name, occupation, residence, educational background, skill sets, and family information. Since most unorganised and migrant workers lack basic knowledge about the portal, it has become more confusing for them. Although the government has started raising awareness among workers through NGOs, many are still unaware of the portal's functioning.

The project aimed to gather data about migrant workers; however, it later incorporated unorganised workers. There have been concerns that by requiring an Aadhaar-linked mobile number and bank account for self-registration, the portal may end up

excluding the most disadvantaged members of the workforce. Owning a cell phone number linked to the Aadhaar is the first and most important condition for registration. However, it presents a problem for migrant workers, who frequently switch between locations and sim cards due to the nature of their profession. Most migrant workers switch to another sim card after leaving their hometown; their phone might get stolen, or they may discover that a specific network operates better in a particular location and discard their previous sim card.

Additionally, there are instances where several employees sharing a residence utilise the same mobile device. Even though the portal offers an updating facility, many workers would not bother to update or might forget or ignore it instead of going behind the process because of a lack of technical knowledge. Therefore, many get excluded from the portal only because they do not have an Aadhaar-linked mobile number. Lack of personal identification documents like birth certificates, identification proofs, etc., exclude them from registering in the portal.

According to the Working People's Charter (n.d.), age restriction is another significant issue. Only those between 16 and 59 are eligible for e-Shram. In that regard, the age restriction on the portal will prevent many individuals over 60 from using its services. Since the informal sector does not have a retirement provision, many workers over 60 years are employed in the informal sector. Additionally, there are instances where an employee's Aadhaar card has a wrong birthdate. Many are, therefore, barred from the portal due to paperwork problems.

Another significant issue affecting migrant labour is digital illiteracy. Since a majority of the unorganised workers aged above 50 are digitally illiterate, it poses a hindrance in the registration process in the portal. Also, a digital product like e Shram does not sit well with the workers, especially with the migrants. The e-

Shram card is a digital version. In most cases, a migrant worker registered in the portal may not take a physical copy of it. People may not be aware of the card's value since it is provided as a pdf. It would be preferable if the card gave the recipient the impression that they had received something. A polyvinyl chloride (PVC) card would be more suitable. It would last long and be easy to carry, especially for the migrant population.

Moreover, another ongoing concern about e-Shram has been the lack of clarity surrounding what would happen once the data has been gathered. There is little information on how the registration will increase social and security benefits for workers, save from offering a meagre sum as accidental insurance for registered workers. With an increase in the interstate migrant population in India, it is time for the government to find solutions to the emerging issues. The government should provide the workers with more benefits and coverage other than the accidental coverage of INR 200,000.

It's possible to create a map or a plan that shows where certain groups of people are being left out or not getting the help they need. These groups can include organisations outside the government, different government departments, and groups that work on development projects. The goal is to understand how people move from one place to another within a country and between different states. By creating this map, it is possible to figure out how to help these people better in the future (Rajput & Rajan, 2023).

Conclusion

The e-Shram platform stands out as a pioneering effort to give migrant workers in India official status, respect, and security. It seeks to eliminate inequalities in the unorganised sector by providing a comprehensive database, access to social welfare programmes, and legal mechanisms for conflict resolution. This

empowers these workers. Additionally, this digital platform is essential for having an exhaustive and systematic database of interstate migrant workers in the country. By launching this programme, India makes a giant stride towards valuing its migrant workers, improving their economic, social, and legal status, and eventually securing a brighter future for people who make such enormous contributions to the country's progress.

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**National Education Policy 2020: The Uncertain Roadmap
Ahead**

***Minu Hari Kumar* &
Saji P Jacob*****

Abstract

The National Education Policy 2020 aims to pave the way for transformational reforms to the nation's education sector. Although opportunities envisioned by NEP 2020 are undeniable, apprehensions about its scope and usefulness also exist, questioning the sanguinity of the framed Policy. An absolute reform and a drastic swap are to be contemplated during the implementation of NEP 2020. The National Education Policy 2020's suggestions will be implemented in accordance with whatever future rules that the state and federal governments

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decide to enact because education is a concurrent subject. The goal of this paper is to shed light on the several facets of NEP 2020 and to analyze its apparent loopholes and execution challenges that must be addressed to foster quality education. The article argues that the Policy does not provide any roadmap ahead, especially regarding the financial strategies needed to deal with the insufficiency of budget allocation for educational reforms in India.

Keywords: *Education, NEP 2020, Quality Education, Uncertain Roadmap*

Introduction

Education expenditures will consistently yield the greatest returns on investment for society. Any nation, especially one as varied as India, must prioritize education if it hopes to reduce inequality and improve its prospects. But given the enormous population density across the nation, it will require a lot of work to understand India's educational system and address the underlying problems (Anderson & Lightfoot, 2019). Given this, the National Education Policy 2020 proposes altering and re-equipping all facets of learning institutions, including their regulation and governance (NEP, 2020). Although it is still not the time to evaluate the Policy, an assessment of the policy proposals in terms of their historicity is quite relevant. Based on a critical analysis of various literature and policy documents in the field of education, this article attempts to appraise the new Policy and its future roadmap. The paper is more focused on the implications of NEP on school education in India. Being a policy analysis paper it follows the method of critical perspective and is based on an analysis of policy documents, education commission reports and other secondary sources.

Evolution of India's Education Policies: A Review of Commission Reports, Policy Documents and other Relevant Literature

India has a rich and varied history of implementing national and state-level education programs. With the goal of offering top-notch education to all of its residents, the country's educational system has experienced numerous advancements and modifications. During the period of independence, national leaders like Nehru, Gandhi, and Ambedkar were aware of the dire state of education in the country. Due to a low uptake of primary education, crude literacy in undivided India remained at only 16%. This could be attributed to both the culture of rejecting education for the poor and the British government's indifference to the Indian people's evolution.

Thus, in carrying out the Constitution, pro-education and anti-caste organizations recommended education as a fundamental right. However, others were uninterested in maintaining the status quo and citing the lack of resources to fulfill a constitutional obligation. Amidst this political climate, the 1949 Constituent Assembly passed Article 45, directing the state to provide free and compulsory education to all children till the age of fourteen within 10 years (Ayyar, 2018).

Occasionally, the Indian government has experimented with, and approved various policies and guidelines to bring about the necessary progress in the field of education. The idea of a unified education system was developed by Maulana Abul Kalam Azad, the country's first education minister, who consolidated government oversight over educational policies and practices. In 1961, the National Council for Educational Research and Training (NCERT), an autonomous organisation, was created by the Union Government. This system was designed to assist governments in formulating and carrying out policies pertaining to education. In

an attempt to update and modernize India's educational systems, the Union Government established the Radhakrishnan Commission, also called the University Education Commission (1948–1949), the Mudaliar Commission, also called the Secondary Education Commission (1952–1953), the University Grants Commission (November 1956), and the National Education Commission, also called the Kothari Commission (1964–1966) (Meshram, 2022). The Kothari Commission suggested in 1964 that a standard public education system be implemented and that government spending on education be gradually increased, from 2.9% of GDP to 6% by 1985–1986. How far we have succeeded in it is a pertinent question, and as Meshram puts it, "... these suggestions of the Kothari Commission stand unrealized even now" (2022).

The first National Education Policy was put into effect by Indira Gandhi's government in 1968, following the recommendations and report of the Kothari Commission (1964–1966). The Policy advocated equitable educational opportunities (for rural and urban sectors) in order to create national integration and more successful cultural and economic development. It was conceived with a "revolutionary reform" mindset. But making Hindi the official language of the country ran into controversy (Meshram, 2022). J.P. Naik, the member-secretary of the 1968 Commission, stated, "*No political party in the country is faithful to the radical reconstruction of education,*" expressing his strong disapproval of the progress made by the Indian government following the Commission's recommendation. In response to this reticence, the Constitution was amended in 1976 to include education on the concurrent list, allowing the Union and State Governments to jointly establish educational policies, allocate funding, and oversee their execution (Kogan, 1975).

Under the leadership of Rajiv Gandhi's government, the second National Education Policy was created in 1986, according

to Mahatma Gandhi's philosophy of elevating development both social and economic in rural India. The enacted Policy was renowned for its remarkable focus on eliminating disparities and ensuring equal access to education for all, regardless of caste, gender, or socioeconomic standing. In order to encourage social integration, the Policy aimed for increasing adult education, allowances, subsidies, and scholarships. The "child-centered approach" was a hallmark of NEP, 1986, which also marked the beginning of "Operation Blackboard," a massive educational reform. Establishing primary schools across the country was the aim.

The 1986 NEP was amended by the Narasimha Rao administration in 1992. The Common Entrance Examination (CEE) was adopted as part of the revamped education program. The District Primary Education Program (DPEP), introduced by the Indian government in 1994, was an ambitious attempt to solve the issues and provide primary education a determined push toward universalization and quality transformation. While some academics praised the DPEP, others expressed disapproval over it. Renowned educationist Krishna Kumar was deeply critical of it. Kumar noted that the DPEP impaired Indian education by encouraging inferior alternative schools and temporarily hiring para-teachers, which diminished the caliber and status of teachers in the country.

According to Bhattacharya (2017), the DPEP served as a guise for the negative effects of structural adjustment, which India started in 1991. Another notable initiative, the Sarva Shiksha Abhiyan (SSA), was launched in the year 2000. The post-Mandal era's growing aspirations for caste victims and the push for increased international cooperation in education, which started in 1990 with the adoption of the World Declaration on Education for All in Jomtien, Thailand, forced the concept of universality into education policy for the first time (Meshram, 2022).

The 1986 policy was a compelling document that sought changes. Though following initiatives like Sarva Shiksha Abhiyan, Madhymik Shiksha Abhiyan, and Uchhtar Shikha Abhiyan saw some notable additions and modifications to infrastructure, it was unable to produce the promised outcomes of quality education in the genuine sense. Scholars and experts observe that all of the policies were effectively drafted with ambitious objectives in mind. Nevertheless, putting the measures listed in drafts into practice remained unsuccessful (Mathew, 2020). The Policy of 2020, therefore, has to be appraised in continuation with these historical experiences in the background. This paper is an attempt to fill this research gap.

National Education Policy 2020

In June 2017, the Ministry of Human Resource Development (MHRD) unveiled a Draft of NEP 2020, proposing a comprehensive overhaul and revision of India's educational system. The aim was to develop a new educational system that would support holistic experiential, discussion-based, and analysis-based learning while building upon India's traditions and value systems and being in line with the aspirational goals of 21st century education, including Sustainable Development Goal 4 (Sharma, 2022). The goal of the National Education Policy 2020 is to help every student reach their full potential by shifting the focus of Indian education from "sorting and selection" to "human development."

The Vision of NEP 2020

The National Education Policy 2020 aims to bring forth progressive changes to the education system. Firstly, it aims to switch from a curriculum that was content-driven and encouraged rote learning to one that is applied learning. Secondly, develop a 360-degree assessment approach that takes into account the academic, physical, and mental health of the students. Finally,

with a vision for 21st century skills like data science and computing, mathematical thinking, and vocational skills as a means of facilitating experiential learning. Although these reforms target the entire education spectrum, this paper focuses on the general education sector.

The 5+3+3+4 curricular structure, which can be better understood when it coincides with a child's age, will soon replace the current education system, which uses the 10+2+3 structure. Foundational stage (3 to 8 years), Preparatory stage (8 to 11 years), Middle stage (11 to 14 years), and Secondary stage (14 to 18 years). The new education policy increases the required educational period from 6-14 years to 3-18 years. The primary education framework offered by NEP-2020 considers internet-based e-learning as a paradigm shift from the traditional approach (Hiremath, 2020).

In India, a dialect and linguistic change occurs every twenty miles. Its vast size also makes it difficult for the government to guarantee that every student has a chance. In order to do this, NEP 2020 has taken the lead in introducing regional languages for instruction in schools. This will ensure that students' educational experiences are uninterrupted, and they will have the choice between regional languages and a third language that will serve as a bridging language (Saha, 2020). The Policy reads, "... *wherever possible, the medium of instruction till 5th grade and preferably till class 8th grade and beyond will be home language, local language or the regional language*".

Another noteworthy proposal included in the NEP 2020 is the introduction of "coding" education for students starting from class 6. Students will now be on par with those enrolled in the Chinese Model, whose educational system has long had comparable coding standards in place. By reducing the distinction between students' post-10th grade studies in Arts, Science, and

Commerce based on their areas of interest, the National Education Policy 2020 aims to make higher education more practical.

The critical thrust of NEP 2020 is to raise the bar for India's school education system so that it is on par with international standards. This will be accomplished through a variety of reforms, including a focus on Early Childhood Care and Education (ECCE), modifications to the curriculum and pedagogical structure, integration of core subjects and skills into the curriculum, a shift in assessment practices for the benefit of student development, and the establishment of the National Assessment Centre for School Education under the Ministry of Education.

