

ISRG Journal of Multidisciplinary Studies (ISRGJMS)



ISRG PUBLISHERS

Abbreviated Key Title: isrg j. multidiscip. Stud.

ISSN: 2584-0452 (Online)

Journal homepage: <https://isrgpublishers.com/isrgjms/>

Volume – III, Issue -II (February) 2025

Frequency: Monthly



State Oppression of Subaltern Voices in Anek: A Foucauldian Analysis of Biopolitics and the Marginalisation of the Northeast

Dr Apoorva Juneja^{1*}, Dr Samrat Ray²

¹Researcher, Communication trainer

²Dean of International Relations, IIMS, Pune, India

| Received: 02.02.2025 | Accepted: 06.02.2025 | Published: 06.02.2025

*Corresponding author: Dr Apoorva Juneja

Researcher, Communication trainer

Abstract

This paper examines Anek (2022), directed by Anubhav Sinha, as a cinematic exploration of biopolitical governance and subaltern resistance in India's Northeastern region. Employing Michel Foucault's theories of biopolitics and surveillance, alongside Giorgio Agamben's concept of bare life. This analysis interrogates how state mechanisms such as the Armed Forces (Special Powers) Act (AFSPA) institutionalize the marginalization and cultural erasure of Northeastern communities. The paper draws upon Spivak's subaltern studies and postcolonial critiques presented by Partha Chatterjee and Homi Bhabha for contextualizing the film's critique of state power, cultural homogenization, and identity politics. In this matrix, the perspectives of subaltern scholars such as Ranajit Guha, David Arnold, and James C. Scott are utilized to illuminate the dynamics of resistance and representation further. This paper seeks to bridge the gap between film representation and lived realities through an integrated methodology of cinematic analysis, theoretical critique, and case study integration, focusing on real-world incidents like the Malom Massacre and Irom Sharmila's hunger strike. Ultimately, it explores how Anek simultaneously critiques and contributes to the discourse on cinema's potential as a transformative tool for amplifying marginalized voices, while interrogating its limitations as a Bollywood production.

Keywords: ASFPA; Bare Life; Biopolitics; Foucauldian Analysis; Marginalised; State Power

Introduction

Contemporary Indian cinema is seen grappling with themes of identity, marginalization, and resistance, yet rarely do mainstream films attempt to centre on the unique sociopolitical struggles of India's Northeastern region. Despite its complex histories and diverse identities, the region remains underrepresented in national narrative canvases (Chatterjee, 1993). Anubhav Sinha's *Anek* attempts to foreground these narratives by uncovering the systemic alienation and state oppression faced by Northeastern communities. However, its significance goes beyond its plot into discussing how this film serves as an entry point into a broader debate on how cinema can critique biopolitical governance and amplify subaltern voices (Sinha, 2022).

This paper identifies a significant gap in the cinematic representation of Northeastern struggles and the theoretical frameworks employed to analyze such representations. While films addressing systemic oppression often rely on postcolonial or feminist frameworks, the unique intersection of biopolitics and subalternity in *Anek* requires a distinct theoretical lens. Michel Foucault's concept of 'biopolitics,' focusing on how states regulate life and populations through mechanisms of control, provides a powerful framework for understanding the militarization and surveillance of Northeastern communities under laws like AFSPA (Foucault, 1990). Giorgio Agamben's notion of 'bare life,' where individuals exist in a "state of exception" devoid of political rights, complements this analysis by contextualizing the legal and institutional structures that render these communities voiceless and vulnerable (Agamben, 1998).

The choice of Foucault and Agamben as the theoretical pillars of this research is deliberate. Foucault's biopolitics, a theory with its feet deeply entrenched in exclusion, captures the systemic regulation of Northeastern identities through militarisation and surveillance. Meanwhile, Agamben's work illuminates how legal frameworks like AFSPA perpetuate a "state of exception" that legitimizes violence and erasure. These theories, when paired with Gayatri Chakravorty Spivak's subaltern studies, which examine how dominant power structures silence marginalized voices (Spivak, 1988), Partha Chatterjee's critiques of postcolonial nationalism, which highlight the exclusion of peripheral communities (Chatterjee, 1993), and James C. Scott's concept of 'hidden transcripts,' which reveal how everyday acts of resistance undermine state power (Scott, 1985), create a multidimensional framework for analyzing *Anek*.

