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Vol.2, Issue 1, June 2025 

Centurion Journal of
**BUSINESS, ECONOMICS AND
SOCIAL SCIENCES**

Published by

CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, ODISHA



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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

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Editorial

‘Stay Hungry.., Stay Foolish’

Research (and research thinking) can happen anywhere, anytime in any context. Research outcome can be small or big, might find place in reputed journals or in smaller/ newer journals, might get cited profusely or less, but research should always be encouraged. Researchers should also be encouraged to do research, having relevance to community, society and country. And that is more true in the cases of higher educational institutes like the universities.

Centurion University of Technology and Management has been trying, since inception, to encourage, nurture and support young researchers and other scholars to do path-breaking innovative research, that is social relevant and useful. The outcome may or may not find place in top journals at one go, the research may or may not get huge citations, but better to have relevance to community, society and country.

While reviewing the progress and the diversity of the research being done by the young scholars at CUTM, Prof Mukti Mishra, President, Centurion University of Technology and Management, and Chairman, Gram Tarang, quoted Steve Jobs, who had said "Stay Hungry .., Stay Foolish"- which applies to all of us in research. ‘Intended Research outputs have relevance to community, society and country and there is huge scope to patent; It is also in sync with Centurion Ethos and Values as the Skills University’, he observed. ‘We observe enormous interest of some scholars to publish more. There are also areas of common interest and scope for cross referencing of publications. We have the capacity ...Let us work together to strengthen our Research orientation’.

If a socially relevant topic is well chosen, and the research is conducted using robust scientific methodology, the outcome, no wonder, might be appreciated and, in turn, well cited. And find a place in a very good journal (with high impact).

If we look back in history of scientific publications, a single article might be cited over two-three lakhs! One example could be the paper on ‘protein measurement’ by Oliver Lowry et al, getting cited for over 3,00,00 (according to Nature). We can recall notable and impactful research articles in every subject/ branch/ specialization (though it is difficult, and thus not always correct, to tell the ‘single most cited research paper’, due to the variations in databases, citation metrics and other reasons).

All research might not (and cannot) find place in the top journals, and thus we should always remember the contribution of other journals which showcase many socially relevant research work. In management field, The Academy of Management Journal (AMJ), Journal of Management (JOM), and Journal of Management Studies (JMS) are frequently cited as top journals in management research. We often read (the changing) list of top 10/ 50/ 100 journals in the field of management (and other subjects), by different agencies. But the case, what we are presenting here is the research beyond these top 50/100 research journals, and at some younger universities, at different corners of the world, like CUTM.

The research should have having relevance to community, society and country.



Prof. Anita Patra

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A Study on Accounting Practices for Professionals through Technology

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Abstract

The digital innovation has transformed the economic structure of the whole country. The accounting profession provides an instance of how technological advancements have made the global economy depend immensely on computerized software. Since the task of an accounting professional continues to evolve, it is necessary to acquire innovative skills so as to keep up with technological advancements. This study examines the state of digital

competence among accounting professionals and their willingness to accept emerging technologies. This study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology Readiness (TR) model to assess the attributes impacting accounting professionals' attitudes toward accounting Technology. The study used primary sources by applying a purposive sampling tool for collection of data through a structured questionnaire distributed among 153 accounting professionals including accountants, auditors, CMA, chartered accountants, and article assistants. The study period was between June 2023 and September 2023. The data collected was analyzed using the SmartPLS4 software. The model was tested using the structured equation modeling technique. The structural analysis depicts that TR constructs majorly influence the usage of digitized systems in their accounting activities. The findings provide comprehensive knowledge of the practices of accounting professionals at their workplaces.

Keywords: Technology, Technology Readiness (TR), UTAUT, Accounting Profession, Digital Innovation

1. Introduction

In this era of digital innovation, digitized work has emerged as a prominent substitute for conventional paper-based documentation and the accounting profession is not an exception. Digital innovation has led the accounting profession to move towards advancements in accounting practices. The International Federation of Accountants (IFAC) states that new technologies will eliminate older practices leading to major shifts in the accounting profession which can be seen over the next thirty years. The job prospects for accounting professionals are closely associated with national economic growth since a stronger economy needs an increase in such positions. The U.S. Bureau of Labor Statistics forecasts an increase in accounting jobs by 4% from the year 2022 to 2032 and it will transform

accountant's tasks in the years ahead due to technological advances. By 2025, this profession will likely be confronted with the implications of sophisticated technology, increased globalization, and more regulation. According to the Forbes article of 2017, accountants who strive to enhance their professional skills by tackling complicated tasks and bringing advanced solutions will be valued as artificial intelligence is increasingly expanding. The need for entry-level accountants is declining as automation has replaced them in many of their daily tasks and this smart automation technology has made accounting professionals work in line with computing devices to improve efficiency in their daily operations. The merging of accounting with digital technology also aims to facilitate Industry 4.0 adoption and reframe governance by

making diverse and adaptable strategies (Ibrahim et al., 2021). The emergence of Industry 4.0 has brought several sophisticated technologies that will change the accounting profession and manual tasks will be overtaken by intelligent machines in coming years. Accountants must have a comprehensive understanding of the innovations in Industry 4.0 in order to correctly identify and execute potential opportunities (Herawati et al., 2021).

This study is undertaken by seeing the changing role of accounting professionals and the need for expert guidance to build competitive skills in using sophisticated machines. Encouraging accounting professionals to obtain holistic knowledge and skills for Technology requires discovering their insufficient skill sets. There is an insufficient number of empirical research that scrutinizes how accounting professionals perceive the benefits and their willingness to embrace revolutionary technologies. This profession is yet to be fully geared up for Technology and there is a relatively small number of existing studies in India that emphasize this issue. This study endeavors to address this research gap by determining whether or not accounting professionals are ready to adopt the technology. This research delves further into various aspects that influence the acceptance of Technology in accounting practices by using the UTAUT and TR approaches. Both approaches are overviewed in the next section along with the theoretical

background of technological advances impacting accounting professionals.

2. Theoretical background

2.1. Current digital innovations transforming the accounting profession

The effective competency of the accounting profession in this digital age requires an innovative approach that is compatible with adapting to the rapid pace of technological progress caused by Technology. Integrating AI and automation into accounting can potentially cut down on rigorous human efforts. This assists them in their skill enhancement and gaining expertise in their field rather than eradicating human capital. A significant number of enterprises and industries are now using blockchain technology as a means to safeguard their confidential financial records and simplify intricate business operations (Gulin et al., 2019). The integration of big data has significant implications for the efficacy of decision-making as it optimizes the data assessment and assures complete data protection (Cockcroft & Russell, 2018). These technologies have made it feasible to interpret fragmented source data such as telephone records, electronic mail, and committee reports.

Open Banking is a program being rolled out by the UK Competition and Markets Authority that will allow clients to safely transmit their financial information to other banking institutions as well as third

entities by means of APIs (Zhang et al., 2020). By combining blockchain and cloud-based computing, auditors can now retrieve secure network data about company rivals and then benefit from their information to authenticate data during reconciliation. Blockchain's distributed ledger technology eliminates the need for auditors to manually verify transactions at regular intervals. By providing unchangeable records of transactions, this technology also makes it simpler to spot fraud and other types of problems (Garanina et al., 2022).

2.2. Accounting professionals and their response towards Technology

The significance of information technology has increased as a result of the impact of digitalization. However, audit companies have yet to allocate the required technological resources and investments to specific areas (Adiloglu & Gungor, 2019). Grosu et al. (2023) in their study exhibit a willingness of professionals to embrace and opt for digital technology. This inclination is driven by factors such as the user-friendly nature of computational tools, associated costs, performance standards, and their belief that their proficiency in digital skills can effectively address critical issues inside the organization. Accounting students' preparedness for the IR 4.0 era of the workplace is positively impacted by their moral proficiency, expertise skill, aptitude skill, locus of control, interrelation abilities, and logical

understanding (Saraswati et al., 2020). Bowles et al. (2020) assessed how organizations like Chartered Accountants might train accountants to be prepared for the challenges of the web-based economy in the years to come. It was found that long-term job prospects for aspiring accountants would improve if schools placed more emphasis on teaching students about soft skills such as how to get along with others, how to solve problems, how to think critically, and how to be adaptable. It was observed by Taib et al. (2023) that accountants had an average to high degree of technological proficiency in all aspects of media literacy, data literacy, skills in ICT, and digital competence.

2.3. Integration of the UTAUT and TR models

Business and economic research on how to identify people's reactions to new technologies by applying UTAUT and TR models has made major breakthroughs in recent years (Seol et al., 2017). The concept of technology Readiness (TR) often pertains to the degree of confidence that individuals possess in technology. It assesses their inclination to use technology in their behaviour rather than focusing on their proficiency in using it. The TR index has the ability to reflect both positive and negative assessments of people's perspectives on technology providing insights into the prevailing attitude. Moreover, it allows the identification of the prevalent attitude among the two opposing perspectives (Parasuraman &

Colby, 2015). The UTAUT model explains how people interact with technology (Khechine et al., 2016). These two models are dependent on the assessment of novel technology adoption that combines the strength of the best practices they draw upon to create a more complete framework.