While the NEP 2020 aims to overhaul the Indian educational system appropriately with sufficient changes, the Policy's success will depend on how it is put into practice.

Old versus New: Areas of Convergence and Divergence

Since Independence, India has had three different education policies: the National Policy of Education (NPE) 1968, the National Policy of Education 1986, and the New National Education Policy 2020. All three education policies have had contrasting targets and approaches; therefore, it is crucial to have a comparative understanding. The system of education in India till now has crumbled, mainly due to the lack of a unified approach and hence quality and outcome have been difficult to formulate and measure.

National Policy of Education 1968 was enclosed to even up educational chances nationwide. It aimed at generating an education system that could furnish unregulated access to education. This Policy concentrated on the advancement of values for national integration. Besides, it also emphasized the need to enhance the educational apparatus for differently abled children and gave exceptional significance to the education of the girl child.

Despite this futuristic objective of the NPE 1968, it failed to materialize the intention of universal education for all. NPE 1968 took concern in endowing new universities and advancing the pace of adult literacy; the Policy aimed at fostering functional literacy among the masses. The country evolved a homogeneous schooling pattern of 10+2+3 under this Policy. Nevertheless, NPE 1968 got derailed primarily because of the lack of funds, as it stumbled to reach the level of expenditure, which was 6% of the national income.

Later, when the National Policy of Education (1986) was implemented, it proposed an educational structure that could support the country's all-round development. In addition, it also aimed at inscribing the distinctive needs of the learners. It designed a no-failure policy at the elementary school level and created a web of institutions to deliver the purpose of universalizing education. The government provided plans for non-formal education for pupils who were not in school to popularize educational technology. Furthermore, it engrossed on boosting the schooling facility within a distance of one kilometre. In remote areas, the government opened Navodaya Vidyalayas and primary schools. NPE 1986 developed the concept of deviating the spotlight from enrolment to retention. For this, it proposed surveys to check the consistency of attendance and the teachers were instructed to follow up with the families of the absentees who miss school for two to three days at a stretch. Another legendary aspect of NPE 1986 was restructuring job-specific courses to help the right candidate with the appropriate skillsets for a suitable job. The 1986 Policy placed a strong emphasis on utilizing information technology to modernize the education sector. Rebuilding adult literacy, women's empowerment, early childhood care, and teacher education received more attention.

The continuing resource crunch also made it difficult for India's 1986 education policy to put its recommendations into

practice. Although the 1986 policy claimed to have achieved social group-to-group uniformity and standardization in education, it failed to take into consideration the fierce global environment that became critical as the Indian economy began to globalize following the 1991 reforms. Therefore, NEP 1986 was unable to produce graduates with employable skills or produce research output in the form of scholarly papers and patents, which would have improved the quality of education (Ferrao, 2020).

Although education in India altered between 1968 and 1986, the majority of recommendations and practical concepts still needed to be put into practice. A variety of educational systems were produced by the National Education Policies of 1968 and 1986. They provided human resource training, which aided in the growth of the value chain. However, NEP 2020, the National Education Policy 1986's replacement, aims to develop human resources capable of producing value propositions. The NEP 2020 vision of education as a vehicle for the all-around growth and development of the student is aided by the globalization of education, the increase of digital learning, and the freedom to choose one's courses.

In contrast, the earlier policies did not place a premium on these subjects. Though all the education policies of India presented a grand vision document, they were put into place without considering what went wrong or a diagnosis of the issues plaguing Indian education. The biggest question is whether the NEP 2020 will remain on paper or if it will lead to transformation.

NEP 2020: Challenging Roadmap Ahead!

As the government of India adopted a new National Education Policy (NEP) in 2020, after a gap of more than three decades, it is pretty contextual to understand that such a policy would comprise proposals anticipating significant changes in the education sector. It is, however; equally important to note that

such changes would not be a simple process. The path to its effective implementation is paved with insurmountable obstacles since we are still far from achieving the established goals of inclusiveness, universal enrollment, and high-quality, easily accessible education. Hence, it is quite pertinent to view this new Policy historically. Furthermore, it is very necessary to ask whether the new National Education Policy 2020 while proposing a new set of recommendations, has considered the shortcomings of earlier policies.

Regarding the foregoing questions, the NEP 2020 has sharply split individuals into opposing camps. It has been accused, on the one hand, of encouraging inequality through elements like choice, flexibility, multiple exits, vocational education, and undermining the Right to Education Act; on the other hand, of encouraging privatization and, most significantly, of substituting values that are fundamental to the constitution like equity and justice. This is compounded by the desperate need to adopt the policy without meaningfully engaging with the concerns raised (Aithal, 2020). However, it is thought to be a positive step that Early Childhood Care and Education (ECCE) is receiving more attention. Making early investments in children is an essential first step toward long-term competitiveness.

ECCE, however, is not entirely a new vision. A similar goal was pursued by the Integrated Child Development Services (ICDS) program, which was introduced in 1975 and provided packaged services to children. But despite its stated goals, the performance record of this scheme is not that good. The Comptroller and Auditor General Report of India (2013) showed that the ICDS failed to achieve its objectives. The CAG points out that the ICDS programme has to be enhanced in numerous areas. The report notes that the programme is plagued with unrealistic budgeting, diversion of funds and non-implementation, which has prevented India from achieving its objectives of

improving children's education and health (Pandey, 2022). As per the report, malnutrition remains the predominant risk factor for deaths (68.2%) and disease burden in India's children younger than five years. The audit finds that 61% of the Anganwadis operating under the ICDS scheme did not have their building, and 25% operated in semi-pucca/kaccha buildings or open/partially covered space, highlighting the paucity of workers and essential functionaries at all levels. Worse, poor hygiene and sanitation were noticed due to the absence of toilets in 52% of the Anganwadis. Also, due to the state government's refusal to use funds provided to them by the centre, medical kits were not available in 33 to 49% of Anganwadis. The essential utensils required for providing supplementary nutrition to the beneficiaries were also unavailable in many places (Pandey, 2022). It is against this background that the National Education Policy has proposed massive changes in the education programme in India over the next 50 years. However, the question remains; How do we fund it?

Preceding policies have made it clear that India's chances in a global economy increasingly dominated by knowledge have been undermined by the underinvestment in health and education. The government's anticipated increase in capital spending in the national budget (2023–24) is a crucial step towards reviving the Indian economy. According to Economic Survey 2023, the Union Budget 2023-24, which strongly emphasizes digitalization and upskilling, has overlooked several factors crucial for developing the education sector (Nigam, 2023). The percentage of GDP devoted to education is still stagnant at 2.9%, only marginally higher than that of 2016. In addition, over the past seven years, the budgeted allocation for education has decreased from 10.4% of overall spending to 9.5%. It must still meet the NEP's goal of raising education spending to 6% of the GDP.

Everyone agrees that India, with its large youth population, needs to spend a significant amount of money on education. In spite of this, the NEP has not offered a convincing argument for why, despite years of political promises, public education still lacks sufficient funding (Aithal, 2020). The Central Government's goal of a 50% Gross Enrollment Ratio (GER) in Higher Education by 2035 means that, for the next fifteen years, it will have to open one new university every week, which will surely be a challenging task. Given that the GER is currently just 26.3%, doubling it over the course of the next 15 years will require extensive planning, reform, and ongoing execution.

Through an open schooling system, the National Education Policy 2020 seeks to integrate two crore children who are not now enrolled in school into the mainstream. This plan would necessitate the deployment of massive resources. Is it sustainable on its own at 6% of GDP? It is important to keep in mind that the main cause of the 1986 10+2+3 education system's collapse, which aimed to provide students with vocational training in their third year of graduation, was definitely a financial hardship.

In order to approve new positions and assign regular instructors in colleges and universities to provide the necessary vocational training, the state governments need additional funding. *"...now is the time to remember that NEP 2020 calls for the introduction of vocational courses starting in class six, which would need the hiring of lakhs of regular teachers in each state"* (Kalyani, 2020).

The Policy also calls for a radical restructuring of the pedagogy and curriculum. Given that India offers one of the most varied school curricula globally, developing revised curricula and pedagogies for each of the four educational phases and implementing them on the ground will be difficult. The clubbing of the first two years of primary schooling with three years of the

nursery will encourage people to formalize the nursery period, which is unfortunate for children. On a big scale, this has already been taking place.

Infrastructural problems also exist. The NEP 2020 mentions Anganwadis and nurseries in the same breath. Anganwadis are a kind of daycare. Their employees have been fighting for respect, recognition, and fair compensation. If new compensation scales are to be implemented as a result of the 5+3 structure, the NEP 2020 must clarify this. In addition to Anganwadis, there are thousands of privately owned nurseries where unpaid teachers are forced to work in exploitative conditions. According to NEP 2020, a curriculum will be developed for the new composite stage; nevertheless, the peculiarities of this system cannot be addressed by the curriculum on its own.

Under the NEP 2020, examinations will be hereon to transform the culture of assessment with an emphasis on foundational and higher-order abilities, ongoing monitoring of learning outcomes, and progress tracking using AI-based software that assists students in choosing their careers. As part of this attempt, educators and schools must begin using evaluation methodologies and assignments. Comprehensive evaluations, as opposed to theory-based tests with unilateral questions and answers, require educational boards and institutions to adopt a systematic agenda (Thakur et al., 2021).

The growing problem of capitation fees by private institutions controlled mostly by influential politicians and religious organizations must be addressed, even while NEP 2020 emphasizes the need for increased transparency, particularly with regard to price structures. NEP 2020 must specify how to guarantee and operationalize the right to education, particularly for underprivileged and marginalized groups (Jha et al., 2020).

On the linguistic issue, NEP 2020 has received the most criticism. Up until class five, the mother tongue will be the primary language of instruction, according to a National Education Policy 2020 requirement. Additionally, Hindi and Sanskrit are also widely offered in all schools and are supported by the National Education Policy 2020, and as Ferrao puts it, “...*the idea that some languages are superior to others is imposed upon students, which will have a detrimental effect on their psychological health*”.

The requirement that English be taken optionally up until grade eight is combined with the Three Language Formula. According to Ferrao and Agarwal (2020), these two policies hinder the advancement of the underprivileged groups and maintain inequality. The primary reason for this predicament is that English is linked to status and employment in our nation. In the event that native languages are taught in public schools and English language instruction is prohibited for marginalized and backward groups, students will be caught in a vicious cycle of alienation and disempowerment.

The Kothari Commission vigorously supported a three-language model and insisted that English serve as the connecting language for academic work and intellectual intercommunication in higher education. Neither a prescription nor an exclusion applied. The initial version of the NEP 2020 attempted to mandate Hindi a compulsory language. Many people had criticized this tactic, particularly in the South, where they believed it was an attempt to force Hindi on states that did not speak it. This specification is also in direct contravention of a Supreme Court Judgement. “*This phrase brings to mind the anti-Hindi protests over the central government’s 1965 plan to declare Hindi an official language*” (Kalyani, 2020).

The National Education Policy 2020’s silence over the Right to Education Act is another issue that garnered national notice.

The act does not establish basic and secondary education as a legal entitlement, although it talks a lot about education becoming universal. Therefore, the federal and state governments are not required to implement any mechanism to make this a reality (Ferrao, 2020). Stated differently, the absence of legal support resulting from RTE silence underscores the slim likelihood of real educational progress. By remaining silent on the RTE Act, NEP 2020 will not be able to address the issue of significant post-elementary dropouts, particularly among girls.

One seeming shortcoming of the NEP is that it places less emphasis on teachers. Although there is an entire section (section 5) devoted to teachers, it mostly addresses updating instructors, assessing teachers' expertise, and even attracting intelligent people into the teaching profession. The NEP stipulates that numerous merit-based scholarships will be awarded nationwide for enrollment in top-notch, four-year integrated B.Ed. programs, as well as specific merit-based scholarships in rural areas that will provide recipients with preferential employment when they complete their programs. Although constituting scholarships is a welcome move, how do we retain bright minds to continue teaching at schools when the salary structure is relatively less? The Kothari Commission did discuss raising teacher wages and proposing rules for remuneration, but the NEP 2020 makes no mention of doing so. *"It fails to accept the possibility that a competent teacher might not be a good teacher. Passing teacher assessment exams and B.Ed. courses simply discuss a teacher's abilities, not their intent or efficacy. A good credit rating only tells us something about a person's ability to pay, not his intent to pay"* (Kumar, 2021).