The methodology utilized in this paper combines cinematic analysis, theoretical critique, and real-world case studies. Through closely reading pivotal scenes and dialogues in *Anek*, the paper analyses how the film portrays biopolitical governance, subaltern resistance, and cultural othering. Case studies such as the Malom Massacre (2000), Irom Sharmila's hunger strike, and the Mon District killings (2021) contextualize these portrayals within lived realities. The paper also critiques the limitations of Bollywood's 'outsider gaze,' interrogating how mainstream cinema can simultaneously amplify and distort marginalized voices. By combining these methodologies, the paper attempts to bridge the gap between cinematic representation and the lived experiences of Northeastern communities, proposing a way forward for subaltern film studies as a genre dedicated to authentic and transformative storytelling.

State Oppression and Biopolitics in *Anek*

The governance of India's Northeast, as depicted in *Anek*, reflects Michel Foucault's concept of biopolitics, where the state wields power over life and death through mechanisms of regulation, surveillance, and exclusion (Foucault, 1990). AFSPA, as a biopolitical tool, suspends standard legal protections and institutionalizes violence, turning entire communities into what Giorgio Agamben calls 'bare life' where existences are stripped of political rights and dignity (Agamben, 1998). The film portrays this systemic control through the constant presence of military checkpoints, patrols, and raids, visually rendering the Northeast as a Foucauldian panopticon.

In one striking scene, Aido confronts the pervasive discrimination she faces by asking, "How many certificates must I show to prove I am Indian?" (Sinha, 2022). This line encapsulates the alienation felt by Northeastern communities, whose cultural and physical differences perpetually mark them as outsiders.

A crucial cinematic checkpoint illustrating the biopolitical dynamic is the raid on Aido's village, where the military destroys homes and displaces families under the guise of maintaining national security. This scene vividly depicts how state violence operates not only through direct confrontation but also by disrupting daily life, reducing entire communities to objects of state control. The destruction of physical spaces parallels the erasure of cultural and personal identities, underscoring the dehumanizing effects of militarisation (Sinha, 2022).

Another scene highlighting the above is where Joshua, the undercover agent, observes the checkpoints and interactions between civilians and soldiers. The tense exchanges between Northeastern residents and military personnel highlight how AFSPA has normalized a culture of suspicion and surveillance. These depictions, inspired by real-life checkpoints become sites of power where individuals are forced to justify their existence, embodying Foucault's concept of 'docile bodies' subjected to constant state scrutiny (Foucault, 1995; Sinha, 2022).

Further, the Foucauldian biopolitics becomes central when Aido's father laments the lack of agency and dignity afforded to Northeastern communities. His dialogue, "The state sees us as enemies, not as citizens," articulates the biopolitical transformation of an entire region into a militarised zone. His eventual participation in insurgency reflects the desperation of communities marginalized by systemic violence. This dynamic further aligns with Frantz Fanon's assertion in *The Wretched of the Earth* that rebellion often arises from the structural failure of governance (Fanon, 2004; Sinha, 2022).

The film's critique of AFSPA resonates with real-world incidents like the Malom Massacre (2000), where ten civilians in Manipur were killed by Assam Rifles personnel under the protections granted by AFSPA. Such atrocities illustrate the "state of exception" that Agamben describes, where the suspension of law legitimizes systemic violence (Agamben, 1998). Ranajit Guha's subaltern studies further contextualize this violence as a mode of state power that perpetuates exclusion and justifies the marginalization of certain populations (Guha, 1999). Guha's critique of colonial historiography by stating that it silences the agency of the subaltern. This notion is echoed in *Anek*, where the Northeast is portrayed as a region governed by the logic of exceptionality, rendered voiceless within the larger national narrative.

The cinematic framing of the Northeast as a site of control and resistance highlights the contemporary relevance of biopolitical analysis. Reports of extrajudicial killings, such as the Mon District killings in Nagaland (2021) and the continued enforcement of AFSPA, reveal the persistent alienation of Northeastern communities (Human Rights Watch, 2021). The work of David Arnold on the relationship between colonial governance as well as the health policies in India lays out a useful parallel. Just as colonial biopolitics sought to control the “body” of the population through regulation, AFSPA controls the “body” of Northeastern communities through militarisation and surveillance (Arnold, 1993).

While the movie *Anek* amplifies these issues, its Bollywoodisation foregrounds the need for Northeastern voices to narrate their own experiences, ensuring authenticity and avoiding reductive representations. By centering its narrative on characters like Aido and her father, the film significantly contributes to the discourse on biopolitics and subalternity. Yet, it also raises critical questions about the role of cinema in authentically representing marginalized communities.