3. Research objectives

- To determine whether accounting professionals are prepared for opting new digitized accounting practices, and
- To scrutinize the factors that impact accounting professionals to opt for digitized accounting practices.

Research hypothesis

UTAUT relies heavily on four factors that are performance, effort expectancy, social influence, and facilitating condition. Performance expectancy is the extent to which an individual perceives that making use of technology will contribute to obtaining improvements in work performance (Venkatesh et al., 2003). There was a prevailing belief among individuals that certain technological advancements had the potential to augment their ability to influence the intentions of others about the adoption or rejection of such technology. Previous research investigations have shown that performance expectancy is the most influential indicator of behavioural

intentions. If individuals think there will be advantages, they will embrace technology.

H1: Performance expectancy impacts behavioural intention to opt for new digitized accounting

Effort expectancy is often described as the extent to which the ease of using the technology is perceived. As per the UTAUT model, there is a positive relationship between effort expectancy and behavioural intention. When individuals see technology as user-friendly and requiring less effort, they are more inclined to exhibit the desire to use and embrace the technology. Effort expectancy may be defined as a subjective assessment of the level of ease associated with the application of the Technology (Venkatesh et al., 2003).

H2: Effort expectancy impacts behavioural intention to opt for new digitized accounting

Social influence is defined as the extent to which a person feels the importance of another person deciding that they must utilize the new technology (Venkatesh et al., 2003). It shows how users' actions are influenced by their surroundings and the people in their surroundings.

H3: Social influence impacts behavioural intention to opt for new digitized accounting

Facilitating condition defines that to what extent a person feels that an organisational and technological setting is present to

facilitate the interaction with new technology (Venkatesh et al., 2003). Users with access to optimal infrastructure will be more likely to embrace the technology.

H4: Facilitating conditions impact behavioural intention to opt for new digitized accounting

Technology Readiness (TR) means the willingness of individuals to adopt and make effective use of emerging technologies in pursuit of personal and professional goals. This model has four indicators to calculate the items which are optimism, innovativeness, discomfort, and insecurity. Optimism refers to people's expectations and hopes that recent advances will allow them to lead lives that are more feasible, productive, and versatile (Parasuraman & Colby, 2015).

H5a: Optimism influences behavioural intention to opt for new digitized accounting

H5b: Optimism is positively correlated with performance expectancy

H5c: Optimism is positively correlated with effort expectancy

H5d: Optimism is positively correlated with social influence

H5e: Optimism is positively correlated with facilitating conditions

Innovativeness means that people who are innovative have a greater chance of becoming early adopters and industry leaders in the field of technology (Parasuraman & Colby, 2015).

H6a: Innovativeness influences behavioural intention to opt for new digitized accounting

H6b: Innovativeness is positively correlated with performance expectancy

Discomfort constitutes the feeling of being ineffective in the midst of modern technology (Parasuraman & Colby, 2015).

H7a: Discomfort impacts behavioural intention to opt for new digitized accounting

H7b: Discomfort is negatively correlated with performance expectancy

H7c: Discomfort is negatively correlated with effort expectancy

Insecurity refers to the emotion or perception that employing technology may lead to unfavourable or hazardous outcomes (Parasuraman & Colby, 2015).

H8a: Insecurity impacts behavioural intention to opt for new digitized accounting

H8b: Insecurity is negatively correlated with performance expectancy

4. Research Methodology

This research used a purposive sampling technique where the sample unit comprised a group of accounting professionals such as chartered accountants, article assistants, CMA, auditors, and accountants. A well-organized survey questionnaire was developed as a tool for this purpose and that was determined using a Likert scale

years, 16 (10.4%) as between the ages of 41-50 years, and 3 (1.9%) were above 50.

The sample population chosen was accounting professionals that were

categorised among 55 (35.9%) chartered accountants, 27 (17.7%) article assistants, 18 (11.8%) CMAs, 50 (32.7%) accountants, and 3 (1.9%) auditors.

Table 1. Sample profile

Variables	Description	Frequency	Percentage
Gender	Male	88	57.5
	Female	65	42.5
Age	21 – 30	76	49.8
	31 – 40	58	37.9
	41 – 50	16	10.4
	Above 50	3	1.9
Profession	Chartered Accountant	55	35.9
	Article Assistant	27	17.7
	CMA	18	11.8
	Accountant	50	32.7
	Auditor	3	1.9
Experience	Less than 1 year	27	17.7
	1 – 5 years	52	33.9
	6 – 10 years	50	32.7
	More than 10 years	24	15.7
Total		153	100

Source: Authors' compilation

27 (17.7%) of the professionals have an experience of less than 1 year. 52 (33.9%) respondents are experienced between 1-5

years, 50 (32.7%) respondents are experienced between 6-10 years, and 24

(15.7%) respondents have an experience of more than 10 years.

5.2. Assessment of measurement model

PLS 4.0 was employed to check the reliability and validity of the research items. In terms of items' reliability, it offers two different metrics which are Cronbach's alpha and composite reliability. To ensure the instrument's reliability and validity, it was put through

several tests on the basis of convergent and discriminant validity. All items with factor loadings over 0.70 in the PLS assessment model are considered to be good predictors (Cockcroft & Russell, 2018). The result shows factor loadings of all items that have values around 0.8 and 0.9. All scales were considered reliable since their composite reliability and Cronbach's scores were more than 0.70 which was around 0.9 as depicted in Table 2.

Table 2. Results of the measurement model

Constructs	Items	Factor loadings	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
BI	BI1	0.937	0.955	0.956	0.968	0.882
	BI2	0.945				
	BI3	0.931				
	BI4	0.943				
DI	DI1	0.942	0.967	0.967	0.976	0.909
	DI2	0.967				
	DI3	0.949				
	DI4	0.955				
EE	EE1	0.946	0.951	0.951	0.964	0.871
	EE2	0.936				
	EE3	0.91				
	EE4	0.941				
FC	FC1	0.881	0.907	0.907	0.935	0.781
	FC2	0.893				

	FC3	0.878				
	FC4	0.883				
IN	IN1	0.912	0.953	0.954	0.966	0.876
	IN2	0.948				
	IN3	0.932				
	IN4	0.953				
INS	INS1	0.925	0.954	0.955	0.967	0.879
	INS2	0.935				
	INS3	0.953				
	INS4	0.937				
OP	OP1	0.946	0.971	0.971	0.979	0.92
	OP2	0.969				
	OP3	0.958				
	OP4	0.963				
PE	PE1	0.937	0.943	0.944	0.959	0.855
	PE2	0.91				
	PE3	0.918				
	PE4	0.934				
SI	SI1	0.88	0.909	0.909	0.936	0.785
	SI2	0.892				
	SI3	0.873				
	SI4	0.90				

Source: Authors' compilation

The convergent validity of all items employed in the research was established by the square roots of AVE with scores

that were equal to or greater than 0.70 as shown in Table 2.

Three methods were used to evaluate the reflective constructs and show discriminant validity. The first is

heterotrait-monotrait method, the second is fornell-larcker method, and the third method is cross loadings.

Table 3. Heterotrait-monotrait measurement for discriminant validity

	BI	DI	EE	FC	IN	INS	OP	PE	SI
BI									
DI	0.789								
EE	0.828	0.792							
FC	0.837	0.773	0.886						
IN	0.832	0.779	0.843	0.836					
INS	0.749	0.662	0.737	0.742	0.734				
OP	0.820	0.736	0.757	0.789	0.784	0.712			
PE	0.792	0.765	0.867	0.890	0.793	0.699	0.759		
SI	0.813	0.764	0.872	0.864	0.806	0.667	0.768	0.898	

Source: Authors' compilation

Table 3 is about the HTMT method where all the values are below 0.9 which passed the criteria of discriminant validity because there should be threshold values

lower than 0.85 or 0.9 and if it is above 0.9, then there is a validity issue in construct items.

Table 4. Fornell Larcker measurement for discriminant validity

	BI	DI	EE	FC	IN	INS	OP	PE	SI
BI	0.939								
DI	-0.758	0.953							
EE	0.790	-0.759	0.933						
FC	0.780	-0.724	0.822	0.884					
IN	0.795	-0.748	0.802	0.778	0.936				
INS	-0.715	0.637	-0.702	-0.69	-0.70	0.938			

OP	0.790	-0.713	0.727	0.741	0.755	-0.686	0.959		
PE	0.752	-0.731	0.822	0.823	0.753	-0.664	0.727	0.925	
SI	0.757	-0.717	0.81	0.784	0.750	-0.622	0.722	0.832	0.886

Source: Authors' compilation

Table 4 shows that each construct has a higher correlation with itself compared to any other construct which is the square

root of its AVE. Here, BI has a higher correlation with BI itself and all their below constructs are smaller in value. Likewise, it follows the same for other constructs.