Conclusion

The National Education Policy 2020 is a revolutionary document on paper. However, it also needs to evolve a detailed

roadmap for achieving these goals, and its execution will be a herculean task. The Policy calls for noteworthy investments in the education system, including constructing new schools, hiring additional teachers, and introducing new technology and teaching methods. The ideas are substantial enough to significantly change the Indian educational system in the years to come, but how each state approaches and implements them will determine how successful they are. As mandated by the RTE Act, the government must guarantee each primary school has the necessary academic materials, basic facilities, and a sufficient number of trained teachers. The solution lies in ensuring that elementary schools run on a regular schedule and providing adequate local support and oversight for teachers. Indian education reform history informs us that teaching and acquiring the relatively easy, unsophisticated core competencies of reading, writing, and arithmetic cannot be accomplished in a project mode through a national mission. Its implementation will need constant attention if it is to fulfill its promises. Implementation will heavily rely on two principles: (1) careful assessments of the efficacy of prior programs and policies; and (2) cautious cost-effectiveness analysis of alternative policy plans. Even though the NEP suggests Choice, Chance, and Change, it is necessary to wait and see how the government will carry out this enormous undertaking.

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**Inclusive Technology in Tribal Healthcare: A Case of
Noolpuzha Family Health Centre in Wayanad**

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Abstract

The concept underpinning the word “inclusive” is to incorporate and integrate all individuals and social groups, especially those who are marginalised, have faced prejudice, or have mental or physical impairments. When the concept of inclusiveness is applied to the realm of technology, incorporation and integration can be considered the creation of a technology that is accessible to all and profitable for everyone who utilizes it. Noolpuzha Grama Panchayat in Wayanad district has the second-highest concentration of tribal population. The aim of this study is to discuss the contributions of Noolpuzha family health centre in promoting high-quality healthcare to tribal members by using an inclusive technology strategy, as well as demonstrate at what extent it helps the tribes in achieving quality health through its remarkable initiatives. The study finds its

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relevance in knowing whether tribes also consider it as inclusive or only authorities consider it so that merits investigation. The information and the data are based on primary and secondary sources. The findings indicate that the e-Health initiative has the vision to deliver better health outcomes in terms of access, quality, affordability, lowering of disease burden and efficient monitoring. They have started tribal health care unit to give special care to the health issues of tribal people. As well as the project aimed to give health education to improve health hygiene among tribals. Although there are still certain old beliefs and superstitions, modern medicine is becoming more widely accepted; yet the main problem is still finding affordable, high-quality healthcare. Technology that is friendly to tribe members is required to attract them.

Keywords: *Inclusiveness, Inclusive Technology, Health Care, Tribal health, Family Health Centre*

Introduction

To ensure equitable growth for all, metrics-driven strategies must be implemented in all sectors, including healthcare, education, science and technology, and indigenous upliftment. Discussions about the health issues that marginalised people face are even less common among the educated upper class and in the halls of power. A subtle kind of racism called racial microaggression can take place in healthcare settings and result in further exclusion (Shabrudin et al., 2022). We may observe that indigenous communities around the world lack critical access to basic medical services. According to Balgir (2004), they have the highest levels of exploitation, neglect, and vulnerability to diseases that significantly worsen malnutrition and increase morbidity and mortality. Indigenous populations lag the general population on most health indicators. There is growing evidence that integrated behavioural health care is effective, but it is unclear if integrated treatment is also effective and culturally suitable for

Indigenous communities (Lewis & Myhra, 2018). Making technological innovation affordable and accessible in a large developing country with poor access to healthcare is a significant problem. The definition of inclusive encompasses the idea of integration and incorporation of all persons and groups, particularly those who are underprivileged, have experienced prejudice, or have physical or mental impairments. We can now embrace the term inclusivity in the realm of technology, which might be a technology that is developed for everyone so that they can all use it and benefit from it. The concept of an inclusive technology approach is emerging in terms of health, and it requires special attention to ensure that everyone has access to high-quality, affordable health care.

The primary health care infrastructure serves as the initial point of contact between the public and healthcare professionals and serves as the common implementation route for all health and family welfare initiatives. To the community near their place of worship and residence, it offers comprehensive promotional, preventative, curative, and rehabilitative services. Even though tribal community rely heavily on the public health care system, the country's health care delivery system, particularly in rural and tribal areas, is insufficient in terms of medical infrastructure and staff (Tribal Health Action Plan, 2019). Numerous factors have an impact on how well the health care systems operate in the tribal areas. First and foremost, there is the availability of goods and services, including medical professionals, equipment, drugs, and so forth. Second, the cost-effectiveness of health care services, including the cost of medications, medical tests, and laboratory testsetc. Third, consider the issue of accessibility to medical facilities, such as doctor visiting hours or the scheduling of medical tests, as well as the placement and proximity of these facilities to people's homes. Fourth, the behavioural components, such as the attitudes and conduct of medical professionals toward tribal people (Tribal Health Action Plan, 2019). The provision of health

infrastructure, essential human resources, and the introduction of technology, along with the preservation and promotion of traditional medicine and medicinal practises as well as age-old healing techniques, are urgently needed to improve the health services in the tribal dominant areas.

Health status of Kerala is practically on par with that of advanced economies in many ways. The state has been successful in extending life spans and decreasing infant and maternal mortality. The health for all has long been a primary priority for the Kerala Government. The Primary Health Centres and Government Dispensaries were given to the Village Panchayats in September 1995. Kerala experienced a significant reform in 1996 when the state government initiated the People's Campaign for Decentralised Planning movement in response to the waning confidence in the public system. The state government decentralised and gave up a lot of power because of this reform. As a result of this decentralisation, doctors and community members collaborated, and some facilities underwent extensive modifications to accommodate community goals (Elamon et al.2004). The PHC centres and their referring sub-centres work more closely with the local population to understand their needs and implement adjustments that will best meet those requirements (Varatharajan et al., 2004).

Wayanad constitutes 31.24 percent of the tribal population of Kerala state and lagged below other districts in terms of basic health indicators and literacy rate when compared to the state average (KIRTADS, 2017). This study finds its relevance to discuss the contributions of Noolpuzha Family Health centre in Wayanad. (Fig. 1)

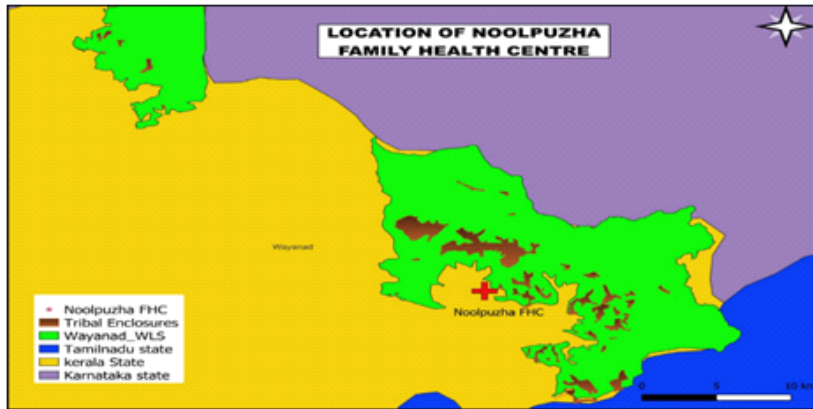


Figure 1: Location of Noolpuzha FHC (Map prepared by using QGIS)

The Noolpuzha Grama Panchayat in Kerala has the second-highest concentration of tribal people and is the only one that borders both Tamil Nadu and Karnataka. There are seventeen wards in Panchayath, and of the 30125 people living there, more than 45 percent are members of primitive tribal communities. There are over 210 tribal settlements in Noolpuzha Panchayath (Noolpuzha FHC Report, 2021). The Noolpuzha PHC, the first Family Health Centre (FHC) in the Wayanad district of Kerala, was recognised for its proactive, inclusive, and egalitarian approach to providing high-quality services by the expert panel of the Union Health Ministry by ranking it as the top PHC in the nation (Noolpuzha FHC Report, 2021). This paper mainly focusses on how this FHC could achieve success in terms of providing quality health; especially this one is situated in a backward district in Kerala as per many developmental indicators.

Literature Review

Investment in social capital, such as health infrastructure, has been identified by the Ministry of Tribal Affairs (2019) as one of the key factors in developing tribal Primary Health Centres (PHC) and Community Health Centres (CHC) as a system for delivering healthcare in tribal dominant areas. Nanjunda (2011)

has pointed out that Primary Health Centres (PHCs) are the foundation of universal healthcare in India. As the first point of contact and a link between people and the healthcare system, PHCs play a crucial role in putting healthcare delivery as close to people's homes and places of employment as possible. These PHCs are also responsible for promoting, preventing, curing, and providing rehabilitative care in tribal communities. He added that the establishment of necessary primary health centres (PHCs) in areas with a predominance of tribal members was a key component of numerous tribal development programmes carried out since 1947. In this study, an effort has been made to assess tribal beneficiaries' perceptions on the standard of healthcare provided by their local PHCs. According to this study, 26 percentages of tribal members prefer to go to nearby private health centres because PHCs lack regular staff, equipment, medical facilities, and diagnostic services. In addition to using modern medication, 4 percentages of tribal people use traditional medicines for health problems. The lack of availability of female physicians, long wait times, transportation issues, and staff rudeness are some of the major reasons why tribal beneficiaries do not exhibit interest in visiting PHCs.

An expert committee on tribal health was established by the Ministries of Family Welfare and Tribal Affairs in 2013, presented a report with several recommendations titled "Tribal health in India: Bridging the gap and a road map for the future". The expert committee emphasized that most tribal societies believe that diseases are caused by supernatural forces. They see the traditional healer as a bridge between humanity, nature, and a supernatural force that protects their communities and offers spiritual stability. The goal of tribal health policy should be threefold: firstly to make tribal people healthier, secondly to look for and identify safe and effective tribal medical practises and remedies, and finally to integrate the traditional tribal healer into primary health care to increase tribal people's access to primary

health care. They have also recommended that encourage the tribal people to access modern health care infrastructure. By making the hospitals more tribal friendly they will be attracted to the primary health care.

According to Islary (2014), the tribal people now rely on modern medicine for a variety of reasons, including literacy and awareness, forest destruction resulting in a lack of herbal and medicinal plants, effectiveness, availability and affordability of health care services, and good provider behaviour. Ramani and Mavlankar (2005) in their article, “Health system in India – Opportunities and Challenges for Improvements” emphasized the importance of constructing healthcare facilities that cater to community needs, especially those of the poor. World Bank (2012) wrote a feature story on “Improving Health Services for Tribal Populations” where it mentioned that health care workers often act insensitively, dismissively, and discriminatorily because of the profound cultural gaps that exist between tribal populations and the majority-nontribal health care professionals. Additionally, many tribal communities encounter linguistic difficulties while trying to receive healthcare due to the difficulty of understanding their dialects, even by urban residents of the same state. Tribal people are regularly used as a means of informal payment and maliciously referred to private pharmacies or doctors. This is one of the key explanations for why marginalised populations favour traditional healers or self-medication over state or private healthcare facilities. Numerous studies have revealed that the indigenous community uses contemporary healthcare services at a very low rate. According to a study done on tribal women in Odisha, India, in 2000 by Mahapatra M. et al. just 6 percentage of participants utilise only allopathic treatment, while 49 percentages of them employ traditional measures of treatment, mostly from local quacks (Pathak et al., 2020).

Numerous studies on tribal health, ways to enhance tribal health, the function of primary and family health centres in tribal communities, and other topics have been conducted. Researcher looked over some of the works and found that there are not many studies that concentrate on how to make Primary Health Centres effective by utilising technology and ensuring the involvement of tribal people. The relevance of this study considering the contributions of Noolpuzha Family Health Centre in Wayanad may be seen. The researcher is attempting to find out the answers to the questions like how much this may contribute to access health care by the tribal community and how much the Family Health Centre adopted an inclusive technology strategy.

Methodology

In this study, a mixed method approach was used. The researcher employed techniques like qualitative interviewing, collecting data through observation, and analysing quantitative data. To gather qualitative data, the researcher interviewed members of the tribal community, healthcare professionals, and other stakeholders and gathered quantitative information from the annual report of Noolpuzha Family Health Centre. The researcher purposively selected the respondents and applied saturation theory.

Objectives of the Study

To discuss programmes and schemes to promoting high-quality, technology-based healthcare to tribal members by Noolpuzha Family Health Centre and to demonstrate at what extent it is inclusive in achieving quality health through its remarkable initiatives.

Limitation of the Study

Tribals were purposefully chosen for this study to get their points of view because they constitute most of the population in Noolpuzha panchayath. Since non-tribal people receive

advantages from these programmes and activities, they were not included in this study. By talking about the perspectives of all the beneficiaries who fall under Noolpuzha panchayath, this opens the door for further investigation.