Surveillance, Subalternity, and Cultural Othering

Based on the above discussion, surveillance emerges as a central theme in *Anek*. It is reflective of Foucault’s panoptic model of power, where the state’s gaze fosters compliance and distrust. Joshua is seen as the focal embodiment of this biopolitical gaze, infiltrating local communities to gather intelligence and monitor dissent. His dual role as observer and enforcer highlights the dehumanizing effects of surveillance, where individuals are seen to internalize discipline under the constant fear of being watched. This rigged, watchful dynamic fractures communal trust and isolates individuals, perpetuating ongoing cycles of alienation. Further, Joshua’s moral conflict, as articulated in his remark, “The state’s job is to resolve conflict, not escalate it” (Sinha, 2022), critiques the ethical failures of governance rooted in suspicion rather than resolutions sought through the provided dialogue.

On deeper analysis, Foucault’s panopticism seeks counter through the James C. Scott theory of “hidden transcripts,” where he argues that marginalized communities often resist domination through subtle, everyday acts of defiance that remain “under the radar” of official power structures. In *Anek*, these hidden transcripts are depicted through the character of Aido, whose boxing journey challenges the state’s narratives of cultural erasure, and her father, whose insurgency represents a more overt form of resistance. By juxtaposing these forms of defiance, the film critiques how surveillance seeks to erase public and private dissent.

The film’s depiction of cultural and racial othering draws attention to the notion of how the marginalized groups are silenced within dominant power structures, stamping further on the claims made by Spivak in *Can the Subaltern Speak?* Aido’s poignant question, “Do I not look Indian enough for you?” (Sinha, 2022) challenges the homogenizing tendencies of Indian nationalism that exclude Northeastern identities. Further, Partha Chatterjee’s concept of the “inner and outer domains” of nationalism reinforces this critique, depicting how the Northeast is relegated to the periphery of the cultural and political imagination of the nation at large. The intersection of gender and ethnicity further compounds this marginalization, as Aido’s struggles as a Northeastern woman aspiring to represent India in boxing highlight the overlapping oppressions of racial and patriarchal exclusion.

Case studies such as Irom Sharmila’s 15-year hunger strike against AFSPA underscore the real-world implications of these dynamics. Sharmila’s protest, which drew international attention to the human rights abuses in the Northeast, mirrors the film’s depiction of subaltern resistance.

However, while *Anek* critiques these systemic issues, its framing as a Bollywood production introduces limitations. The film’s outsider gaze, though well-intentioned, risks reducing Northeastern struggles to symbolic gestures rather than fully engaging with their complexities. For cinema to authentically represent subaltern voices, it must prioritize collaboration with Northeastern creators and communities, ensuring that their narratives are shaped by lived experience.

Resistance, Cinema, and the Need for Transformative Representation

The resistance portrayed in *Anek* operates on both individual and collective levels, reflecting Michel Foucault’s concept of counter-conducts—acts of defiance against systems of power (Foucault, 1990). Aido’s journey as a boxer symbolizes personal resistance, challenging the cultural and racial stereotypes imposed upon her. Her father’s involvement in insurgency represents collective resistance, contextualized not as criminality but as a response to systemic violence and exclusion.

Cinematically, *Anek* employs visual metaphors and multilingualism to reinforce its critique of state power. The Northeast’s landscapes, scarred by conflict yet resilient, serve as a metaphor for the enduring strength amidst systemic violence in the region. Including regional languages asserts the cultural identity of Northeastern communities, challenging the linguistic homogenization of Indian cinema (Sinha, 2022). However, these strengths are tempered by the limitations of an outsider’s gaze. As a Bollywood production, *Anek* risks flattening the complexities of Northeastern struggles into a narrative designed for mainstream audiences, potentially reinforcing the marginalization it seeks to critique.

Authentic representation requires centering subaltern voices, ensuring that their stories are told not only about them but by them (Spivak, 1988). By embracing this collaborative approach, cinema can move beyond its role as a mirror of society to become a catalyst for transformation, amplifying resistance and fostering a more inclusive national narrative.

The Role of Soft Power in Subverting Narratives

Cinema, as a form of soft power, wields immense potential to subvert dominant narratives and reshape public consciousness. In the context of *Anek*, this power lies in its ability to bring visibility to Northeastern struggles, a region often sidelined in national discourses. Soft power in cinema is not merely about storytelling, it is about fostering empathy, driving cultural understanding, and challenging the structures perpetuating marginalization (Nye, 2004). By focusing on lived experiences and amplifying subaltern voices, cinema can catalyze change within and beyond national borders.