Table 5. Cross loadings of items

	BI	DI	EE	FC	IN	INS	OP	PE	SI
BI1	0.937	-0.696	0.721	0.724	0.741	-0.647	0.750	0.692	0.726
BI2	0.945	-0.726	0.784	0.769	0.777	-0.703	0.747	0.748	0.720
BI3	0.931	-0.697	0.702	0.682	0.700	-0.645	0.733	0.666	0.674
BI4	0.943	-0.728	0.757	0.751	0.765	-0.688	0.738	0.717	0.723
DI1	-0.706	0.942	-0.737	-0.687	-0.721	0.596	-0.703	-0.696	-0.687
DI2	-0.726	0.967	-0.722	-0.694	-0.729	0.624	-0.709	-0.712	-0.698
DI3	-0.707	0.949	-0.701	-0.677	-0.685	0.563	-0.631	-0.692	-0.662
DI4	-0.753	0.955	-0.734	-0.701	-0.717	0.643	-0.676	-0.686	-0.686
EE1	0.734	-0.722	0.946	0.767	0.772	-0.652	0.666	0.807	0.778
EE2	0.737	-0.704	0.936	0.763	0.752	-0.637	0.698	0.775	0.752
EE3	0.718	-0.685	0.910	0.762	0.722	-0.661	0.664	0.715	0.740
EE4	0.759	-0.722	0.941	0.776	0.749	-0.670	0.687	0.769	0.755
FC1	0.697	-0.620	0.710	0.881	0.674	-0.568	0.657	0.719	0.695
FC2	0.699	-0.633	0.724	0.893	0.707	-0.585	0.636	0.745	0.688
FC3	0.666	-0.670	0.759	0.878	0.674	-0.642	0.621	0.712	0.697
FC4	0.695	-0.638	0.714	0.883	0.694	-0.645	0.704	0.733	0.692

IN1	0.733	-0.683	0.727	0.713	0.912	-0.627	0.685	0.712	0.711
IN2	0.775	-0.722	0.759	0.745	0.948	-0.674	0.707	0.694	0.708
IN3	0.714	-0.686	0.746	0.712	0.932	-0.658	0.686	0.669	0.680
IN4	0.754	-0.710	0.771	0.742	0.953	-0.664	0.746	0.741	0.709
INS1	-0.678	0.594	-0.654	-0.635	-0.662	0.925	-0.635	-0.602	-0.578
INS2	-0.662	0.578	-0.651	-0.635	-0.636	0.935	-0.658	-0.601	-0.575
INS3	-0.679	0.614	-0.675	-0.660	-0.666	0.953	-0.658	-0.660	-0.605
INS4	-0.664	0.602	-0.652	-0.657	-0.662	0.937	-0.621	-0.626	-0.573
OP1	0.761	-0.664	0.698	0.687	0.709	-0.651	0.946	0.694	0.690
OP2	0.751	-0.700	0.690	0.730	0.739	-0.667	0.969	0.709	0.717
OP3	0.756	-0.674	0.684	0.720	0.725	-0.664	0.958	0.679	0.674
OP4	0.764	-0.697	0.719	0.708	0.722	-0.649	0.963	0.707	0.689
PE1	0.705	-0.709	0.776	0.785	0.716	-0.608	0.690	0.937	0.787
PE2	0.688	-0.682	0.748	0.746	0.701	-0.614	0.680	0.910	0.774
PE3	0.695	-0.641	0.755	0.764	0.680	-0.607	0.641	0.918	0.749
PE4	0.695	-0.669	0.759	0.749	0.686	-0.627	0.677	0.934	0.766
SI1	0.671	-0.598	0.729	0.724	0.683	-0.535	0.646	0.761	0.880
SI2	0.660	-0.642	0.697	0.668	0.671	-0.577	0.644	0.723	0.892
SI3	0.673	-0.620	0.721	0.680	0.644	-0.520	0.608	0.724	0.873
SI4	0.681	-0.680	0.724	0.706	0.660	-0.570	0.661	0.740	0.900

Source: Authors' compilation

Table 5 depicts that each item has a higher outer loading on its own construct than that of any other construct. Here, the items of BI constructs have a higher value of their own constructs compared to the other

constructs. Likewise, it follows the same for other constructs.

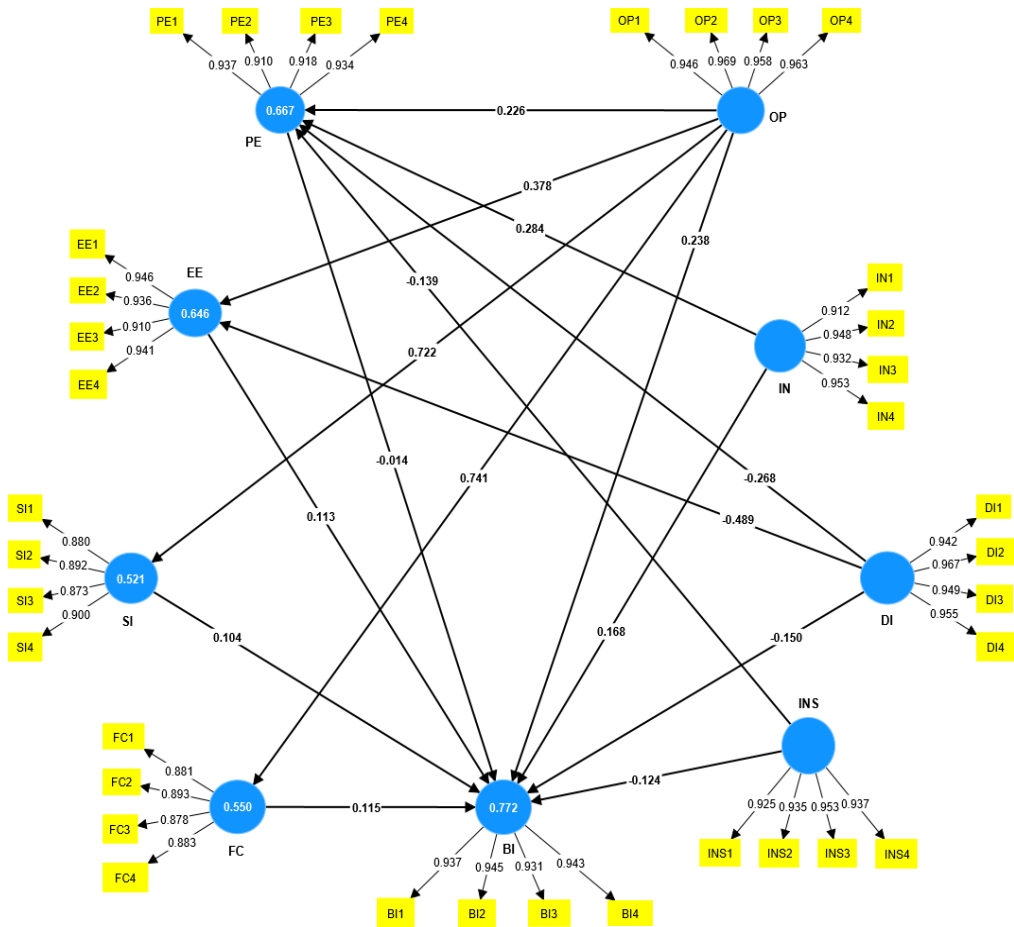


Figure 2. Measurement of SEM model

Source: Authors' compilation

5.3. Coefficient of determination assessment

This model's explanatory power may be quantified by calculating the R-square

statistic which is equivalent to the amount of variation that can be assigned to each of the model's endogenous variables (Shmueli and Koppius, 2011).

Table 6. Coefficient of determination

	R-square	R-square adjusted
BI	0.772	0.76

EE	0.646	0.642
FC	0.55	0.547
PE	0.667	0.658
SI	0.521	0.518

Source: Authors' compilation

Table 6 shows that the R-square values are between 0 and 1 which fulfilled the measurement criteria and the greater value depicts higher explanatory power. Here, BI have a higher R-square value indicating great explanatory power.

5.4. Assessment of structural model

To test the relationships of 16 hypotheses, a structural model assessment was carried out. Table 7 displays the outcomes of the hypotheses.