Results and Discussions

Tribal healthcare has remained integrated into rural healthcare settings despite long-standing suspicions that tribal people have poor health and significant unmet needs. It was anticipated that because tribal people experience similar health issues and have similar demands, the standard national model for rural healthcare would also apply to them, but with some population-related adjustments to the provider ratio. Healthcare demands were not considered because of the varied social systems, cultural differences, and geographic and environmental differences in which they reside. Not surprisingly, there are still issues with health and healthcare in tribal regions (Anderson et al., 2016). International organisations have characterised Kerala's health situation as Good Health at Low Cost and Good Health with Social Justice and Equity. In addition to sector achievements, its health sector has served as an example for other Indian States in how to address pressing public health issues (Kerala Development Report: Initiatives, Achievements, And Challenges, 2021). Nearly 20 percentage of the ST families in the state live in isolated or difficult-to-reach locations, especially in forest land. Consequently, individuals are unable to fully utilise the general health services offered by the Health Service Department. As a result, sixty-three primary health centres are managed by the Health Service Department in tribal regions. For the health care of the tribal people, with a focus on health extension programmes, the Scheduled Tribes Development Department introduced a Comprehensive Health Care Package scheme during the eleventh Plan as a component of Tribal Sub Plan. The main facets of the

programme were administration of healthcare institutions, medical assistance provided by hospitals, tribal relief, and rehabilitation.

Technology Based Initiatives and Programmes

Noolpuzha FHC sought to deliver high-quality healthcare in a friendly setting. Their health project's major goal is to remove barriers that are frequently encountered while providing the public with a patient-friendly environment. For this they have implemented many notable initiatives such as

- The e-Health system
- Independent Telemedicine unit
- Tribal Healthcare unit
- *GothraSparsham* (Tribal antenatal healthcare program)
- *Pratheeksha* antenatal house for Tribal people
- Electrical Auto Rickshaw (Annual report, Noolpuzha FHC,2021)

E-health project aimed to provide constant access to all medical facilities from anywhere in the world using web services, including intranet and internet networks as well as mobile services. The goal is to generally include online medical consultation, online medical records, and online administration of the supply of medications, but not just those services. The purpose of the e-Health programme is to deliver improved health outcomes in terms of access, quality, affordability, lowering of disease burden and efficient monitoring of health entitlements to patients. Under this e-health system, the registered users of AADHAAR based portal have access to a thorough Electronic Health Record (EHR) including information on all the treatments a person has received. Doctors will be in a better position to give people high-quality care as historical treatment data becomes available, a Medical

Officer at the Noolpuzha facility pointed out one of the major benefits of this system. He proceeded to digitise medical records, which may seem like a difficult task in a tribal setting but was made more understandable by streamlining the procedure by giving each person connected to the FHC a token number linked to his or her name, which connected them directly to their medical history. Since it increases access to healthcare services, raises the standard of medical care, and boosts organisational effectiveness, telemedicine is regarded as one of the most significant technology advancements in the field of health services (Pan American Health Organization, 2016). In contrast to the current top-down telemedicine modalities, the Telemedicine system has been built as a bottom-up approach to assure social and technological sustainability. Every Wednesday, telemedicine OP is offered in the PHC, and patients can make appointments at the hospital's OP counter. Every Wednesday, a specialist physician from the neighbourhood hospital will be accessible over the local network. The patient can visit with the physician while being assisted by a PHC nurse. On the other hand, this telemedicine system is utilized to connect the doctors with isolated tribal communities during scheduled consultation times and in case of emergencies. Since telemedicine makes medical services that are typically difficult to access and available in tribal areas which are in remote areas, more accessible and available, its integration into clinical practise raises high hopes for its ability to reduce costs and improve the quality of care (Pan American Health Organization, 2016).

Tribal Healthcare Unit

The Oorali, Paniya, Kuruma, and Kattunaikkans are the principal tribal groups that inhabit Noolpuzha Grama Panchayath. Oorali, Paniya, and Kattunaikka want to stay in their local communities rather than integrating into the larger community. The fear of the hospital treatment setting is the fundamental reason why indigenous communities have generally avoided hospital care

more. As a result, they mainly use their own traditional forms of medicine (Annual report, Noolpuzha FHC, 2021). Both the herbal and psychosomatic lines of treatment are used in their traditional health care system, which has been used for centuries. While the primary treatment ingredients were primarily plants, flowers, seeds, animals, and other naturally occurring materials, there was always a dash of mysticism, the paranormal, and magic in this technique, which frequently led to specialised magico-religious rites (Balgir, 2006). The indigenous people only visit the hospital when their illness has drastically worsened because of how they are treated. This project has been implemented to reduce the occurrence of such issues. According to the medical professionals and personnel, this scheme could allow them to identify and prevent the spread of diseases like leprosy and tuberculosis. As well as the project intended to provide health education to enhance health hygiene among tribal people, and via this, they could also raise awareness of menstrual hygiene among adolescent girls.

***Gothra Sparsham* (Tribal antenatal healthcare program)**

This was a notable initiative by FHC for the wellbeing of tribal women as an antenatal health care programme. Here, the hospital started offering prenatal care, and to do this, gynaecologists from the local private hospitals and the Sulthan Bathery Taluk headquarters hospital are invited. In addition to this, a gynaecological specialist physician is accessible every day in the hospital. After leaving the hospital, they receive a physical examination, TT dosages, and pills containing iron and folic acid. Additionally, the hospital's laboratory does standard blood tests. After all these procedures, a noon meal with a healthy diet is given to them. The prenatal patients are subsequently transported to their colonies in hospital vehicles (Annual report, Noolpuzha FHC, 2021).

***Pratheeksha*– Tribal Antenatal Care Home**

Pregnant women from various tribal communities in Noolpuzha Grama Panchayath and surrounding areas are the intended beneficiaries of this programme. The habit of domestic calving is widespread among the indigenous people (especially among the Paniya, Kattunaikka and Oorali Communities). The practise of home birth is frequently encouraged by the aboriginal community's aversion and mistrust of hospitals as well as the inability of expectant mothers living in remote colonies to travel to hospitals even when they experience an unexpected onset of labour pains. This type of at-home delivery leaves mothers and their new-borns without the proper medical attention. Such birth complications frequently result in the death of the mother or the infant. Home delivery has previously been a well-known term among the tribal settlements inside the Noolpuzha Family Health Centre's boundaries. An initiative called "*Pratheeksha*" (meaning "hope") a maternity shelter specifically created for indigenous pregnant women, was started to address this situation (Annual report, Noolpuzha FHC, 2021).

It is more than just a shelter; it has all the amenities so that the pregnant indigenous woman's family can stay with her. One week before the anticipated birth date, *Pratheeksha* is relocated pregnant women who have been identified at the field level through risk analysis.

Pratheeksha Homes were created specifically to allay the tribal people's anxiety and resistance toward the hospital setting and to maintain them in a cosy setting. Each expectant mother and her companion receive specialised care, medication, and nourishment. Prior to the commencement of labour pains, pregnant women are transferred to the closest Taluk Headquarters Hospital Sultan Bathery, and when they are released after giving birth, they are sent back to the colonies (Annual report, Noolpuzha FHC, 2021).

AMMA yudeTAARAT (Ayah Monitoring Maternal Activities & Tribal Antenatal Anaemia Review and Treatment)

The targeted beneficiaries of this programme are pregnant women, adolescent girls, and children from various tribal communities in Noolpuzha Grama Panchayath and nearby places. It is the innovative project aims to eradicate anaemia among the Tribal antenatal and children. Under Ayah Monitoring Maternal Activities (AMMA), they have recruited an ayah from the tribal community. Their primary duty is to ensure that every tribal pregnant woman registered in Noolpuzha receives the necessary care.

Tribal Antenatal Anaemia Review and Treatment (TAARAT) scheme is primarily being implemented for the benefit of tribal community members who are pregnant, have children, or are teenagers. A nurse assigned for this task will visit colonies on a regular basis and check people's haemoglobin levels. Anaemia patients are taken urgently to the hospital, where they receive the treatment, medication, and nutrition they require. They get the treatment they require till their condition gets better (Annual report, Noolpuzha FHC, 2021).

Besides these there are many other facilities and activities that have been done by this FHC like physiotherapy unit, dental unit, electrical auto rickshaw, children's park and garden, geriatric corner, fitness centre and gym and "*Penma*"- rest house for women (Annual report, Noolpuzha FHC, 2021).

Inclusive Technology Approach In Tribal Health Care

Although there are still certain old beliefs and superstitions, modern medicine is becoming more widely accepted; yet the main problem is still finding affordable, high-quality healthcare. Technology that is friendly to tribe members is required to attract them.

To a certain extent, the initiatives and contributions of this family health centre could have accomplished its main goal of providing high-quality, relatively affordable healthcare to tribes. As well as its various innovative and technology-based approaches could attract the tribals from the remote areas. When the researcher visited a tribal woman over 60 years old, she said that whenever she saw any symptoms or unease related to any ailment, she used to visit the health centre. She continued by saying that because traditional treatment requires a long healing process, she does not wish to use them. Many respondents were telling that they first do come to health centre then as per the instruction by the doctors they visit Taluk hospital or Government medical colleges. The Noolpuzha FHC became the primary provider of care in the neighbourhood by engaging community needs and trust. The *Gothrasparsham* initiative serves as the ideal example of how to acquire the trust and confidence of the greater community by focusing on inclusivity, being opened to including the private sector, and going above and beyond the bare minimum. As part of this effort, they selected a few members of the tribal group and turned them into *Gothramas*, acting as a liaison between the tribal community and the FHC. The FHC paid tribal women to make brown wraps to carry tablets and medications to foster a stronger sense of community. This made it possible for the socioeconomic advancement of women in the community, which had a good effect on increased community ownership and proactiveness. There is also an e-toilet facility which is specially built for women. It has an inbuilt napkin wending machine on it. By installing this it is very useful for adolescent tribal girls to reduce menstrual problems and helps to increase menstrual hygiene (Annual report of FHC, 2021).

According to the medical staff and medical officer more than 60% of the people who reach the health centre belonging to various tribal sects. *Gotrasparshamis* one of the successful initiatives by FHC and this could ensure the participation of tribal

women, especially those who are from the remote settlements. The main barrier of reaching hospitals is the lack of transportation. After starting e-rickshaw facilities, all could come to the FHC. Accredited Social Health Activists (ASHA) are well-known in the tribal communities for their work on health-related issues. They are educating the tribal population about the importance of receiving immediate check-ups and treatments, which are usually given at free of charge. According to the respondents from the tribal communities, at first, they were hesitant to visit the hospital or chose to downplay the symptoms. However, the regular visits of ASHA workers helped them become more health conscious.

All these projects and programmes primarily target tribal groups. From the interaction with the tribal community members the researcher could understand that they are more aware on their health matters. When they experience any health problems, they go to this Family Health Centre. Even though there are many technology-based initiatives, advanced medical procedures and examinations are not available here. The medical professionals stated that some tribal members do not seek out further medical care. They emphasised that home pregnancies could be somewhat controlled by setting up antenatal care facilities.

Conclusion

Policies for universal health care, which are based on equality, make it a priority to provide care to everyone, especially the most vulnerable and socially marginalised members of society. The Noolpuzha FHC is a prime illustration of how those in positions of authority should think creatively to develop context-specific interventions to meet the needs of the people. Due to the cooperation of the community, particularly tribal communities, Noolpuzha Family Health Centre was able to succeed in all its projects. In this instance, technology assisted the FHC in ensuring the delivery of high-quality healthcare, and those technologies

are inclusive by design. By utilising these technologies, tribal people can benefit most from them in terms of high-quality, affordable healthcare.

Ethical Consideration

The study has conducted with ethical considerations, respecting the rights and privacy of the tribal community, and obtaining any necessary approvals or permissions.

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**Digitalization and Transgender Welfare: Challenges and
Opportunities in the National Portal for Transgender
Persons**

***Silpa G Nair* &
S. Sampath Kumar*****

Abstract

The Ministry of Social Justice and Empowerment launched 'National Portal for Transgender Persons' to simplify and streamline services for the transgender community. This portal ensures procedural transparency in acquiring identity cards and certificates that allow them to access social welfare programmes. Even though the portal aims at promoting and improving accessibility for the concerned parties, the functioning of the portal and how they are utilising this platform should be explored in detail to know about its exact usefulness. The present study aims to understand the effectiveness of the 'National Portal for Transgender persons' in dispensing services and benefits for the community. It also tries to comprehend the contributions of the portal in achieving a "digital welfare state". The study employed

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qualitative case study method to form in-depth insight into the same. The data is collected through semi structured interviews with the stake holder and relevant literature in the addressed area. The results of the study showed, digitizing identity documents and associated systems offers both benefits and drawbacks for the transgender community. Affordability and illiteracy are the major barriers faced by them which are accelerated by transphobia and unawareness of the authorities. Digital Welfare states' excessive dependence on data as evidence to prove human existence breaches human rights which results in the bureaucratic obliteration of historically marginalized groups. The initiative's implementation is hampered by bureaucratic red tape, gender prejudices, problems with digital access, insensitivity on the part of the administrative staff, and unjustified verification procedures.