One of the key strengths of cinema as soft power is its capacity to humanize systemic issues. In *Anek*, including Aido’s personal journey and her father’s insurgency paints a nuanced picture of resistance (Sinha, 2022). These narratives offer a counter-narrative to the state’s portrayal of insurgents as mere threats to national security (Scott, 1985). Furthermore, the film’s multilingualism and use of regional languages push back against the homogenizing

tendencies of mainstream Indian cinema, asserting the cultural identity of the Northeast.

International examples of cinematic soft power provide valuable parallels. Films like Ava DuVernay's *Selma* and Ken Loach's *I, Daniel Blake* have used storytelling to bring attention to systemic injustices and spark global conversations. In India, Mira Nair's *Salaam Bombay!* Leveraged its portrayal of street children to inspire real-world activism (Nair, 1988). Similarly, *Anek* could serve as a springboard for movements advocating policy reforms such as the repeal of AFSPA, promoting anti-racism initiatives, and including Northeastern histories in mainstream education.

However, the role of soft power in cinema also necessitates critical introspection. The Bollywoodisation of sensitive topics, as seen in *Anek*, often dilutes their complexity for mainstream consumption. This trend risks commodifying marginalized experiences, reducing them to symbolic gestures rather than actionable calls for justice (Sinha, 2022). The film's narrative framework, for instance, occasionally simplifies insurgency, framing it as a monolithic response to oppression rather than exploring its varied and deeply personal motivations.

The way forward needs to involve leveraging cinema's soft power to foster authentic and collaborative storytelling. Case studies from grassroots filmmaking initiatives in India's Northeast demonstrate how locally driven narratives can authentically represent marginalized communities. These films, often produced on limited budgets but rich in cultural context, challenge dominant representations and reclaim the gaze (Living Shadows, 2015).

In this matrix, cinema's soft power can serve as a bridge between critique and transformation. By prioritizing authenticity, fostering collaboration, and engaging with broader socio-political movements, films like *Anek* can move beyond being cultural artifacts to becoming instruments of real-world change.

Conclusion

The failures of Bollywoodisation, its tendency to prioritize mainstream appeal over authenticity, depict the challenges of representing subaltern struggles in a way that avoids commodification. While *Anek* makes strides in bringing Northeastern issues to the forefront, its narrative framework occasionally simplifies insurgency and resistance for broader consumption (Sinha, 2022). This dilution not only undermines the lived experiences of marginalized communities but also risks framing their struggles as peripheral to the larger narrative of Indian nationhood (Chatterjee, 1993).

To address these limitations, Subaltern Film Studies must evolve as a genre that not only critiques systemic inequities but also reimagines cinema as a participatory space for resistance and resilience. Building on the foundational ideas of scholars such as Spivak (1988) and Guha (1999), the emphasis must shift toward enabling the subaltern to speak through cinematic production, framing cinema as a *lingua franca*—a universal language that facilitates dialogue between the mainstream and the margins. Such an approach can foster a shared platform for inclusive discourse, creating a middle ground where diverse voices converge.

The snowballing effect of ideological contexts in cinema, historically utilized to reinforce national or mainstream narratives, now needs to be redirected to amplify marginalized voices. By positioning excluded narratives as central themes, cinema can serve as a transformative medium for reconfiguring the

mainstream. This reframing ensures that the narratives of the marginalized become integral to global discussions, offering an authentic and inclusive representation of diverse cultural identities. Such a shift not only enriches cinematic discourse but also challenges the hegemonic structures that have long dictated the parameters of mainstream storytelling.

In reimagining its gaze, cinema can move beyond mere representation to become a platform for action. Films like *Anek* serve as stepping stones toward this transformation, but the path forward requires systemic changes that empower subaltern voices to reclaim their narratives.