Table 7. Hypothesis results

Hypothesis	Relationship	Path coefficient	Sample mean	Standard deviation	T statistics	P values	Decision
H7a	DI -> BI	-0.15	-0.116	0.104	1.445	0.074	Not supported
H7c	DI -> EE	-0.489	-0.488	0.063	7.806	0	Supported
H7b	DI -> PE	-0.268	-0.269	0.083	3.25	0.001	Supported
H2	EE -> BI	0.113	0.133	0.098	1.156	0.124	Not supported
H4	FC -> BI	0.115	0.13	0.08	1.447	0.074	Not supported
H6a	IN -> BI	0.168	0.151	0.078	2.15	0.016	Supported
H6b	IN -> PE	0.284	0.277	0.101	2.805	0.003	Supported
H8a	INS -> BI	-0.124	-0.113	0.08	1.558	0.06	Not supported
H8b	INS -> PE	-0.139	-0.145	0.073	1.915	0.028	Supported
H5a	OP -> BI	0.238	0.203	0.098	2.433	0.008	Supported
H5c	OP -> EE	0.378	0.372	0.062	6.051	0	Supported
H5e	OP -> FC	0.741	0.731	0.075	9.93	0	Supported

H5b	OP -> PE	0.226	0.226	0.078	2.912	0.002	Supported
H5d	OP -> SI	0.722	0.716	0.089	8.137	0	Supported
H1	PE -> BI	-0.014	0.019	0.113	0.121	0.452	Not supported
H3	SI -> BI	0.104	0.131	0.108	0.962	0.168	Not supported

Source: Authors' compilation

The above table shows that 10 hypotheses are accepted as they have a favourable association with specified variables. The values of the path coefficient discovered that TR constructs namely OP, IN, DI, and INS greatly influence BI and UTAUT constructs. These results indicate that accounting professionals are positively impacted by the adoption of digitized accounting.

6.1. Conclusion

This research complies with an initiative to encourage the utilization of modern technology and boost human resource productivity. Findings from this study brought insight into our perception of how accounting professionals within professional workspace are adjusting to the growing prevalence of digital tools in their daily tasks. This research will help expand our understanding of how accountants are using new digital technologies by providing a framework for discussion and exploration of this subject area. This study provided fresh findings in two primary areas of focus. The primary objective was to determine the prevalence of technology usage and acceptability among

accountants. The second objective was to examine the influencing factors for technology adoption in their accounting practices. The structural analysis depicts that TR constructs majorly influence the usage of digitized systems in their accounting activities. One possible explanation for this correlation could be that these individuals see technological competence as a means for overcoming workplace challenges thus making them favour digital innovation.

6.2. Implications

The results of this study have relevance to a wide range of disciplines. At the scholarly level, this may help expand our understanding of how accountants feel about the Technology process and whether or not their industry is prepared to embrace the inevitable changes it will bring.

It may also serve as a resource for educational institutions whose mission is to prepare the next generation of accounting graduates for the challenges of the modern workplace by incorporating the latest technology developments into their curriculum and pedagogical approaches. It may be used as a standard by managers to

gauge how their workforce feels about the emergence of innovative technology.

6.3. Limitations

The findings of this survey which were derived from the responses of 153 accounting professionals employed in several different areas may not be considered for generalization of opinions shared by them. Evaluating the influence of Technology on accounting professionals is a vast concern and it was not feasible to address all different aspects in this research. The exploration of other geographical regions or industries would potentially open up new research prospects.

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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

Bridging the Gap: Hybrid Learning Approaches for Reducing Language Anxiety in Second Language Acquisition

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Abstract

The present paper reviews how educational platforms that combine traditional and technological means perform as anxiety reducers for second language students in multiple educational settings. Language anxiety continues to be an important obstacle for effective language learning because common classroom methods tend to strengthen affective filters in learners. Our research investigates how well-organized teaching techniques that integrate in-person sessions with online learning resources create environments that help alleviate anxiety during language practice. We measured aspects of language anxiety in 127 adult learners by employing a combination of research methods across three formal educational contexts to assess specific hybrid instructional strategies that affected FLCAS scores, physiological indicators, and performance outcomes. Participants reported lower anxiety levels through tailored hybrid educational approaches that utilize gradual communicative methods while providing anonymous content sharing options along with various forms of feedback. Research reveals that properly designed computer-based approaches create

successful scaffolding experiences for future face-to-face encounters which contradict traditional beliefs supporting full-immersive learning. Through this study researchers added evidence to support how hybrid language education methods function as proven methods for reducing language anxiety and extended understanding into curricular design and teaching methodologies and education software development.

Keywords: hybrid learning, language anxiety, second language acquisition, digital scaffolding, affective filter

1. Introduction

Language anxiety has long been recognized as a significant impediment to successful second language acquisition (SLA). Defined as "the feeling of tension and apprehension specifically associated with second language contexts" (Horwitz et al., 1986), this psychological barrier manifests through physiological symptoms, cognitive disruption, and avoidance behaviors that ultimately compromise learning outcomes. Despite decades of research into this phenomenon, educational institutions worldwide continue to struggle with implementing effective interventions, particularly in traditional classroom settings where the pressure of real-time performance and evaluation heightens anxiety responses.

The global shift toward digital learning environments, accelerated by the COVID-19 pandemic, has created unprecedented opportunities to reimagine language education through hybrid approaches. These approaches strategically combine face-to-face instruction with online components to leverage the strengths of both modalities. While extensive research exists on hybrid learning's general

effectiveness for content delivery and knowledge acquisition, its specific applications for addressing the affective dimensions of language learning remain underexplored.

This paper addresses this research gap by investigating how purposefully designed hybrid learning environments can mitigate language anxiety while maintaining or enhancing acquisition outcomes. Through empirical investigation across multiple educational contexts, we demonstrate that hybrid approaches—when structured with attention to the psychological dimensions of language learning—create safer spaces for practice, reduce performance pressure, and gradually build confidence through scaffolded transitions between digital and face-to-face interactions.

Our findings challenge traditional assumptions about immersive language teaching by demonstrating that strategic hybridization may better serve anxious learners than purely communicative or digital approaches alone. The results have significant implications for curriculum design, teacher training, and educational technology development in global language education contexts.

2. Literature Review

2.1 Language Anxiety: Conceptualization and Impact

Language anxiety emerged as a distinct construct in the 1980s through the pioneering work of Horwitz, Horwitz, and Cope (1986), who developed the Foreign Language Classroom Anxiety Scale (FLCAS) and identified three primary components: communication apprehension, test anxiety, and fear of negative evaluation. Subsequent research has established language anxiety as situation-specific rather than trait-based (MacIntyre & Gardner, 1991), with distinct manifestations in different skill domains (Cheng et al., 1999) and cultural contexts (Woodrow, 2006).

The detrimental effects of language anxiety on acquisition have been extensively documented. MacIntyre (1995) demonstrated its interference with cognitive processing at input, processing, and output stages, while Krashen's (1982) affective filter hypothesis posited that anxiety creates a psychological barrier preventing comprehensible input from being processed effectively. Empirical studies consistently show negative correlations between anxiety levels and performance across reading (Saito et al., 1999), writing (Cheng, 2004), listening (Elkhafaifi, 2005), and speaking (Phillips, 1992), with the strongest effects typically observed in productive skills.

More recent neuroimaging research has provided physiological evidence for these cognitive disruptions, with Piechurska-Kuciel (2012) documenting the activation of brain regions associated with threat response during language tasks in anxious learners, effectively reallocating cognitive resources away from language processing. These findings align with Dewaele's (2017) work on emotion regulation in multilingual contexts, suggesting that anxiety consumes working memory capacity crucial for language processing.

2.2 Traditional Approaches to Anxiety Reduction

Pedagogical interventions for language anxiety have traditionally focused on classroom-based strategies including cooperative learning (Oxford, 1997), error correction modifications (Young, 1991), and desensitization techniques (Foss & Reitzel, 1988). While these approaches show moderate success, they often fail to address the fundamental reality that for many learners, the classroom itself becomes associated with anxiety (Gregersen & Horwitz, 2002).

Psychological interventions have included cognitive-behavioral techniques (Shimbo, 2008), mindfulness training (Franco et al., 2010), and positive psychology applications (MacIntyre & Gregersen, 2012). Although these approaches demonstrate promise, implementation challenges include time constraints, teacher training requirements, and

difficulty scaling across diverse institutional contexts.

A significant limitation of traditional interventions is their focus on helping learners adapt to anxiety-producing environments rather than fundamentally restructuring learning contexts to reduce triggers. As Arnold (2011) argues, "The responsibility for addressing language anxiety should not rest solely with the learner but must be shared by educational systems willing to adopt more psychologically informed approaches to language instruction" (p. 17).

2.3 Hybrid Learning in Language Education

Hybrid learning models, also termed blended learning, combine face-to-face instruction with computer-mediated activities (Graham, 2006). Blake (2011) identifies three predominant models in language education: supplemental (online components support traditional instruction), replacement (online activities substitute for some face-to-face time), and emporium (primarily online with face-to-face support as needed).

Research on hybrid language learning has predominantly focused on its effectiveness for skill development, with meta-analyses showing significant positive effects on vocabulary acquisition (Chwo et al., 2018), grammatical competence (Grgurović et al., 2013), and overall proficiency (Zhao, 2003). Studies specifically examining blended

approaches for speaking skills (Satar & Özdener, 2008) and writing development (Shih, 2011) demonstrate particular promise.