Keywords: *Digitalization, Portal, Transgender Persons, Digital welfare state*

Introduction

Being Transgender, Lesbian, or Gay is similar to being tall, short, white, black, male, or female; these characteristics are all aspects of the human condition that make each person unique, and over which one has no control. In a society where being male or female is the conventional and only acceptable gender identity, transgender people are those who violate social gender norms. They are a sizeable community of people who are structurally ostracized, economically backward, politically weak and denied the fundamental right to livelihood. The 2011 census estimated that there are 4.9 lakh transgender people in India, however, activists disagree, claiming that the actual number would be six or seven times higher. It is clear from this that it took six more decades after independence for them to be at least given the status of citizens. Transgender people are coming out and publicly expressing their identities, which shows how times have evolved from a past in which those who engaged in prohibited behavior—

including sexual orientation that was considered deviant—would face persecution. The repeal of Section 377, which criminalized homosexuality as a crime, is a positive move for the integration of the transgender community.

In addition to being denied access to numerous services and welfare programmes, the transgender population experiences significant prejudice. The government has implemented a number of welfare measures for people with disabilities and marginalized communities, but they were not applicable to the community. Despite the fact that most people leave their families and are not recognized by them, every certificate was left behind. As a result, complications arise because they are unable to receive any benefits without identity cards. The delivery of social services has become increasingly digital over the past ten years. This indicates that the process of applying, being approved, implementing, and monitoring happens online. The efficiency of operations is increased by technology, according to proponents of digitalization, and biases that afflict contemporary administrative systems are less likely to be present. The digitalization of society does, however, also bring forth new concerns, including new types of corruption and various means by which people's rights can be trampled.

A National Portal for Transgender was established which gives the community the option to obtain an identity card and certificate online without having to visit any offices or have any direct physical contact with the government. There are pros and cons for everything – how far digitalization benefitted the citizens is a great question since one of the major drawbacks is the digital divide. Transgender people are a group for whom everything is denied, thus it is evident that their inclusion in the digital age is in doubt. The digital divide can be seen in practically all facets of life. Hence, the present study tried to understand the National Portal for Transgender as well as its effectiveness in dispensing

services and benefits for the community. It also focused on the contributions of the portal in achieving a “digital welfare state”. Digital inclusivity and its effect on the transgender community is an under-researched area, hence the study attempted to comprehend the effect of this digitalization on a much more vulnerable community.

Research Methodology

“Digitalization and Transgender Welfare: Challenges and Opportunities in the National Portal for Transgender Persons” is a qualitative study which employed case study approach in order to gain a thorough understanding of the Portal and its effectiveness in allocating welfare schemes for the transgender community. The case study methodology was chosen to provide a comprehensive and evaluative analysis of the portal, going beyond mere interpretation of events to assess how the target group has benefited and the overall effectiveness of the initiative.

The data collection for this study primarily relied on secondary sources, including newspaper reports, academic articles, blogs, and official websites. A thorough content analysis of these secondary data sources was conducted to develop a detailed understanding of the portal’s features, objectives, and implementation. To supplement the secondary data, a semi-structured interview was also carried out with a key stakeholder - a social activist and the president of a Community-Based Organization. The interview was conducted telephonically to gather firsthand insights and perspectives on the functioning and impact of the National Portal for Transgender Persons.

The study faced certain limitations, including the limited availability of literature on the topic and the time constraints for the research. Despite these challenges, the researchers aimed to provide a systematic and comprehensive analysis of the implications of digitalization on the welfare of the transgender

community, with a specific focus on the National Portal for Transgender Persons.

The qualitative case study approach, combined with the content analysis of secondary sources and the stakeholder interview, allowed the researchers to develop an in-depth understanding of the portal's effectiveness in achieving its stated objectives and its role in the broader context of India's transition towards a digital welfare state.

Results & Discussion

Transgender is considered as a marginalized community who are excluded from society and denied all the fundamental rights for their endurance. So in order to uplift them welfare schemes are necessary. For that purpose, the National Portal for Transgender Persons is formed.

1. National Portal for Transgender Persons

The National Portal for Transgender Persons is part of the Ministry of Social Justice and Empowerment. The ministry oversees two departments: the Department of Social Justice and Empowerment (Samajik Nyaya and Adhikarita Vibhag) and the Department of Disability Affairs (Nishaktata Karya Vibhag), which was later renamed as the Department of Empowerment of Persons with Disabilities (Divyangjan). It aims to assist and empower various disadvantaged groups, including Scheduled Castes, Backward Classes, Persons with Disabilities, Senior Citizens, and Victims of Drug Abuse, to enable their participation in mainstream development through policies, programs, laws, and institutions within the Indian welfare system. Specifically, for the welfare of transgender individuals, the Department of Social Justice and Empowerment serves as the central authority. The Ministry enacted the Transgender Persons (Protection of Rights) Act, 2019, which came into effect on January 10, 2020. To ensure

the effective implementation of this Act, the Ministry formulated “The Transgender Persons (Protection of Rights) Rules, 2020,” published in the Indian Gazette on September 29, 2020. Furthermore, in accordance with the Act, the Ministry established the National Council for Transgender Persons through a notification on August 21, 2020 (Official website of National Portal for Transgender Persons).

The Ministry of Social Justice and Empowerment has developed two sub-schemes called “Comprehensive Rehabilitation for Welfare of Transgender Persons” and “Comprehensive Rehabilitation of persons engaged in the act of Begging” under the national umbrella programme known as “SMILE - Support for Marginalized Individuals for Livelihood and Enterprise.” These sub-schemes are designed to provide comprehensive welfare and rehabilitation measures to both transgender persons and individuals engaged in the act of begging. The SMILE is supported by State Governments/UTs/Local Urban Bodies, Voluntary Organizations, Community-Based Organizations (CBOs), and institutions, among others. The welfare measures under this scheme focus extensively on rehabilitation, provision of medical facilities, counseling, education, skill development, and economic links.

The SMILE scheme comprises a lot of initiatives for the comprehensive development of the community. They are:

Providing Transgender Certificates and Identity cards:

Transgender individuals can use the Portal to apply for an identity card and a certificate without having to deal with anyone in person from any part of the country. The nationally recognized transgender identification card and certificate are provided by the Ministry of Social Justice & Empowerment; the usage of the welfare benefits under the SMILE program is contingent upon possessing the certificate.

Scholarships:

In an effort to lower dropout rates, the portal is also providing scholarships to transgender students enrolled in grades IX and X as well as Higher Secondary and Post-Graduation. Additionally, it facilitates the transfer from the elementary to the secondary school by means of an online system that requires a single login password to access all of the portal's features.

Skill Development & Training:

An additional significant aspect of the SMILE program is that it essentially comprises of two kinds of skill development training programs: long-term (5 months and above, often up to 1 year and up to 1000 hours) and short-term (200 hours to 600 hours and up to 6 months). By giving them skills that are relevant to the market, the major goal of this is to open up job chances for them. With a monthly stipend of 1,000 for each student in the case of non-residential training, it is essentially provided at no cost.

Composite Medical Health

It seeks to improve the health of transgender people by offering health insurance coverage to all of them. For transpeople who are not getting any benefits from the center or state, it provides full medical support.

Garima Greh

Currently, 12 pilot shelter houses in India are in operation under the name Garima Greh. Their primary purpose is to offer basic amenities and a place of refuge to transgender individuals who are homeless or abandoned. Furthermore, it advocates for improving the community members' ability to learn new skills or capacities.

Additionally, the portal promotes transgender career prospects and online skill development. For individuals who have

completed SWAYAM courses, it also offers rewards and recognition.

2. Effectiveness of the Portal in Dispensing Services and Benefits for the Community

The portal which was launched on 25th November 2020 aims at the comprehensive rehabilitation of transgender persons but how far it is effective is a question. According to the census (2011), approximately there are 4.9 lakh transgender which according to the community people is wrong and there will be quite a high number. But on the website it shows that out of 13,466 applications received, 10,708 got the transgender certificate and 10,699 received an Identity card. Their statistics show that only 854 applications are pending. Then when the state-wise application count for Transgender id cards and certificates is analyzed, the highest number is received by Maharashtra followed by Odisha. The distribution varies and is lowest in Arunachal Pradesh in which one has applied that itself is pending. This distribution is not based on the number of transgender people present in each state because Uttar Pradesh is the state which consists of the largest number of community people but at the same time in that state only 216 received the Identity card and certificate, and 206 are pending. In the portal itself, it's mentioned that within 30 days the District authority needs to issue the identity card and certificate but there are cases in which those who have applied for the same didn't receive it even after one year. This clearly shows the ineffectiveness of the portal. There are many barriers for the effective functioning of the portal. They are as follows:

2.1 Center-State Divisions

The Transgender Persons (Protection of Rights) Act, 2019, which covers all states and union territories, is essentially fundamental to the portal's introduction. However, the act's

implementation varies throughout states and Union Territories, with some areas still lacking notification.

“The Transgender Persons (Protection of Rights) Regulations, 2020 have not yet been notified in several states and Union Territories (UTs), including the nation’s capital Delhi. Consequently, such states’ and UTs’ District Magistrates lack the capacity to issue ID cards or certificates. This left a lot of applicants disgruntled.”

This is the argument of Aqsa Shaikh, a trans rights activist and faculty at the Department of Community Medicine, Hamdard Institute of Medical Sciences and Research, New Delhi (Hussain, 2022).

2.2 Lack of Awareness and Gender Bias among Authorities

A trans rights activist based in Hyderabad claims that despite the National Institute of Social Defense’s assistance to the government’s social defense programs through research, training, and documentation, many District Magistrates are either unaware of the portal or lack the technical know-how to access it.

“Even after receiving the applications, some of which were submitted months ago, some DMs have not even logged in. It is necessary for activist-run community organizations to visit each DM’s office to request access to the site,” she said (Hussain, 2022).

There is a situation exists in which people themselves need to explain to authorities the process of issuing a card to them. The community people need to wait for 11 months and not even their status of application is shown. The authorities are not at all responding to their calls, even stalling at them. Another activist said that he has seen multiple cases in which the applicants are rejected by the District Magistrate’s office saying that the applicant “did not look like” a transgender.

Experts assert that in addition to technical training on the portal, district officials should have received gender-sensitive training. They also point out that, contrary to popular belief, transgender individuals are predominantly hijras. Nevertheless, the authorities must be made aware of the wide array of identities that comprise the trans community. Lastly, they stress that a District Magistrate cannot deny an application on the grounds that the applicant's appearance does not conform to gender stereotypes, as these are ideas that are created by the dominant social classes.

One of the most fundamental components of dignity, freedom, and self-determination is an individual's self-defined sexual orientation and gender identity, which are essential to their personality (NALSA verdict of 2014 by the Supreme Court). Despite this, the administrations tend to be obscure in their approach and refuse to believe an individual's assertion of gender identity without proof. Since this is the only way for getting benefits from the government. These are a few among the many cases.

2.3 Superfluous Authentication

Unnecessary verification is implemented by the authorities who uphold the heteronormativity which creates lot of psychological problems to the applicants. In one case, the permanent address listed in TGID is different from one that has mentioned in the Aadhar so he approached the concerned authorities to make changes. As a part of this, three cis-gender men from District Magistrate's office visited his house for verification.

“They made me feel very uncomfortable by asking me questions about my educational background and demanding to see proof of identity, even though I told them that there was no need for such verification. They persisted in their demands and

lingered for an hour and a half before leaving only after obtaining Xerox copies of my credentials”(Hussain, 2022).

Even though many are not aware that the verification is not an essential one at the same time some have that knowledge but are not turning against authorities due to the fear that if they do anything sometimes, their applications will get rejected. Another evil mode of verification experienced by a transwoman who abandoned the application after hearing about the verification.

“As soon as I realized that my address could need to be physically verified, I became really anxious. The address of my parents’ home is on my Aadhaar, and I did not want any officials—especially the police—to pay them a visit. My parents did not let me begin the transitioning process while I was living with them, so I no longer reside there.”

It demonstrates the hierarchical and ingrained binary gender impulses that support Foucault’s theory of sex as a “Regulatory ideal,” which turns into a creative force that produces, divides, circulates, and distinguishes the bodies it governs. As a part of the verification, the authorities sometimes enter their house unnecessarily with bad intentions which are actually breaching their security. Even those who are responsible for ensuring safety and security are putting the community people in threat.

2.4 Lack of Digital Access

The two biggest hurdles that transgender persons should surmount are cost and digital literacy. Many people depend on Community Based Organisations and other Non-Governmental Organizations to complete the TG ID card’s information since they lack appropriate digital skills. Affidavits typically cost at least 300 rupees, hence many people lack the funds to obtain one.