Bibliography

1. Dutta, S. Ray, E. V. Korchagina, A. Druzhinin and N. D. Dmitriev, "Plexus Search – A Search Enumeration," 2023 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2023, pp. 1-4, doi: 10.1109/SILCON59133.2023.10405151.
2. P. K. Kumar, S. Ray, L. Kumarasankaralingam, A. Ramamoorthy, P. Kumar and A. Dutta, "Detecting Fraud Calls vis-à-vis Natural Language Processing," 2024 2nd International Conference on Advancement in Computation & Computer Technologies (InCACCT), Gharuan, India, 2024, pp. 457-462, doi: 10.1109/InCACCT61598.2024.10551082.
3. Thommandru, A., Espinoza-Maguña, M., Ramirez-Asis, E., Ray, S., Naved, M., & Guzman-Avalos, M. (2023). Role of tourism and hospitality business in economic development. *Materials Today: Proceedings*, 80, 2901-2904.
4. Voumik, L. C., Islam, M. A., Ray, S., Mohamed Yusop, N. Y., & Ridzuan, A. R. (2023). CO2 emissions from renewable and non-renewable electricity generation sources in the G7 countries: static and dynamic panel assessment. *Energies*, 16(3), 1044.
5. Bhargava, A., Bhargava, D., Kumar, P. N., Sajja, G. S., & Ray, S. (2022). Industrial IoT and AI implementation in vehicular logistics and supply chain management for vehicle mediated transportation systems. *International Journal of System Assurance Engineering and Management*, 13(Suppl 1), 673-680.
6. Rakhra, M., Sanober, S., Quadri, N. N., Verma, N., Ray, S., & Asenso, E. (2022). Implementing machine learning for smart farming to forecast farmers' interest in hiring equipment. *Journal of Food Quality*, 2022.
7. Al Ayub Ahmed, A., Rajesh, S., Lohana, S., Ray, S., Maroor, J. P., & Naved, M. (2022, June). Using Machine Learning and Data Mining to Evaluate Modern Financial Management Techniques. In *Proceedings of Second International Conference in Mechanical and Energy Technology: ICMET 2021, India* (pp. 249-257). Singapore: Springer Nature Singapore.
8. Pallathadka, H., Leela, V. H., Patil, S., Rashmi, B. H., Jain, V., & Ray, S. (2022). Attrition in software companies: Reason and measures. *Materials Today: Proceedings*, 51, 528-531.
9. Sharma, A., Kaur, S., Memon, N., Fathima, A. J., Ray, S., & Bhatt, M. W. (2021). Alzheimer's patients detection using support vector machine (SVM) with quantitative analysis. *Neuroscience Informatics*, 1(3), 100012.