However, as noted by White (2014), "The affective dimensions of hybrid language learning environments remain significantly under researched, with most studies focusing on cognitive outcomes rather than learner experiences" (p. 543). Those studies that do address affective factors typically examine general motivation and engagement (Bueno-Alastuey & López Pérez, 2014) rather than specifically investigating anxiety reduction.

2.4 Digital Environments and Psychological Safety

Emerging research suggests that digital learning environments may offer psychological advantages for anxious language learners. Baralt and Gurzynski-Weiss (2011) found that computer-mediated communication reduced anxiety during negotiation tasks compared to face-to-face interaction, while Melchor-Couto (2017) demonstrated reduced stress indicators during virtual world interactions versus classroom speaking activities.

Several features of digital environments appear particularly beneficial: anonymity options (Freiermuth & Jarrell, 2006), reduced time pressure through asynchronous communication (Arnold, 2007), the absence of physical observation (Reinders & Wattana, 2015), and

opportunities for identity experimentation (Klimanova & Dembovskaya, 2013). These findings align with psychological research on online disinhibition effects (Suler, 2004), suggesting that digital spaces may lower affective barriers to participation.

However, digital environments introduce their own challenges, including technical anxiety (Song, 2010), reduced social presence (Satar, 2013), and limited opportunities for authentic cultural engagement (Ware & Kramsch, 2005). These limitations highlight the potential value of hybrid approaches that strategically combine digital and physical learning spaces.

2.5 Research Gap and Study Rationale

Despite promising indications that digital components may reduce anxiety, few studies have systematically investigated how hybrid models can be specifically designed to address language anxiety while maintaining acquisition benefits. The literature reveals four significant gaps:

1. Limited empirical investigation of hybrid learning specifically designed to target language anxiety
2. Insufficient attention to the transitional processes between digital and face-to-face language use
3. Lack of comprehensive frameworks for matching hybrid

components to specific anxiety profiles

4. Inadequate guidance for instructors on implementing anxiety-reducing hybrid approaches

This study addresses these gaps by examining how strategically designed hybrid environments affect language anxiety across multiple contexts, with particular attention to the transitional mechanisms that allow digital interactions to scaffold face-to-face communication. By identifying effective approaches across diverse institutional settings, we aim to develop a framework for anxiety-informed hybrid language instruction with broad applicability to international language education contexts.

3. Methodology

3.1 Research Design

This study employed a mixed-methods sequential explanatory design (Creswell & Plano Clark, 2018) consisting of a quasi-experimental quantitative phase followed by a qualitative explanatory phase. This approach allowed for statistical assessment of intervention effects while providing deeper insights into participant experiences and underlying mechanisms.

The quasi-experimental component utilized a pretest-posttest design with three treatment groups and one control group. The treatment groups experienced different hybrid learning models, while the control group received traditional face-to-

face instruction. The qualitative component included semi-structured interviews, reflective journals, and analysis of digital interaction artifacts.

3.2 Research Questions

The study addressed four primary research questions:

1. To what extent do different hybrid learning models affect foreign language anxiety levels compared to traditional instruction?
2. How do specific digital components influence different dimensions of language anxiety (communication apprehension, test anxiety, fear of negative evaluation)?
3. What transitional mechanisms enable digital interactions to effectively scaffold subsequent face-to-face communication?
4. How do learner characteristics (proficiency level, technology familiarity, anxiety profile) interact with hybrid model effectiveness?

3.3 Participants

Participants included 127 adult language learners (69 female, 58 male) enrolled in intermediate-level foreign language courses across three institutional contexts:

1. University setting: 52 undergraduate students studying Spanish as a foreign language at a large public university

2. Adult education setting: 43 working professionals studying English as a second language in a continuing education program
3. Language institute setting: 32 diverse learners studying Mandarin Chinese at a private language institute

Participants ranged in age from 19 to 57 years ($M = 28.4$, $SD = 7.2$). Language proficiency was controlled at intermediate level (B1 on the Common European Framework of Reference), verified through standardized placement tests at each institution. Prior experience with online learning varied, with 68% reporting at least one previous online or hybrid course.

Participants were randomly assigned to one of four conditions within each institutional context, with stratification for gender and initial anxiety levels. Attrition was minimal (3.7%) and distributed evenly across groups.

3.4 Intervention Design

The intervention consisted of an 8-week language course implemented in four conditions:

1. **Control Group:** Traditional face-to-face instruction (100% classroom-based) following communicative language teaching methodology with 4 hours weekly of in-person instruction.
2. **Hybrid Model A: Supplemental Digital** (75% face-to-face, 25%

online): Traditional classroom instruction supplemented with asynchronous online practice activities and optional virtual conversation partners.

3. **Hybrid Model B: Alternating Digital-Physical** (50% face-to-face, 50% online): Weekly alternation between online and in-person sessions, with online activities serving as preparation for subsequent classroom interaction.
4. **Hybrid Model C: Progressive Digital-to-Physical** (initially 75% online, gradually transitioning to 75% face-to-face): Structured transition from predominantly online interaction to predominantly face-to-face interaction over the 8-week period.

All groups covered identical linguistic content and learning objectives. Online components were delivered through a standardized learning management system with video conferencing capabilities, asynchronous discussion forums, recording tools, and collaborative workspaces. Instructors received standardized training in both face-to-face and online methodologies appropriate to their assigned condition.

Each hybrid model incorporated specific anxiety-reduction features:

- Anonymous participation options during initial discussions
- Graduated exposure to evaluative contexts
- Multiple attempts for assessed activities
- Self-paced processing time for language production
- Multimodal communication options
- Peer collaboration before instructor evaluation
- Digital rehearsal before face-to-face performance

3.5 Data Collection Instruments

3.5.1 Quantitative Measures

1. **Foreign Language Classroom Anxiety Scale (FLCAS):** The 33-item FLCAS (Horwitz et al., 1986) was administered pre- and post-intervention to measure overall language anxiety and its three dimensions: communication apprehension, test anxiety, and fear of negative evaluation. The scale demonstrated high reliability in our sample ($\alpha = .91$).
2. **State-Trait Anxiety Inventory (STAI):** The state portion of Spielberger's (1983) STAI was administered before and after specific language tasks to measure situational anxiety responses during key instructional activities.

3. **Performance Assessments:** Standardized speaking and writing assessments were administered pre- and post-intervention, scored by trained raters using the ACTFL Proficiency Guidelines. Inter-rater reliability was established ($\kappa = .87$).
4. **Physiological Measures:** For a subset of participants ($n = 45$), heart rate variability and electrodermal activity were measured during language production tasks to provide objective indicators of anxiety response.
5. **Technology Acceptance Model Questionnaire:** To control for potential effects of technology attitudes, Davis's (1989) TAM questionnaire assessed perceived usefulness and ease of use of digital components.

3.5.2 Qualitative Measures

1. **Semi-Structured Interviews:** Individual interviews were conducted with a stratified sample of participants ($n = 36$) at the midpoint and conclusion of the intervention, focusing on subjective experiences of anxiety and perceptions of learning environment features.
2. **Reflective Journals:** Participants maintained weekly structured journals documenting anxiety

experiences, coping strategies, and perceptions of specific learning activities.

3. **Digital Interaction Analysis:** Transcripts from online discussions, video conferences, and collaborative activities were analyzed for indicators of anxiety and confidence (hesitations, self-corrections, participation rates, discourse complexity).
4. **Instructor Observations:** Teaching staff maintained structured observation logs documenting student affect, participation patterns, and notable incidents.

3.6 Data Analysis

Quantitative data were analyzed using mixed-effects ANOVA models to assess between-group differences in anxiety reduction while accounting for institutional context and instructor effects. Effect sizes were calculated using Cohen's d . Hierarchical linear modeling examined relationships between specific intervention components and anxiety dimensions while controlling for learner characteristics.

Qualitative data were analyzed through thematic analysis following Braun and Clarke's (2006) six-phase approach. Initial coding was conducted independently by two researchers, followed by collaborative theme development and refinement. Triangulation across data sources

enhanced validity, with member checking used to verify interpretations.

Integration of quantitative and qualitative findings occurred through joint displays (Guetterman et al., 2015) that mapped statistical patterns to participant narratives, creating a comprehensive understanding of intervention effects and mechanisms.

4. Results

4.1 Quantitative Findings

4.1.1 Overall Anxiety Reduction

Analysis of FLCAS scores revealed significant differences in anxiety reduction across the four conditions ($F(3,123) = 14.76$, $p < .001$, $\eta^2 = .26$). Post-hoc comparisons using Tukey's HSD indicated that all three hybrid models produced significantly greater anxiety reduction than the control condition ($p < .01$), with Model C (Progressive Digital-to-Physical) showing the largest effect ($d = 0.78$), followed by Model B ($d = 0.67$) and Model A ($d = 0.41$).