“The expense of creating an affidavit is at least Rs 300–400. The vast majority of trans women who beg have no way to

make arrangements for it. In addition, there will be a fee of Rs 100 charged by the cyber cafe owner for completing the online application. And after all this, there is no guarantee of an ID card” (transactivist from Puducherry).

In contrast to transmen, who are educated and mostly employed in the private sector, transwomen have an extremely difficult situation because they generally turn to sex work and begging, barely making ends meet. In case of transmen also very limited are employed. This makes documentation a significant challenge for them. It is also evident that in remotest areas as well as the places where the Community Based Organizations are not actively working, the marginalized become more marginalized due to lack of awareness, illiteracy and so on. Gender digital divide as well as rural urban divide is also very much evident among the community.

2.5 Denial to Welfare Schemes

Transgender people need to have an ID card and a certificate in order to be eligible for any social welfare programs, including skill development training, scholarships, shelter houses, and health insurance. This is a component of the central government’s Support for Marginalized Individuals for Livelihood and Enterprise (SMILE) initiative. The issue of welfare arises when TG certificates and ID cards are not issued by the government, meaning that individuals are not eligible for any benefits until and unless those documents are issued.

Another important flaw of the portal is that, under the eligibility criteria of the scholarships offered to students in Classes 9 and higher, the most important requirement is TG ID card. However, until the age of 18, the applicant’s family has the authority to apply for a certificate or ID on their behalf. Until then, the applicant cannot apply for a TGID card. But the majority

of transgender people lack parental support which again denies the access to the scheme.

“They impart tailoring and salon skills to transgender people. These aren’t occupations with great salaries. A transgender person doing sex work would make a lot more money in a day than a tailoring job would make in a week. Furthermore, the program does not guarantee employment under MGNREGA or clients for trained workers”, these are the words of an activist who shared their opinion with Behanbox.

3. National Portal for Transgender Persons & Digital Welfare State

Over the past 20 years, there has been a push for digitization and the creation of digital governance through the use of information and communication technologies (ICTs) for the delivery of public services. As a result, “digital welfare states” have started to appear everywhere. The COVID-19 pandemic has accelerated the digitization of several areas, including education, health, and payments for goods and services. The phrase “digital welfare state” refers to a revolution in social safety and assistance systems and benefit administration that is fueled by data and automation on an increasing scale (Centre for Human Rights and Global Justice n.d.). Nowadays, it is challenging to identify a single facet of the welfare state that has not been impacted by technology, from online application processes to the distribution of social benefits (McCully & Jonathan, 2020).

There is a growing push in governance to employ digital tools and technology advances that are said to enhance accessibility, availability, transparency, efficiency, and accountability. It is portrayed as a citizen-centric initiative that would lower transaction costs, improve social service delivery, and benefit all citizens (Alston,2019). However, not all segments of India’s population have experienced an improvement in

governance or service delivery, despite the growth of digitalization in this area. New issues brought forth by digitalization include limited access because of the digital divide, digital illiteracy, financial obstacles, technical difficulties, administrative blockages, feeble grievance procedures, and privacy concerns, among others (Dhorajiwala & Sakina, 2020).

Most transgender people in India do not have regular internet connection or access to mobile devices. It was estimated in research by the Center for Internet and Society that between 10 and 15 percent of transgender people use digital devices. Due to the ability to send voice messages instead of text messages, the small percentage of people who do own smartphones primarily utilize WhatsApp (Brindaalakshmi, 2021). An important advancement toward allowing rights and enhancing service delivery is the collection of gender and sex traits in ID systems (Lebbos et al., 2022). Despite the fact that having an ID that reflects one's gender identity is a human right, many transgender people face obstacles in their quest for basic identification documents because of financial, health, and legal concerns (Cray et al., 2012). The transgender community has several challenges to its effectiveness and accessibility of the web portal, including low computer proficiency, lack of knowledge, and the digital divide.

The majority of transgender people don't own a computer, laptop, or smartphone, to start. Also, there is a lack of instruction regarding the use of these services. Communication abilities are the next item. Because using these digitalizing features on cellphones requires knowledge of English, including translations and other things. In order to do it, effective communication is essential. Seventy to eighty percent of hijra women—who face discrimination, are feminine, loud about everything, and are visible enough—don't have the opportunity to further their education, pursue careers, or learn new things. They simply start

doing sex work, begging, and other things. They lack such communication and knowledge (Raj & Juned, 2022).

The government's refusal to incorporate the transgender minority in administrative records and databases is the first step toward their exclusion in India. In order to reveal the irregularities of the applicants, a number of digital welfare systems are made to match data from various sources (McCully & Jonathan, 2020). Transgender populations, who either lack documentation or own multiple documents with inconsistent facts, bear an unfair share of the responsibility of belonging to a system that is inherently flawed. Whether digitization is there or not, the burden of proof is with the individual even in order to be eligible to access one's fundamental rights. The digital welfare state heavily relies on data, hence proving one's identity against databases is even more important (Brindaalakshmi, 2021). The state denies someone their given rights as a kind of punishment for not being able to provide identification. This contributes to one of the main criticisms leveled at the digital welfare state. Today's digital welfare state regards residents as applicants rather than as holders of rights, and holds the state accountable (Alston, 2019).

The incapacity of a socially and economically marginalized minority to utilize digital systems for welfare programs and ID cards has larger policy implications. The transgender population is dependent on government assistance programs and social benefits since they experience acute poverty, job insecurity, and elevated unemployment rates due to systematic discrimination and violence. In the current digital system, transgender people already face several obstacles when trying to access and enter public data systems. They will be more marginalized if they are unable to use the portal because these systems are linked to social welfare programs including education, health care, and skill training. Moreover, the underrepresentation of transgender groups

in databases contributes to the absence of funding for social programs.

Conclusion

While there are advantages to digitization, the poor do not reap the rewards. It is common for the government staff in charge of providing the different identity documents to exhibit transphobia and ignorance. When dealing with public officials who issue identity documents and list transgender people as beneficiaries, can often be the target of social harassment. In these circumstances, online applications and methods for obtaining identity documents could be vital in helping them avoid this kind of aggravations. Inadequate execution and several defects in the portal exacerbate the predicament of the very vulnerable community members. The digital welfare state will only ever exist in theory or illusion without inclusivity, which is now imperative in the digital age.

Because of the growing trend of digitalization and the establishment of digital welfare states globally, an increasing number of digital practices and technologies will be employed to coordinate the provision of state welfare services. It is consequently essential to comprehend how new digital services may affect human rights, particularly for disadvantaged and vulnerable populations. Bureaucratic red tape, discrimination against women, problems with digital access, insensitivity on the part of the administrative staff, and arbitrary verification procedures all hinder the portal's operation.

The transgender population encounters numerous barriers while trying to get basic identification documents and utilize social services. Understanding the environment in which people live and the vulnerabilities they face is crucial before developing digital portals and services. To create more inclusive policies and processes, a community-based strategy with proper transgender

population representation and community involvement becomes essential. To comprehend the concerns and ground realities and to jointly build more inclusive policies, policymakers and governments must involve community members. Training in gender sensitization and workshops concentrating on the needs of the transgender community must be provided for officials and healthcare professionals. People who have limited or no access to digital systems and networks should also have an offline option available, as imposing faceless computerized systems does not satisfy everyone's needs. Building efficient redressal procedures should also be a priority.

If the government can conduct camps for registration in every area will be good because it helps to reach the needy people otherwise the digital inequality will be more. Asserting their fundamental rights successfully becomes more difficult for marginalized populations when technology requirements are imposed on them where these communities are not prepared to handle the digital revolution.

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**Acceptance of E-Commerce among the Ordinary People : A
Study Based on the Thirunnavaya Panchayath of Kerala**

Mohamed Musthafa K.T *

Abstract

India is progressing on the path of digitization, offering tremendous opportunities across various spheres of Indian society. E-commerce, a byproduct of digitization, serves as an online platform where people can buy and sell products. Studies indicate that e-commerce has gained widespread acceptance in Indian society, attributed to the availability of a variety of products at negotiable prices. Understanding how ordinary people perceive and accept e-commerce is a primary objective of this study. The research aims to explore how individuals comprehend the possibilities presented by e-commerce in the modern era. It has become increasingly challenging to avoid engagement with the e-commerce process. This study utilizes both quantitative and qualitative methods and was conducted in Thirunnavaya

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Panchayath of Kerala, involving 60 respondents. Primary data collection employed sample surveys and semi-structured interviews, while secondary data were sourced from books, journals, and newspaper reports.

Keywords: *Technology, Digitalisation, E-Commerce, Ordinary People, Internet, Social Media*

Introduction

The second decade of the 21st century witnessed significant progress in e-commerce within Indian society. The advent of social media platforms such as Facebook, Instagram, WhatsApp, etc., played a crucial role in driving this progress. E-commerce (electronic commerce) is the exchange of goods and services and the transmission of funds and data over the Internet. E-commerce relies on technology and digital platforms, including websites, mobile apps and social media to make buying and selling possible (Jolaoso & Tambe, 2024). Kerala is one of the consumer states in India and it is easy to spread the scope of e-commerce in Kerala society. The history of e-commerce is intricately connected with the emergence of the Internet. Before the internet, the world was entirely unfamiliar with the concept of e-commerce.

The history of e-commerce is closely intertwined with the history of the internet. Online shopping became possible when the Internet was opened to the public in 1991. Amazon was one of the first e-commerce sites in the USA to start selling products online and thousands of businesses have followed since (Miva, 2020).

The most significant development is that e-commerce carved out its space in the world during the first and second decades of the 21st century. E-commerce plays a crucial role in the business realm, particularly in the trade sector. This paper

primarily focuses on how ordinary people engage with e-commerce and adapt to its use. “Ordinary people” in this context refers to individuals who may be disadvantaged educationally, socially, and economically. In 2016, Kerala became the first digital state of India. A consumer state, Kerala has a high potential for the electronic-commerce (e-commerce) market. The Government of Kerala is taking various measures to implement and facilitate the adoption of e-commerce to improve the state’s economic situation(Silpa, 2018). This paper aims to understand the acceptance of e-commerce among the ordinary people of Thirunavaya Panchayath in Kerala.

Methodology

Both qualitative and quantitative methods have been applied to the present study. The researcher utilized sample surveys and semi-structured interviews to collect data. Sixty respondents were selected from Thirunavaya Panchayath in the Malappuram district of Kerala using a convenient sampling method. According to the present study, ordinary people are defined as those who are disadvantaged educationally, socially, and economically and belong to the age group above 50. The data collection period for the study was from June 1, 2023, to July 5, 2023. The present study was conducted in the rural area of Thirunnavaya Panchayath in the Malappuram district of Kerala.

Objective of the study

This study is based on two main objectives. The first objective is to understand the acceptance of e-commerce among ordinary people. The second objective is to evaluate the understanding of ordinary people regarding e-commerce. This paper is also trying to understand the impact of e-commerce on ordinary people.

Acceptance of E-Commerce and Possibility among the Ordinary People

It is clear that Kerala is one of the leading consumer states and the scope of e-commerce is very vast here. According to Kumar(2023), Kerala's e-commerce growth is more than 30 percent, which is increasing the requirement for warehouse spaces for the companies. More than 2/3 of Kerala's population carries a smartphone, which is amplifying the e-commerce growth in the State. Technology is a vital aspect of material culture and will soon influence society significantly. Nowadays, purchasing through e-commerce is becoming both a trend and a privilege. However, the possibilities are that e-commerce has not yet reached ordinary people to a great extent. E-commerce, which may be conducted over computers, tablets, or smartphones could also be thought of as a sort of a digital version of mail-order catalogue shopping. Nearly every imaginable product and repair is out there through e-commerce transactions, including books, music, plane tickets, and financial services like stock investing and online banking. As such, it's considered a really disruptive technology (Gaikawad, 2020). The present study aims to analyze the following variables such as gender, education, knowledge of the internet, and knowledge of e-commerce.

Background of Respondents by Sex (Table 1.1)

| Sex | No of Respondents | Per Cent |
|--------|-------------------|----------|
| Female | 28 | 47 % |
| Male | 32 | 53 % |
| Others | 00 | 00% |
| Total | 60 | 100% |

Gender is a purely social construction of society, evident in every aspect of social activity. India, being a patriarchal society,

often restricts women and other sexual minorities from making independent decisions.

Every society has assigned roles of men and women. Men as breadwinners, protectors and fighters, whereas women are supposed to attend to various domestic works like rearing children, caring for the old, etc. In the process, women have been marginalized, and their male counterparts took control over their lives, property and decision making. (Swapnarani, 2008)

According to the present study, 47 percent of the respondents are female, and 53 percent are male. The study aims to investigate whether there are any gender-related aspects connected with e-commerce. The economic capacity of the person is an important aspect in purchasing through E-commerce. According to the present study, males have more economic independence than females. So, it also affects the purchasing capacity of the male and female. Female respondents revealed that often they require permission from husbands or fathers to purchase from e-commerce and often they use the credit or debit card of their male family members, especially fathers or brothers or husbands. The study shows that gender plays a vital role in the E-commerce activities among the ordinary people. The patriarchal nature of society often affects the economic emancipation of women.