10. Mehbodniya, A., Neware, R., Vyas, S., Kumar, M. R., Ngulube, P., & Ray, S. (2021). Blockchain and IPFS integrated framework in the bilevel fog-cloud network for security and privacy of IoMT devices. *Computational and Mathematical Methods in Medicine*, 2021.
11. Ray, S. (2020). How COVID-19 changed dimensions of human suffering and poverty alleviation: economic analysis of humanitarian logistics. *Вестник Астраханского государственного технического университета. Серия: Экономика*, (4), 98-104.
12. Akbar, A., Akbar, M., Nazir, M., Poulova, P., & Ray, S. (2021). Does working capital management influence the operating and market risk of firms? *Risks*, 9(11), 201.
13. Dutta, A., Voumik, L. C., Ramamoorthy, A., Ray, S., & Raihan, A. (2023). Predicting Cryptocurrency Fraud Using ChaosNet: The Ethereum Manifestation. *Journal of Risk and Financial Management*, 16(4), 216.
14. Polcyn, J., Voumik, L. C., Ridwan, M., Ray, S., & Vovk, V. (2023). Evaluating the influences of health expenditure, energy consumption, and environmental pollution on life expectancy in Asia. *International Journal of Environmental Research and Public Health*, 20(5), 4000.
15. Sajja, G. S., Jha, S. S., Mhamdi, H., Naved, M., Ray, S., & Phasinam, K. (2021, September). An investigation on crop yield prediction using machine learning. In *2021 Third International Conference on Inventive Research in Computing Applications (ICIRCA)* (pp. 916-921). IEEE.
16. Ali, N. G., Abed, S. D., Shaban, F. A. J., Tongkachok, K., Ray, S., & Jaleel, R. A. (2021). Hybrid of K-Means and partitioning around medoids for predicting COVID-19 cases: Iraq case study. *Periodicals of Engineering and Natural Sciences*, 9(4), 569-579.
17. Gupta, S., Geetha, A., Sankaran, K. S., Zamani, A. S., Ritonga, M., Raj, R., ... & Mohammed, H. S. (2022). Machine learning-and feature selection-enabled framework for accurate crop yield prediction. *Journal of Food Quality*, 2022, 1-7.
18. Gupta, S., Geetha, A., Sankaran, K. S., Zamani, A. S., Ritonga, M., Raj, R., ... & Mohammed, H. S. (2022). Machine learning-and feature selection-enabled framework for accurate crop yield prediction. *Journal of Food Quality*, 2022, 1-7.
19. Ma, W., Nasriddinov, F., Haseeb, M., Ray, S., Kamal, M., Khalid, N., & Ur Rehman, M. (2022). Revisiting the impact of energy consumption, foreign direct investment, and geopolitical risk on CO2 emissions: comparing developed and developing countries. *Frontiers in Environmental Science*, 1615.
20. Shukla, S. (2017). Innovation and economic growth: A case of India. *Humanities & Social Sciences Reviews*, 5(2), 64-70.
21. Soham, S., & Samrat, R. (2021). Poverty and financial dearth as etiopathogen of psychotic and neurotic diseases. *Заметки ученого*, (4-1), 568-578.
22. Park, J. Y., Perumal, S. V., Sanyal, S., Ah Nguyen, B., Ray, S., Krishnan, R., ... & Thangam, D. (2022). Sustainable marketing strategies as an essential tool of business. *American Journal of Economics and Sociology*, 81(2), 359-379.
23. Роков, А. И., Дубаневич, Л. Э., & Рэй, С. (2021). Повышение экономической эффективности труда за счет изменения системы оплаты. *E-Scio*, (9 (60)), 53-62.
24. Ray, S. (2021). How Emotional Marketing can help better understand the Behavioral Economic patterns of Covid-19 pandemic: Economic Judgments and Falsifications from India Samrat Ray-Alagappa University, Tamil Nadu, India. samratray@rocketmail.com. *Вестник МИРБИС*, (2), 26-34.
25. Ravi, S., Kulkarni, G. R., Ray, S., Ravisankar, M., Krishnan, V. G., & Chakravarthy, D. S. K. (2023). Analysis of user pairing non-orthogonal multiple access network using deep Q-network algorithm for defense applications. *The Journal of Defense Modeling and Simulation*, 20(3), 303-316.
26. Priya, P. S., Malik, P., Mehbodniya, A., Chaudhary, V., Sharma, A., & Ray, S. (2022, February). The relationship between cloud computing and deep learning towards organizational commitment. In *2022 2nd International Conference on Innovative Practices in Technology and Management (ICIPTM)* (Vol. 2, pp. 21-26). IEEE.
27. Ray, S., & Leandre, D. Y. (2021). How entrepreneurial university model is changing the Indian COVID-19 Fight?. *Путеводитель предпринимателя*, 14(3), 153-162.
28. Inthavong, P., Rehman, K. U., Masood, K., Shaukat, Z., Hnydiuk-Stefan, A., & Ray, S. (2023). Impact of organizational learning on sustainable firm performance: Intervening effect of organizational networking and innovation. *Heliyon*, 9(5).
29. Rajendran, R., Sharma, P., Saran, N. K., Ray, S., Alanya-Beltran, J., & Tongkachok, K. (2022, February). An exploratory analysis of machine learning adaptability in big data analytics environments: A data aggregation in the age of big data and the internet of things. In *2022 2nd International Conference on Innovative Practices in Technology and Management (ICIPTM)* (Vol. 2, pp. 32-36). IEEE.
30. Elkady, G., & Samrat, R. (2021). An analysis of Blockchain in Supply Chain Management: System Perspective in Current and Future Research. *International Business Logistics*, 1(2).
31. Korchagina, E., Desfontaines, L., Ray, S., & Strelakova, N. (2021, October). Digitalization of Transport Communications as a Tool for Improving the Quality of Life. In *International Scientific Conference on Innovations in Digital Economy* (pp. 22-34). Cham: Springer International Publishing.
32. Kumar, A., Nayak, N. R., Ray, S., & Tamrakar, A. K. (2022). Blockchain-based Cloud Resource Allocation Mechanisms for Privacy Preservation. In *The Data-Driven Blockchain Ecosystem* (pp. 227-245). CRC Press.
33. Wawale, S. G., Bisht, A., Vyas, S., Narawish, C., & Ray, S. (2022). An overview: Modeling and forecasting of time series data using different techniques in reference to human stress. *Neuroscience Informatics*, 2(3), 100052.
34. Bangare, J. L., Kapila, D., Nehete, P. U., Malwade, S. S., Sankar, K., & Ray, S. (2022, February).