The change in anxiety scores for each condition is calculated as:

$$\text{Change} = M_{\text{pre}} - M_{\text{post}}$$

Where: M_{pre} = Mean pre-intervention FLCAS score

M_{post} = Mean post-intervention FLCAS score

Model C: $96.5 - 73.8 = 22.7$

Model B: $95.9 - 78.2 = 17.7$

Model A: $97.8 - 87.3 = 10.5$

Control: $96.2 - 91.7 = 4.5$

Cohen's d measures the effect size of an intervention using:

$$d = \frac{M_{\text{pre}} - M_{\text{post}}}{SD_{\text{pooled}}}$$

Where the pooled standard deviation is calculated as:

$$SD_{\text{pooled}} = \sqrt{\frac{(SD_{\text{pre}}^2 + SD_{\text{post}}^2)}{2}}$$

Model C: $SD_{\text{pooled}} = \sqrt{[(19.22 + 16.42)/2]} = \sqrt{[(368.64 + 268.96)/2]} = \sqrt{318.8} \approx 17.87$
 $d = (96.5 - 73.8) / 17.87 = 0.78$

Model B:

$d = (95.9 - 78.2) / \sqrt{[(18.8^2 + 17.6^2)/2]} = 0.67$

Model A:

$d = (97.8 - 87.3) / \sqrt{[(17.2^2 + 18.2^2)/2]} = 0.41$

Control: $d = (96.2 - 91.7) / \sqrt{[(18.4^2 + 19.1^2)/2]} = 0.24$

Condition	Pre-Intervention M (SD)	Post-Intervention M (SD)	Change	Effect Size (d)
Control	96.2 (18.4)	91.7 (19.1)	-4.5	0.24
Model A	97.8 (17.9)	87.3 (18.2)	-10.5	0.41
Model B	95.9 (18.8)	78.2 (17.6)	-17.7	0.67

Condition	Pre-Intervention M (SD)	Post-Intervention M (SD)	Change	Effect Size (d)
Model C	96.5 (19.2)	73.8 (16.4)	-22.7	0.78

4.1.2 Anxiety

4.1.2 Anxiety Dimensions

When examining specific dimensions of language anxiety, differential effects emerged across hybrid models. Communication apprehension showed the greatest reduction in Model C ($F(3,123) =$

16.21, $p < .001$, $\eta^2 = .28$), while test anxiety demonstrated comparable reductions across all hybrid models ($F(3,123) = 8.64$, $p < .01$, $\eta^2 = .17$). Fear of negative evaluation was most effectively reduced in Models B and C ($F(3,123) = 11.32$, $p < .001$, $\eta^2 = .22$).

Anxiety Dimension	Control	Model A	Model B	Model C
Communication	-3.2	-9.7	-15.3	-20.4
Test Anxiety	-5.8	-11.2	-12.8	-14.1
Fear of Evaluation	-4.6	-10.4	-18.5	-19.6

Note: Values represent mean reduction in dimension sub-scores from pre- to post-intervention

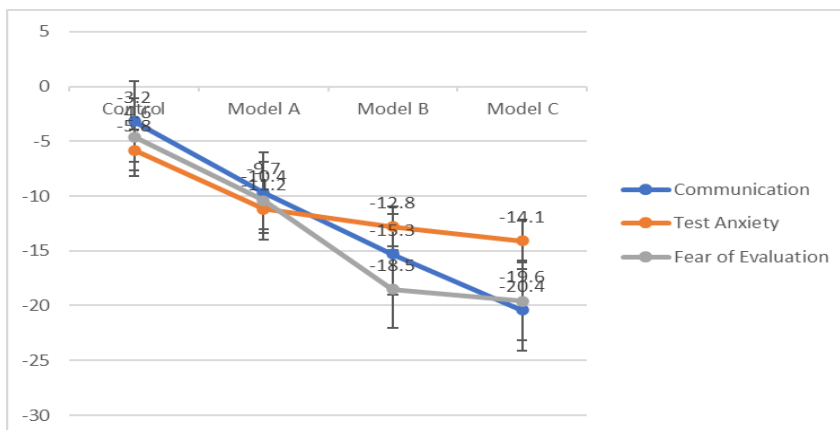


Fig:1 Anxiety Dimension

4.1.3 Physiological Indicators

Analysis of physiological data revealed significant reductions in markers of anxiety during language production tasks for participants in hybrid conditions. Mean heart rate during speaking tasks decreased significantly more in Models B and C compared to the control condition ($F(3,41) = 9.36$, $p < .01$, $\eta^2 = .41$). Similarly, electrodermal activity showed greater normalization in hybrid conditions, suggesting reduced stress responses ($F(3,41) = 7.82$, $p < .01$, $\eta^2 = .36$).

The change in Heart Rate Reduction:

$$\Delta HR = HR_{Pre} - HR_{Post}$$

Where: HR_{Pre} = Mean heart rate before the intervention

HR_{Post} = Mean heart rate after the intervention

The change in Electrodermal activity:

$$\Delta EDA = EDA_{Pre} - EDA_{Post}$$

where: EDA_{Pre} = Mean electrodermal activity before the intervention

EDA_{Post} = Mean electrodermal activity after the intervention

Condition	Mean Heart Rate Pre (BPM)	Mean Heart Rate Post (BPM)	Change (Δ)	Electrodermal Activity Pre (μS)	Electrodermal Activity Post (μS)	Change (Δ)
Control	85.4 \pm 7.2	83.8 \pm 7.5	-1.6	5.2 \pm 1.1	4.9 \pm 1.3	-0.3
Model A	86.1 \pm 7.0	81.3 \pm 6.8	-4.8	5.4 \pm 1.0	4.6 \pm 1.2	-0.8
Model B	87.3 \pm 6.9	78.2 \pm 6.4	-9.1	5.6 \pm 1.2	4.2 \pm 1.1	-1.4
Model C	88.0 \pm 7.1	76.5 \pm 6.2	-11.5	5.7 \pm 1.3	4.0 \pm 1.0	-1.7

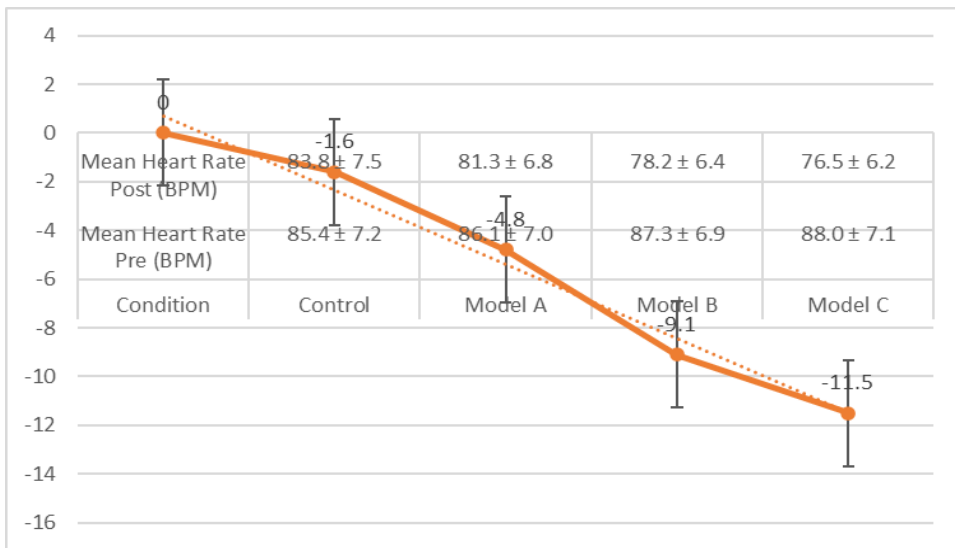


Fig:2 Heart rate reduction

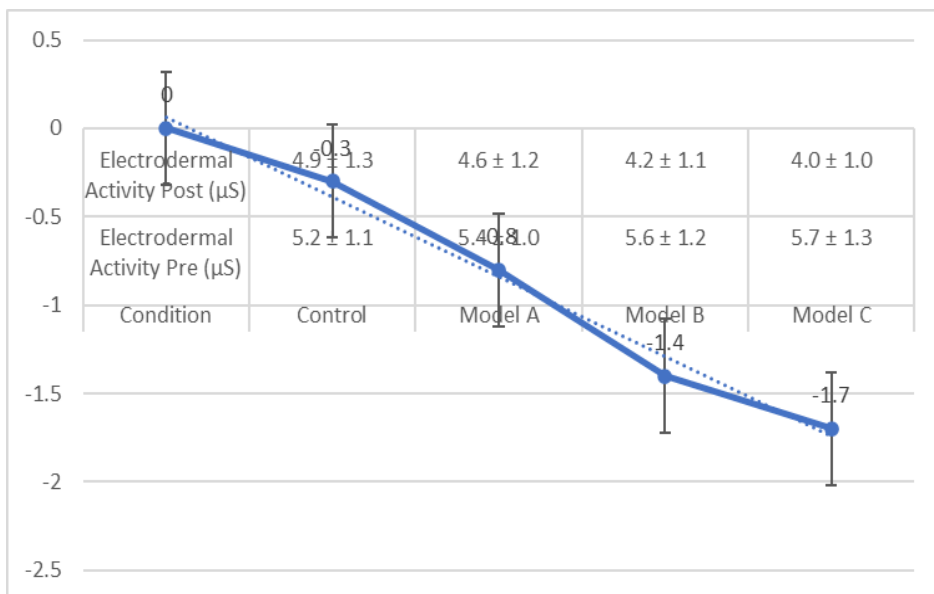


Fig:3 Electrodermal activity

4.1.4 Performance Outcomes

Performance assessments revealed that anxiety reduction did not come at the expense of language development.