Respondents by Education

Education is a crucial tool that empowers individuals to embrace societal changes with greater conviction and every society has some set of aims and values and to achieve these aims and values, education plays a double role (Dash, 2005). But modern-

day people are familiar with technology, even without that much education qualification.

Table (1.2)

Respondents by Education

| Education Qualification | No of Respondents | Per Cent |
|---------------------------------|-------------------|----------|
| Matriculation (SSLC) | 45 | 75 % |
| Post Matriculation (Pre-Degree) | 15 | 25 % |
| Total | 60 | 100 % |

According to the present study, the majority of respondents have matriculation as their educational qualification, with only 25 percent having post-matriculation qualifications. Lack of education can often impact the ability to use online platforms for purchasing and selling products.

Education is the most important invention of humankind. It is more important than his invention of tools, machines, spacecraft, medicine, weapons and even language because language too was the product of his education. (Dash, 2005)

It is a fact that education will help people to become familiar with E-commerce. But respondents revealed that they did not feel a lack of education was an obstacle to use E e-commerce services. Nowadays technologies are more flexible to all people and no need for more experience or qualification to use online platforms. The study indicates that lack of education is not a barrier to using E-Commerce among ordinary people. Respondents stated that although they may not have much formal education, they can use WhatsApp effectively. They added that the success of social media lies in the fact that anyone can use it without any specific qualifications, and even without primary education.

Respondents by Internet Knowledge

E-commerce is additionally referred to as electronic commerce or internet commerce. These services are provided online over the web network (Gaikawad,2020). The second decade of the 21st century witnessed the profound influence of the internet on society. However, it cannot be asserted that everyone knows how to use the internet properly. A significant portion of society remains distant from the possibilities offered by the Internet. In comparison to other Indian states, the number of people using the internet is exceptionally high in Kerala. Kerala becomes the first state to have its own internet service provider K -FON (Nisha, 2003).

Table (1.3)

Respondents by Internet Knowledge

| Internet Knowledge | No of Respondents | Per Cent |
|--------------------|-------------------|----------|
| Know very well | 20 | 33 % |
| Little | 32 | 53 % |
| No idea | 08 | 14% |
| Total | 60 | 100 % |

According to the present study (Table 1.3), 33 percent of respondents are aware of the Internet and its possibilities. They recognize the internet as an essential aspect of modern society that reduces human efforts. These individuals believe that most day-to-day needs, including bill payments, obtaining government certificates, and making purchases, can be fulfilled with the help of the Internet. However, the majority of people still rely on internet cafes for their online-related purposes. Respondents agree that nowadays knowledge of the internet is essential and it will be difficult to move without proper knowledge of the internet.

Knowledge on E-Commerce

The advent of E-commerce made tremendous changes in the field of commerce. In the early 1990s, the commercialization of the Internet and World Wide Web platforms led to a new term called electronic commerce (Dan, 2014). E-commerce is the online platform where people buy and sell products, services, and other items with the support of the Internet. Purchasing through online sites has become a trend among people, with a variety of collections, negotiable prices, cash on delivery, and return facilities attracting more individuals to the world of e-commerce. The Covid period (2019-2021) presented immense opportunities for e-commerce, and people embraced it as the best way to make purchases. While e-commerce has relatively few operational procedures, it is essential to understand how to navigate and utilize these processes effectively.

Table (1.4)

Knowledge on E - Commerce

| Knowledge on E-commerce | Number of Respondents | Per cent |
|-------------------------|-----------------------|----------|
| Yes | 50 | 83 % |
| No | 10 | 17 % |
| Total | 60 | 100 % |

The invention of the Internet has created a paradigm shift in the way people shop. A consumer is no longer bound to wait for shop opening time or go to specific locations; he can purchase any product or service he wishes virtually at any time and place (Joshy & Brijesh, 2019).

According to a present study, 83 percent of respondents have knowledge of e-commerce. They understand that e-commerce provides an opportunity to purchase items with personal choices and negotiable prices. However, this does not imply that everyone is making purchases from online websites. They are aware that there is an alternative option for buying products online. Simultaneously, online purchasing has brought about tremendous changes in society and has also influenced changes in consumer behaviour.

Respondents by purchasing through online

Table (1.5)

| Purchasing through online | Number of Respondents | Per cent |
|---------------------------|-----------------------|----------|
| yes | 08 | 13 % |
| No | 52 | 87 % |
| Total | 60 | 100 % |

The present study reveals that only a few respondents have purchased products from online platforms. Thirteen percent of respondents made purchases online with the assistance of their children. They expressed that the process was not easy, and they often found payment and selection procedures to be complicated. Eighty-seven percent of respondents did not make any online purchases. According to them, there is a significant amount of fraudulent activity in e-commerce, making it challenging to ensure the quality of products. The study indicates a trust issue toward e-commerce among ordinary people, as the number of reported cases of online cheating is increasing day by day.

As per the data with the police, 288 online cheating complaints were received in Kerala in 2021 compared to 135 in 2020 and 79 till February 15,

2022. Later, the police registered 176 FIRs for cheating in 2021, 109 in 2020 and 30 in 2022. In 2021, there were 190 accused persons in the cases registered compared to 275 in 2020 and 200 in 2022. As many as 109 persons were arrested in cyber cheating cases in 2021 compared to 143 in 2020 and one in 2022. As far as fraudulent companies involved in such scams, the police took action against 10 of them last year compared to 13 in 2020 and one this year (Antony, 2022).

Acceptance of E-Commerce among the Ordinary People

E-commerce and online shopping in India are achieving remarkable and memorable growth as more and more Internet facilities, high educational standards, and lifestyle change, and therefore the country's economic process are getting used more and more (Gaikawad, 2020). E-commerce has caused a paradigm shift in the traditional forms of buying and selling process among ordinary people. The present study indicates that the majority of respondents are aware that e-commerce provides a platform only for online purchases. However, they don't have that much awareness of selling their own products online. People recognize that e-commerce serves as an alternative option to traditional purchasing methods, but simultaneously, they have trust issues regarding online purchases. The present study suggests that e-commerce is likely to become increasingly popular among ordinary people in the near future. At the same time, e-commerce negatively affected traditional markets, especially the small-scale business of marginalised communities.

Understanding the Possibilities of E - Commerce among the Ordinary People

People prefer to order all their products and things they want online under most circumstances.

people find it much easier and to have a lot less hassle than searching through the shops in their local shopping centre to find the item that they want to later find out they could of had it cheaper online or that they don't have it in their size in that store. (Mehtha, 2016)

The present study reveals that ordinary people may not fully understand the possibilities of e-commerce. Many believe that e-commerce is solely a platform for purchasing and not for selling their products. With proper guidance and awareness about selling products through online platforms, there is a potential for them to explore opportunities in the market. It is important for the government to take appropriate precautions to curb online cheating. By increasing awareness about online cheating and fraudulent activities, ordinary people can become more vigilant in their online transactions.

Impacts of E-Commerce on Ordinary People.

The scope of E-commerce is increasing day by day and it has been paving the way for a new marketing strategy. It is clear that e-commerce will help to increase the purchasing capacity of ordinary people with low cost and choices of varieties. At the same time, it will negatively affect the small-scale business of ordinary people. For example, nowadays small-scale traders mainly belong to ordinary people, especially women, they are maintaining their small-scale business to meet daily expenses. But the emergence of e-commerce affects their business negatively. According to a present study, many respondents marked their concern on the impacts of e-commerce on small-scale businesses. At the same time, some sections of the respondents are happy with E-commerce because of the availability of the products with affordable prizes. Some

respondents stated that the advent of e-commerce has led to unemployment and economic stagnation among ordinary people. They added that during the COVID era, online business platforms such as Flipkart, Amazon, and Snapdeal made significant profits through their online platforms, while local business owners faced severe crises due to lockdowns. Respondents revealed that government authorities often support e-commerce, which they believe indirectly harms traditional businesses. Another important finding is that ordinary people believe all e-commerce platforms are run by multinational corporate companies and that they themselves cannot engage in business through e-commerce. Often, the possibilities of e-commerce have not reached ordinary people.

Conclusion

The scope and importance of e-commerce are increasing day by day, providing an open platform for all sections of society. However, ordinary people often struggle to use e-commerce platforms properly due to various reasons. Economic and educational backwardness among ordinary people hinders their effective utilization of e-commerce platforms. The present study indicates that ordinary people are aware of e-commerce, but they lack a correct understanding, especially when it comes to selling their products on an online platform. With proper knowledge about e-commerce, there is a great opportunity for them. Ordinary people often avoid e-commerce due to the increasing prevalence of fraud and cheating by cybercriminals. Customers frequently faced issues such as not receiving the ordered products and experiencing delays in replacements. There is a prevailing notion among ordinary people that products purchased online may be duplicated. Additionally, the economic dependence of women often limits their purchasing capacity, especially on online platforms.

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**Kanikkar Tribes in the Digital Age: Navigating Challenges
and Opportunities**

*Maya M **

Abstract

This paper delves into the nuanced intersection of traditional tribal life and the advent of modern technology within the Kanikkar tribe, employing the Social Construction of Technology (SCOT) framework as its theoretical underpinning. The Kanikkars, also known as the Kani or Kanikkaran, are one of the critical indigenous tribal groups in the southern Indian state of Kerala. They are a jungle tribe inhabiting the southernmost hilly areas of the Western Ghats distributed in the Neyyattinkara and Nedumangad taluks of the Thiruvananthapuram district. Grounded in the understanding that technology is not just a product of engineering but a socially constructed entity, SCOT offers a comprehensive lens to analyse the intricate dynamics of technology adoption and use within the Kanikkar community. By emphasizing the influence of social,

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political, and cultural factors on technology development, implementation, and interpretation, this framework illuminates the complexities inherent in the Kanikkar tribe's engagement with digital technologies. Through qualitative research methods, including ethnographic studies and interviews, this paper explores how the introduction of digital technologies intersects with the Kanikkar tribe's cultural identity, traditional practices, and socio-economic context. It examines the challenges and opportunities of this digital integration, shedding light on how Kanikkar individuals and communities negotiate their relationship with technology. From issues of access and affordability to cultural preservation and identity concerns, the paper uncovers the multifaceted implications of technological advancement for the Kanikkar tribe. Ultimately, this study contributes to a deeper understanding of the socio-cultural dynamics shaping technology adoption in Indigenous communities, offering insights that are pertinent not only to the Kanikkar tribe but also to broader discussions surrounding technology and society. By recognizing the agency of the Kanikkar people in navigating the digital age, this research underscores the importance of fostering inclusive and culturally sensitive approaches to technology development and deployment.

Keywords: *Kanikkar, Technology, Cultural change, Social Construction, Adoption*

Introduction

The impact of technology on tribal communities varies greatly depending on several factors, including specific tribal groups, geographic location, level of interaction with the outside world, and the nature of the technology. Tribal communities can have limited access to modern technology due to their remote or isolated locations. This lack of access can result in technological

disparities, where some tribes have access to advanced technology while others do not.

The Kanikkars, also known as Kani or Kanikkaran, are an indigenous jungle tribe whose heritage is deeply rooted in the pristine forests of Kerala. Their presence is most prominent in the Neyyattinkara and Nedumangad taluks of the Thiruvananthapuram district. They are also found in Kollam District and the adjoining districts of Kanyakumari and Tirunelveli in Tamil Nadu (Sebastian, 1990) What sets the Kanikkars apart is their unique culture and traditional way of life, which revolves around a deep connection to the natural world. However, in the digital age, they face new challenges and opportunities that reshape their way of life.

Review of Literature

The widespread use of social media and digital technologies has permeated even the most remote areas, including Indian villages. Adivasi youth, particularly young men and women, have rapidly embraced these technologies, mainly due to the affordability of Android phones. This digital adoption has led to the promotion of Adivasi culture, language, and literature. By sharing videos and pictures on platforms like Twitter, Facebook, Instagram, WhatsApp, Telegram, LinkedIn, Pinterest, and Tumblr, they have brought their rich cultural heritage to a global audience. Today, a plethora of content is available online, showcasing tribal cuisine, dance, song albums, rituals, festival celebrations, and even tutorials on tribal languages. This digital presence preserves their traditions and educates and engages a broader audience (JETIR, 2022).