- Comparative Study on Various Storage Optimisation Techniques in Machine Learning based Cloud Computing System. In 2022 2nd International Conference on Innovative Practices in Technology and Management (ICIPTM) (Vol. 2, pp. 53-57). IEEE.
35. Kiziloglu, M., & Ray, S. (2021). Do we need a second engine for Entrepreneurship? How well defined is intrapreneurship to handle challenges during COVID-19?. In SHS Web of Conferences (Vol. 120, p. 02022). EDP Sciences.
 36. Samajpaty, S., & Ray, S. (2020). Innovation strategies in health economics: a force that makes blood move and game of gravity in it-futuristic economic plans. *Московский экономический журнал*, (9), 397-409.
 37. Nikam, R. U., Lahoti, Y., & Ray, S. (2023). A Study of Need and Challenges of Human Resource Management in Start-up Companies. *Mathematical Statistician and Engineering Applications*, 72(1), 314-320.
 38. Yanbin, X., Jianhua, Z., Wang, X., Shabaz, M., Ahmad, M. W., & Ray, S. (2023). Research on optimization of crane fault predictive control system based on data mining. *Nonlinear Engineering*, 12(1), 20220202.
 39. Ray, S., Abinaya, M., Rao, A. K., Shukla, S. K., Gupta, S., & Rawat, P. (2022, October). Cosmetics Suggestion System using Deep Learning. In 2022 2nd International Conference on Technological Advancements in Computational Sciences (ICTACS) (pp. 680-684). IEEE.
 40. Bhaskar, T., Shiney, S. A., Rani, S. B., Maheswari, K., Ray, S., & Mohanavel, V. (2022, September). Usage of Ensemble Regression Technique for Product Price Prediction. In 2022 4th International Conference on Inventive Research in Computing Applications (ICIRCA) (pp. 1439-1445). IEEE.
 41. Kanade, S., Surya, S., Kanade, A., Sreenivasulu, K., Ajitha, E., & Ray, S. (2022, April). A Critical analysis on Neural Networks and Deep Learning Based Techniques for the Cloud Computing System and its Impact on Industrial Management. In 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) (pp. 325-331). IEEE.
 42. Pallathadka, H., Tongkachok, K., Arbune, P. S., & Ray, S. (2022). Cryptocurrency and Bitcoin: Future Works, Opportunities, and Challenges. *ECS Transactions*, 107(1), 16313.
 43. Li, Y. Z., Yu, Y. H., Gao, W. S., Ray, S., & Dong, W. T. (2022). The Impact of COVID-19 on UK and World Financial Markets. *Jundishapur Journal of Microbiology*, 373-399.
 44. Samrat, R., Elkadyghada, E. G., Rashmi, N., & Elena, K. (2022). UPSKILLING AND RESKILLING FOR A GREENER GLOBAL BUSINESS ECOSYSTEM: WEB 4.0 PERSPECTIVE. *Журнал прикладных исследований*, 1(11), 49-60.
 45. Ray, S. (2022). Fraud detection in e-Commerce using machine learning. *BOHR International Journal of Advances in Management Research*, 1(1).
 46. Samrat, R. (2021). WHY ENTREPREUNERAL UNIVERSITY FAILS TO SOLVE POVERTY ERADICATION?. *Вестник Тувинского государственного университета. № 1 Социальные и гуманитарные науки*, (1), 35-43.
 47. Ray, S. (2021). Are Global Migrants At Risk? A Covid Referral Study of National Identity. In *Трансформация идентичностей: опыт Европы и России* (pp. 26-33).
 48. Saravanan, A., Venkatasubramanian, R., Khare, R., Surakasi, R., Boopathi, S., Ray, S., & Sudhakar, M. POLICY TRENDS OF RENEWABLE ENERGY AND NON RENEWABLE ENERGY.
 49. Varma, A., & Ray, S. (2023). The case of amazons E-commerce digital strategy in India.
 50. Ray, S. (2023). Can Change Management Be Disrupted Through Leadership Stretgies?: Evidence From Start-Up Firms in Asia. In *Change Management During Unprecedented Times* (pp. 100-127). IGI Global.
 51. Al Noman, M. A., Zhai, L., Almukhtar, F. H., Rahaman, M. F., Omarov, B., Ray, S., ... & Wang, C. (2023). A computer vision-based lane detection technique using gradient threshold and hue-lightness-saturation value for an autonomous vehicle. *International Journal of Electrical and Computer Engineering*, 13(1), 347.
 52. Nayak, N. R., Kumar, A., Ray, S., & Tamrakar, A. K. (2023). Blockchain-Based Cloud Resource Allocation Mechanism for Privacy Preservation (No. 9700). *EasyChair*.
 53. Ray, S. (2023). XA-GANOMALY: AN EXPLAINABLE ADAPTIVE SEMI-SUPERVISED LEARNING METHOD FOR INTRUSION DETECTION USING GANOMALY IN GLOBAL ECONOMIC DYNAMIC SHIFTS. *ЭКОНОМИЧЕСКАЯ СРЕДА*, 4.
 54. Zamani, A. S., Rajput, S. H., Bangare, S. L., & Ray, S. (2022). Towards Applicability of Information Communication Technologies in Automated Disease Detection. *International Journal of Next-Generation Computing*, 13(3).
 55. Korchagina, E. V., Barykin, S. E., Desfontaines, L. G., Ray, S., Shapovalova, I. M., & Repnikova, V. (2022). Digitalisation of Ecosystem-Based Management and the Logistics Potential of the Arctic Region. *Journal of Environmental Assessment Policy and Management*, 24(03), 2250034.
 56. Zamani, A. S., Rajput, S. H., Bangare, S. L., & Ray, S. (2022). Towards Applicability of Information Communication Technologies in Automated Disease Detection. *International Journal of Next-Generation Computing*, 13(3).
 57. Ray, S., Korchagina, E. V., Druzhinin, A. E., Sokolovskiy, V. V., & Kornev, P. M. (2022, April). Emergence of the New Start Up Ecosystem: How Digital Transformation Is Changing Fintech and Payment System in Emerging Markets?. In *International Scientific Conference "Digital Transformation on Manufacturing, Infrastructure & Service"* (pp. 621-638). Cham: Springer Nature Switzerland.
 58. Wagh, S., Nikam, R., & Ray, S. (2022). Exploration of the Higher Education System's Mechanism and Impact on More Than Just the Effective Growth of the Indian Economy. *Globsyn Management Journal*, 16(1/2), 85-91.
 59. Ray, S., Korchagina, E. V., Druzhinin, A. E., Sokolovskiy, V. V., & Kornev, P. M. (2022, April).