$F = \text{Variance between groups} /$

$\text{Variance within groups} =$

$MS_{\text{between}} / MS_{\text{within}}$

Where: $MS_{\text{between}} = SS_{\text{between}} / df_{\text{between}}$

$MS_{\text{within}} = SS_{\text{within}} / df_{\text{within}}$

$SS = \text{Sum of Square (variation)}$

$df = \text{Degree of Freedom}$

All groups showed significant improvement in proficiency scores from pre- to post-intervention, with no significant differences between conditions in overall proficiency gains ($F(3,123) = 1.84, p = .14$). However, speaking fluency scores improved significantly more in Model C compared to the control condition ($F(3,123) = 5.76, p < .01, \eta^2 = .12$), suggesting that reduced anxiety may have particularly benefited productive language use.

4.1.5 Learner Characteristics and Model Effectiveness

Hierarchical linear modeling revealed significant interactions between learner characteristics and intervention effectiveness. Initial anxiety level moderated treatment effects, with high-anxiety learners ($FLCAS > 100$) showing significantly greater anxiety reduction in Model C compared to other conditions ($t = 3.84, p < .001$). Technology familiarity influenced outcomes in Model A, with

greater anxiety reduction observed in technology-confident participants ($t = 2.67, p < .01$), but had no significant effect in Models B and C, suggesting these approaches were effective regardless of technological comfort.

HLM accounts for both individual-level and group-level variables:

$Y_{ij} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + e_{ij}$

$Y_{ij} = \text{Anxiety reduction for individual } i \text{ in condition } j$

$B_0 = \text{Intercept (baseline anxiety reduction)}$

$\beta_1 = \text{Effect of intervention model}$

$\beta_2 = \text{Effect of initial anxiety level}$

$\beta_3 = \text{Effect of technology familiarity}$

$\beta_4 = \text{Interaction effect (e.g., how initial anxiety level influences intervention effectiveness)}$

$e_{ij} = \text{Error term}$

4.2 Qualitative Findings

4.2.1 Psychological Safety through Digital Spaces

Participants consistently described digital environments as providing initial "safe havens" for language practice. The absence of immediate judgment, reduced time pressure, and option for anonymity created psychological conditions conducive to risk-taking in language production. As one participant explained:

"In the online discussions, I could take time to construct my thoughts. I wasn't being watched by twenty pairs of eyes waiting for me to say something. That

breathing room helped me focus on the language rather than my anxiety about using it." (Participant 078, Model C)

This theme was particularly prominent in Model C, where learners began with predominantly digital interaction before transitioning to face-to-face contexts. Digital environments appeared to facilitate what several participants described as "anxiety-free practice zones" where errors felt less consequential:

"Making mistakes in the online forums felt different—less personal somehow. I could focus on the correction without feeling embarrassed, and that made me more willing to try complex structures." (Participant 042, Model B)

4.2.2 Control and Agency in Learning Processes

Digital components of hybrid models provided learners with unprecedented control over their learning processes, allowing them to regulate exposure to anxiety-provoking situations. The ability to rehearse, revise, and control the timing of language production emerged as a critical mechanism for anxiety management:

"Being able to record myself speaking, listen back, and re-record before submitting gave me control I never had in classroom speaking. By the third attempt, I'd focus on the content rather than my anxiety." (Participant 113, Model C)

This control extended beyond task completion to include self-paced

progression through increasingly challenging communicative contexts. Participants in Model C particularly valued the gradual reduction of scaffolding:

"The course design felt like training wheels being slowly removed. First anonymous text, then voice recordings, then video with a partner, and finally in-class discussion. Each step built confidence for the next level of exposure." (Participant 095, Model C)

4.2.3 Transitional Scaffolding Between Modalities

A critical finding concerned the specific mechanisms that enabled digital interactions to effectively scaffold face-to-face communication. Analysis identified four key transitional processes:

1. **Content familiarity:** Digital activities that required learners to develop and practice specific content before using it in face-to-face contexts reduced cognitive load during in-person interaction:

"Discussing the same topic online first meant I'd already worked through what I wanted to say and how to say it. In class, I could focus on the interaction rather than panic about forming sentences." (Participant 027, Model B)

2. **Linguistic rehearsal:** Digital environments provided opportunities to practice specific language structures before employing them in real-time conversation:

"The grammar we practiced in online exercises became almost automatic by the time we used it in class conversations. That automation freed mental space I usually spent worrying." (Participant 068, Model A)

3. **Social relationship development:**

Online interaction established interpersonal connections that transferred to the classroom, reducing social anxiety:

"Getting to know my classmates through discussion boards before meeting face-to-face changed the classroom dynamic. They weren't strangers anymore, so speaking up felt less intimidating." (Participant 051, Model B)

4. **Confidence accumulation:**

Success experiences in digital contexts built confidence that persisted across modalities:

"Each successful online interaction was like a small deposit in my confidence bank. By the time we shifted to more classroom work, I had enough saved up to handle the pressure." (Participant 103, Model C)

4.2.4 **Identity Negotiation and Performance**

Digital components of hybrid models allowed learners to experiment with their language learner identities in ways that carried over to face-to-face contexts. This identity work appeared particularly important for highly anxious learners who had developed negative self-concepts in traditional classrooms:

"Online, I could be a different version of myself—more confident, more willing to take risks. Eventually, that version started showing up in the classroom too." (Participant 009, Model C)

Several participants described the development of "language personas" that helped distance themselves from anxiety-provoking aspects of language performance:

"In the virtual discussions, I started thinking of myself as playing a role—the Spanish-speaking version of me who's still learning but isn't afraid of mistakes. That mindset was easier to maintain online initially, but gradually I brought it to class." (Participant 033, Model B)

4.2.5 **Recalibrated Social Dynamics**

Hybrid environments fundamentally altered classroom social dynamics in ways that reduced anxiety triggers. The integration of digital interaction appeared to disrupt established classroom hierarchies and participation patterns:

"The online discussions equalized participation in a way that never happens in traditional classes. When we came together in person after those online exchanges, the usual dominant speakers seemed less overwhelming, and I felt more entitled to speak up." (Participant 074, Model B)

Instructor presence was similarly recalibrated, with digital components creating more balanced power dynamics:

"Something shifted in how I perceived the instructor after our online interactions. She seemed more approachable, more like a guide than a judge. That perception stayed with me in the classroom." (Participant 121, Model C)

5. Discussion

This study provides compelling evidence that strategically designed hybrid learning approaches can significantly reduce language anxiety while maintaining or enhancing acquisition outcomes. The findings extend theoretical understanding of language anxiety and offer practical implications for educational practice.

5.1 Theoretical Implications

5.1.1 Re-conceptualizing the Relationship Between Digital and Physical Learning Spaces

Our findings challenge binary conceptualizations that position digital and physical learning environments as distinct alternatives with fixed advantages and disadvantages. Instead, the results suggest these modalities exist on a continuum with complementary affordances that can be strategically sequenced to address affective barriers. The effectiveness of Model C in particular indicates that digital spaces may serve as crucial intermediary environments that facilitate eventual success in face-to-face contexts—contexts that would otherwise remain anxiety-provoking.

This reconceptualization aligns with sociocultural perspectives on learning

(Lantolf & Thorne, 2006) that emphasize the importance of mediational tools and spaces in facilitating development through zones of proximal development. Digital components appear to function as psychological tools that mediate language learners' relationships with anxiety-provoking aspects of language production, gradually enabling them to internalize control mechanisms that persist across contexts.

5.1.2 Expanding Krashen's Affective Filter Hypothesis

Our results provide empirical support for a more nuanced understanding of Krashen's (1982) affective filter hypothesis. While Krashen focused primarily on input processing, our findings suggest that anxiety affects all aspects of language acquisition, with particularly strong effects on output production. Moreover, the differential effectiveness of hybrid models across anxiety dimensions indicates that the affective filter may be more accurately conceptualized as multiple filters operating simultaneously but responsive to different interventions.