The digital divide remains a significant barrier to the inclusion of rural and marginalized communities, particularly among tribal populations such as the Kanikkar women in Thiruvananthapuram district. Despite benefiting more from

urbanization than other tribal communities in Kerala, Kanikkar women still face considerable challenges in digital inclusion. The primary obstacles include inadequate digital infrastructure, such as high-speed and uninterrupted internet connectivity, limited smartphone capacity and coverage, and a lack of digital skills. The situation is exacerbated by low levels of digital literacy, resulting in a lack of awareness and knowledge about using digital devices and services to improve their lives. These issues are even more pronounced among marginalized women and are likely more severe in more primitive and vulnerable tribal communities like the Paniya. Addressing these challenges requires comprehensive digital awareness campaigns and the government's provision of low-cost digital infrastructure support. Effective strategies should involve educational institutions, health centers, agriculture departments, and tribal promoters. Tribal libraries, serving as hubs of tribal knowledge, can play a crucial role in these efforts. By implementing targeted initiatives, it is possible to enhance digital inclusion and empower tribal communities significantly (Natuvilakkandy & Kumar, 2018).

Based on the findings of the study by Beegom (2021), it is evident that the Kanikkar tribe has access to certain technologies such as television, radio, and mobile phones. However, there is a discrepancy in their usage patterns, with some households not regularly watching television despite owning one.

These observations shed light on the complex interplay between technology adoption, socio-economic factors, and infrastructural limitations within the Kanikkar community. Such insights are crucial for understanding how the Kanikkars navigate the digital age and the challenges of integrating modern technologies into their daily lives.

Anil & R.L. (2023) highlighted significant challenges in digital learning among tribal children during the pandemic. The

shift to digital and online learning has introduced significant changes in the educational system, yet these changes are not fully understood within tribal student communities. Education is a crucial avenue for improving one's social and economic status. However, tribal students, coming from diverse socio-economic and cultural backgrounds, have faced substantial disruptions due to the loss of regular classes during the COVID-19 pandemic and irregular attendance in online sessions. These disruptions, limited facilities to consistently attend online classes, practical challenges in following virtual lessons, and a general disinterest in prolonged screen time have adversely impacted their academic progress. The mere provision of electricity, televisions, dish antennas, or network connections cannot bridge the digital divide in tribal areas. Tribal students struggle daily with inadequate housing, financial instability, and other socio-economic challenges, exacerbating the digital gap and hindering their educational advancement.

As Ramakrishnappa (2022) opines, digital exclusion is a critical barrier to social participation, limiting access to information, communication, and opportunities. It is particularly pronounced among tribal communities. Efforts are needed to integrate digital literacy and skills into tribal education. Collaborative initiatives involving government, technology companies, and civil society are essential to raise awareness and provide equitable access to digital services for tribal populations. Long-term strategies focused on enhancing digital education and skills development will empower tribal communities and promote their inclusive growth within the digital age.

Theoretical Framework

The theoretical framework for this study draws upon the Social Construction of Technology (SCOT) theory, which emphasizes the social, political, and cultural processes that

influence technology's development, use, and meaning. The existing literature has a noticeable void in comprehending how social, political, and cultural factors influence technology among marginalized groups like the Kanikkar tribes. While mainstream populations have been extensively studied regarding technology's impact, rural and remote indigenous communities remain understudied. This gap underscores the necessity for theoretical frameworks like SCOT to illuminate the socio-cultural dynamics of technology adoption in Indigenous contexts, thus enhancing our understanding of technology's role in marginalized communities.

Statement of the Problem

This research seeks to examine the multifaceted impact of the digital age on indigenous communities, with a specific focus on the Kanikkar tribes of Kerala. By exploring how the Kanikkar tribes navigate the challenges and opportunities offered by digital technologies, this research aims to enrich a deeper understanding of the complexities of Indigenous engagement with the digital world. While existing literature provides valuable insights into various aspects of Indigenous digital engagement, there remain notable research gaps that this study seeks to address.

Firstly, there is a need for a comprehensive analysis of the barriers hindering digital inclusion among the Kanikkar tribes, including infrastructural limitations, socio-economic disparities, and cultural factors. Existing studies often provide fragmented accounts of these challenges, and there needs to be a more nuanced understanding of their interplay and cumulative impact on digital access and utilization.

Secondly, while there is growing recognition of the importance of digital technologies in cultural preservation efforts, there is a lack of research that critically examines the effectiveness of digital initiatives in safeguarding Kanikkar's cultural heritage.

Research is needed to assess the extent to which digital platforms facilitate the transmission of traditional knowledge, language revitalization, and community-based cultural practices, as well as the challenges and limitations encountered in these endeavours.

Objectives of the Study

1. Investigate the socio-economic and cultural factors influencing digital technology adoption among the Kanikkar tribes.
2. Explore the challenges and opportunities presented by digital technology within Kanikkar communities.

Methodology

Kanikkars are the numerically largest tribal community in Thiruvananthapuram District. The researcher collected primary data from Kanikkar households in the Thiruvananthapuram District. A purposive sampling technique was used to identify the sample population from the settlements of the Kottur Forest range.

A sample of 40 households with a studying population (children and youth) were selected from the Kuttichal panchayath, and information was collected through unstructured interviews. The discussions looked into their perspectives on the impact of digital technology on their culture, including the pros and cons and opportunities it presents. The researcher also observed the Kanikkars' daily lives and interactions with technology to understand its impact on their culture better. Hence, participant observation is also employed.

Exploring Digital Technology Adoption Within the Kanikkars

The digital age witnesses a whirlwind of technological advancements, especially in information technology, communication, and automation. It has transformed the way

people live, work, and interact with each other. Within the Kanikkar community, digital technology adoption is influenced by various factors, such as its perceived usefulness, compatibility with existing practices, and the social context in which it is introduced. Some of the factors identified which influence the technology adoption are as follows:

1. **Access to Infrastructure:** The availability of necessary infrastructure such as electricity, internet connectivity, and telecommunications networks greatly influences digital technology adoption. Lack of infrastructure in remote tribal areas may hinder access to digital tools and resources.
2. **Economic Resources:** Socio-economic status plays a significant role in technology adoption. Limited financial resources restrict the ability of Kanikkar tribes to afford digital devices or pay for internet services.
3. **Education and Literacy Levels:** Education levels within the community affect the understanding and utilization of digital technologies. Higher literacy rates facilitate the adoption of digital tools by enabling individuals to read instructions, use applications, and access online information.
4. **Cultural Perceptions and Beliefs:** Cultural norms, beliefs, and values shape attitudes toward technology adoption. Traditional beliefs and practices influence the acceptance or rejection of digital technologies within the Kanikkar community.
5. **Language and Content Relevance:** The availability of digital content in the Kanikkar language that is relevant to their cultural context can enhance technology adoption.

Language barriers and lack of culturally appropriate content may hinder engagement with digital platforms.

6. **Government Policies and Support:** Government initiatives, policies, and support programs promoting digital inclusion in tribal communities can impact technology adoption rates among the Kanikkar tribes.
7. **Social Networks and Peer Influence:** Social networks and peer influence technology adoption decisions. Positive experiences and recommendations from peers within the community can encourage adoption, while negative perceptions or lack of awareness may hinder it.
8. **Digital Literacy and Skills:** Proficiency in using digital technologies is crucial for adoption. Providing training and support to develop digital literacy skills among Kanikkar community members can facilitate technology adoption.
9. **Privacy and Security Concerns:** Privacy, data security, and online safety influence attitudes toward adopting digital technology. Addressing these concerns through appropriate measures and education can help build trust and encourage adoption.
10. **Healthcare and Essential Services:** Access to healthcare, education, and other essential services through digital platforms can significantly incentivize technology adoption among the Kanikkar tribes if it improves their quality of life and well-being.

Each of these factors interacts in complex ways to shape the adoption of digital technology within the Kanikkar tribes.

Navigating Opportunities and Challenges

The selected hamlets are located in remote and geographically challenging areas. These regions often lack basic infrastructure such as roads, electricity, and telecommunication networks. Without adequate infrastructure, it becomes difficult to establish and maintain digital connectivity. Access to electricity is also limited. Lack of Mobile network coverage is another challenge they face.

Education serves as a foundation for understanding and utilizing technology effectively. Technology was pivotal in improving tribal children's access to education, particularly the Kanikkars. It gave them access to many online resources, virtual classrooms, and educational applications. These initiatives were instrumental in addressing the challenges faced by the tribe in accessing education, especially in remote and underdeveloped areas. Schools with modern teaching aids and digital resources played a crucial role in bridging the education gap. These resources aim to enhance the quality of education and make learning more engaging and accessible. During the COVID-19 pandemic, The Tribal Development Department (TDD) has taken several commendable initiatives to leverage technology to improve educational facilities for the Kanikkars. These initiatives were vital for ensuring that Kanikkar children had the opportunity to thrive in the modern world. One of the significant steps taken was the provision of free Wi-Fi connectivity and computers to remote learning centres. This initiative addressed the issue of no internet access in remote Kanikkar settlements. These centers served as hubs for educational resources and online classes, providing a controlled and conducive environment for learning. They allowed students to access a wealth of digital educational content, enabling them to broaden their knowledge and skills. The Tribal Development Department (TDD) initiated a program to provide free mobile phones to Kanikkar students to facilitate

online education, ensuring that students could continue their studies despite the disruptions caused by the pandemic.

Disposable income: For Kanis, the challenge of adopting technology lies in their limited disposable income. With financial resources primarily directed toward meeting basic needs like food, shelter, and healthcare, investing in devices, internet connectivity, and related services becomes unfeasible. Not all Kanikkar youth have equal access to technology and the internet. As a result, despite the potential benefits of technology, its adoption remains elusive for Kanis households, perpetuating a digital divide based on economic disparity. This digital divide caused inequalities within the community, with some benefiting from educational resources while others were left behind. Even if some Kanikkar households have the financial means to purchase digital gadgets, the pervasive network connectivity issue persists, particularly in remote interior settlements. This connectivity challenge further hampers their ability to fully engage with digital technologies, highlighting the multifaceted nature of barriers hindering technology adoption among the Kanikkar community.

An elderly member of the Kanikkar community had expressed to the researcher that the extensive use of smartphones and exposure to external media among the youth had a noticeable impact on their traditional culture. He had shared concerns about the younger generations showing an increasing attraction to external cultures and lifestyles, raising questions about the potential dilution of their cherished conventional practices. This shows the lack of education and awareness among the elderly members of the community. To quote: “As tribal women, we face many obstacles regarding digital technology. One of the most significant issues is the lack of support and encouragement from the men in our families. They don’t understand or appreciate the importance of digital literacy for us. The men who own digital devices don’t share them with us, making it hard for us to learn

and use these technologies. There are several other problems as well. Our education system is not strong, and many struggle with language barriers. It makes it difficult to understand and use digital devices. Additionally, there is a severe lack of digital infrastructure in our communities. Even if we desire to learn, the facilities and tools are unavailable” .

Major Findings

- Interviews and ethnographic studies reveal that while some community members embrace certain technologies, others resist them to align with their cultural norms and values. Despite the benefits brought by technology, it is seen that most tribal elders are not entertaining the use of mobile phones or internet facilities, while youth and children are embracing it since their education is possible only through this digital technology during the COVID-19 pandemic.
- Traditional cultural practices and values play a significant role in shaping Kanikkars’ attitudes towards technology. While some view technology as a threat to cultural preservation, others see it as a means of cultural adaptation and survival.
- Improved communication allowed the Kanikkars to access previously unavailable information. They learned about the world, accessed educational resources, and gathered information on various topics. Modern technology, such as smartphones, has improved communication within and outside the tribe, helping to maintain cultural connections and enabling economic opportunities.
- Challenges related to digital technology adoption in Kanikkar communities include issues of digital literacy, language barriers, and the threat of cultural erosion.

- The information highlights a potential gender gap in digital literacy within Adivasi communities. The tribal women face limitations due to a lack of support from male family members who control access to devices. This lack of access and encouragement hindered tribal women's ability to participate fully in the digital world.
- Limited access to resources such as electricity, mobile network coverage, and internet connectivity emerged as key barriers to technology adoption among Kanikkar households.
- There is a need for tailored interventions and support mechanisms to address the challenges and maximize the opportunities presented by digital technology for the socio-economic development of Kanikkar tribes.

Conclusion

Applying SCOT theory principles, this research sheds light on the complex dynamics of technology adoption, power relations, and cultural preservation within the Kanikkar community. Findings indicate that technology adoption is not a linear process but rather a negotiated one shaped by social, economic, and cultural factors. Power dynamics significantly influence technology access, with marginalized groups often facing barriers to entry. However, cultural values are a guiding force in determining technology integration, potentially enhancing cultural preservation or leading to cultural erosion. Moving forward, interventions promoting technology adoption within indigenous communities must be sensitive to local contexts, empower marginalized groups, and prioritize cultural preservation alongside technological advancement. Understanding and addressing these dynamics is essential for promoting equitable and sustainable development within Indigenous communities like the Kanikkar tribes.

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