Emergence of the New Start Up Ecosystem: How Digital Transformation Is Changing Fintech and Payment System in Emerging Markets?. In International Scientific Conference "Digital Transformation on Manufacturing, Infrastructure & Service" (pp. 621-638). Cham: Springer Nature Switzerland.

60. Chakraborty, T., & Ray, S. (2022). STRATEGIES OF CYBERLOAFING AND PHUBBING WHICH AFFECT WORKPLACE DIGITAL TRANSFORMATION. *Московский экономический журнал*, (10), 430-446.
61. Ray, S., & Pal, R. P. (2022). IMPORTANCE OF ENTREPRENEURSHIP AND INNOVATION IN THE HEALTHCARE INDUSTRY DURING THE COVID-19 PANDEMIC. *Beneficium*, (2 (43)), 85-93.
62. Samrat, R., Pratap, P. R., & Korchagina, E. V. (2022). WORLD ECONOMY AND INTERNATIONAL COOPERATION. *МИРОВАЯ ЭКОНОМИКА И МЕЖДУНАРОДНОЕ СОТРУДНИЧЕСТВО*.
63. Ray, S., & Pal, R. P. (2021). ARE WE TRANSFORMING OUR PAYMENT THROUGH INNOVATION IN FINTECH AND THE DIGITAL ECONOMY? PERSPECTIVES FROM ASIAN DRAMA IN FINTECH INNOVATION©.
64. Samrat, R. (2021). NEUROMARKETING EVIDENCES FROM THE ECONOMICS OF BOOKSELLERS ON THE STREETS: COVID-19 PERSPECTIVES AND IMPLICATIONS ON LUXURY BRANDS GLOBALLY. *Экономика и управление инновациями*, (2), 83-90.
65. Korchagina, E. V., & Ray, S. (2021). TRIPLE HELIX CONCEPT IN INNOVATIVE UNIVERSITY DEVELOPMENT MODEL.
66. Ray, S., & Pal, R. P. (2021). ARE WE TRANSFORMING OUR PAYMENT THROUGH INNOVATION IN FINTECH AND THE DIGITAL ECONOMY? PERSPECTIVES FROM ASIAN DRAMA IN FINTECH INNOVATION©.
67. Самрат, Р. (2021). НЕЙРОМАРКЕТИНГ В ЭКОНОМИКЕ КНИЖНЫХ МАГАЗИНОВ НА УЛИЦАХ: ПЕРСПЕКТИВЫ ГЛОБАЛЬНОГО ВЛИЯНИЯ COVID-19 НА ЛЮКСОВЫЕ БРЕНДЫ. *ЭКОНОМИКА И УПРАВЛЕНИЕ*, (2), 83-90.
68. Ray, S., Muhammad, G., & Adnan, M. The administrative role of principals: Insights and implication in secondary schools of.
69. Pradhan, D., Ray, S., & Dash, A. A Critical Review on Sustainable Development of Green Smart Cities (GSCs) for Urbanization. *Communities* (Fig. 1), 13, 15.
70. Van Minh, N., Huu, N. N., & Ray, S. Responses of varied quinoa (*Chenopodium quinoa* Willd.) genotypes grown in Central Highlands, Vietnam.
71. Ray, S., Nikam, R., Vanjare, C., & Khedkar, A. M. Comparative Analysis Of Conventional And Machine Learning Based Forecasting Of Sales In Selected Industries.