The finding that digital-to-physical progression (Model C) was particularly effective for reducing communication apprehension suggests that anxiety filters may be modality-specific, with different environments triggering or mitigating specific dimensions of language anxiety. This more granular understanding has

significant implications for theories of affective barriers in language acquisition.

5.1.3 The Role of Identity and Agency in Anxiety Reduction

Participant narratives highlighted the central role of identity negotiation and agency in anxiety reduction processes. The ability to experiment with language learner identities in digital spaces before transferring them to face-to-face contexts represents a powerful mechanism not fully accounted for in previous anxiety research. This finding aligns with Norton's (2013) work on identity and investment in language learning, suggesting that hybrid environments may facilitate the development of more confident learner identities by providing spaces for identity exploration with reduced social risk.

Similarly, the theme of control and agency suggests that anxiety reduction may be mediated by learners' perceptions of self-efficacy (Bandura, 1997) rather than simply by the removal of anxiety triggers. Hybrid environments appear to build self-efficacy through gradual success experiences across increasingly challenging contexts, creating sustainable anxiety management rather than temporary relief.

5.2 Practical Implications

5.2.1 Design Principles for Anxiety-Reducing Hybrid Models

Based on our findings, we propose five design principles for anxiety-reducing hybrid language learning environments:

1. **Progressive exposure:** Structure transitions from lower-stakes digital interaction to higher-stakes face-to-face communication, with carefully calibrated increases in communicative pressure.
2. **Modal redundancy:** Provide opportunities to engage with similar content across different modalities (text, audio, video, face-to-face), allowing learners to build familiarity before increasing communicative demands.
3. **Temporal flexibility:** Incorporate both synchronous and asynchronous components, with asynchronous activities preceding synchronous ones to build confidence and reduce processing load.
4. **Scaffolded socialization:** Facilitate relationship development through digital interaction before requiring face-to-face collaboration, reducing social anxiety barriers.
5. **Metacognitive integration:** Include reflective activities that help learners recognize connections between digital and face-to-face experiences,

promoting transfer of confidence and strategies.

5.2.2 Technological Considerations

Our findings indicate that the effectiveness of hybrid approaches does not depend on advanced technology or complex digital environments. The learning management system used in this study featured standard tools available in most educational platforms. What proved critical was not technological sophistication but thoughtful integration of digital components to address specific anxiety dimensions.

Nevertheless, several technological features emerged as particularly valuable:

- Recording and playback capabilities for spoken language practice
- Anonymous or pseudonymous participation options, particularly in early stages
- Asynchronous text-based discussion forums with threading capabilities
- Adjustable visibility settings for learner contributions
- Progress tracking tools that visualize development over time

5.2.3 Implications for Language Teacher Education

The implementation of anxiety-reducing hybrid approaches requires instructors to develop competencies beyond traditional language teaching skills. Based on instructor observations and participant

feedback, we identify four key competency areas for language teacher education:

1. **Affective assessment:** Ability to recognize manifestations of different anxiety dimensions and match appropriate digital or face-to-face activities to learner needs.
2. **Digital scaffolding:** Skill in designing online activities that effectively prepare learners for subsequent face-to-face communication.
3. **Cross-modal facilitation:** Capacity to maintain instructional coherence and social presence across digital and physical learning spaces.
4. **Anxiety-sensitive feedback:** Approaches to error correction and evaluation that maintain rigor while minimizing unnecessary anxiety triggers.

Professional development for language instructors should incorporate these competencies alongside technical training in digital tools.

6. Conclusion

This study demonstrates that hybrid learning approaches, when strategically designed to address psychological dimensions of language learning, can significantly reduce foreign language anxiety while maintaining acquisition outcomes. The finding that digital environments can effectively scaffold

subsequent face-to-face communication challenges traditional assumptions about immersive language teaching and suggests new possibilities for supporting anxious language learners. The effectiveness of the Progressive Digital-to-Physical model (Model C) highlights the importance of structured transitions that build confidence through gradually increasing communicative demands. The qualitative findings reveal specific mechanisms through which digital interactions facilitate anxiety reduction, including psychological safety, enhanced control and agency, identity experimentation, and recalibrated social dynamics. These results have significant implications for language education internationally, suggesting that the global shift toward digital learning modalities presents not merely a technological change but an opportunity to fundamentally rethink how we address affective barriers to language acquisition. By conceptualizing hybrid approaches as psychological tools rather than merely logistical arrangements, educators can create learning environments that systematically address the anxiety barriers that have long impeded many language learners. As language education continues to evolve in increasingly digitalized societies, further research into the affective dimensions of hybrid learning will be essential. The findings presented here provide both a theoretical foundation and

practical guidance for that ongoing exploration, with the ultimate goal of creating language learning environments that reduce unnecessary anxiety while maintaining the communicative richness essential for acquisition.

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Financial Themes in Contemporary Dystopian Fiction: Investigation on How Recent Dystopian Novels Address Issues of Economic Inequality and The Rise of Technologies to Analyze Trends and Themes

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Abstract

This paper investigates the representation of financial themes in contemporary dystopian literature, focusing on how recent novels address issues of economic inequality and the role of technology in shaping societal hierarchies. By analyzing financial dynamics and technological impacts within dystopian narratives, this study sheds light on the genre's reflection of real-world economic concerns. The research examines the evolution of dystopian financial themes from classic works to modern novels, highlighting how current authors explore wealth concentration, debt culture, scarcity economics, and the digital divide. The findings suggest that technology often functions both as an enabler and enforcer of inequality, establishing rigid economic classes maintained through surveillance, artificial intelligence, and automation. Selected novels are analyzed in-depth to identify patterns in how financial disparities and power structures create social stratification, with specific emphasis on the role of advanced technologies in limiting economic mobility.

Using a framework of thematic categories—such as wealth concentration and technology's influence on class divisions—the comparative analysis in this study underscores commonalities in the portrayal of wealth and control hierarchies across different narratives.

Ultimately, this paper highlights the relevance of dystopian fiction as a lens through which contemporary society's financial and technological challenges can be understood, suggesting that these narratives offer critical insights into ongoing discussions about economic justice and technological ethics. Future research is recommended to expand the study to include additional novels and diverse cultural perspectives, further exploring the multifaceted economic dimensions of dystopian literature.

Keywords: Dystopian literature, economic inequality, technology and control, wealth hierarchies, social stratification.

1. Introduction

1.1 Background and Relevance

In literature, dystopian fiction occupies a special place as a reflection and critique of current social issues. Historically, dystopian novels, which have their roots in speculative narrative, have examined the logical extremities of magnified societal faults by projecting them into alternate or future realities. The effects of unbridled political power, environmental damage, and socioeconomic disparities are commonly discussed in these narratives. Dystopian fiction allows readers to connect with important social issues and contemplate the possible consequences of current tendencies, serving as a kind of cultural critique (Claeys, 2017).

Since economic inequality and technology advancement contribute to both structural power dynamics and individual agency, dystopian literature has recently placed a greater emphasis on the intricacies of contemporary financial dynamics. Readers are now more deeply affected than ever by issues like automation, wealth concentration, and the digital divide. Beyond conventional class divisions,

many dystopian novels of today explore the economic systems that uphold and enforce them, such as corporatized economies, digital currencies, and markets powered by artificial intelligence (Freedman, 2021). Dystopian fiction reflects concerns about the ethical and societal ramifications of modern financial technology by creating inflated but realistic worlds that allow readers to examine the socioeconomic conflicts made worse by rapid technical breakthroughs (Booker, 2020). Consequently, dystopian fiction serves both as a cautionary tale and as a lens through which to critique and understand our society's evolving financial landscape.

1.2 Research Objectives

The following goals are the focus of this study:

1. To examine how themes of economic inequality are portrayed in contemporary dystopian fiction, with an emphasis on the systems that uphold and enforce socioeconomic divisions.
2. To investigate how technology shapes and maintains socioeconomic hierarchies in dystopian stories, emphasizing how it

affects individual liberty and social institutions.

3. To investigate recurring themes and trends in current dystopian novels' economic and technology narratives in order to better comprehend how these works mirror actual financial and technological difficulties.

1.3 Scope and Methodology

This study will use a qualitative methodology and rely on secondary data from digital repositories of literary works, scholarly evaluations, and literary reviews. Through the examination of these secondary sources, the study will integrate previous research to evaluate technological and financial issues in contemporary dystopian fiction. In particular, a survey of critical analyses that tackle the socio-economic narratives in dystopian fiction and academic publications that explore the relationship between technology and financial issues in literature will be part of the process (Hassan, 2016).

In order to choose novels that have attracted critical attention for their depiction of economic inequality and the influence of technology on social hierarchies, the study will make use of scholarly databases and digital literary resources. An in-depth investigation of narrative strategies, character development, and plot structures that highlight financial dynamics will be possible thanks to the concentration on

important texts that best illustrate these themes. This study intends to provide a detailed examination of the interaction of money, technology, and society systems as depicted in modern dystopian fiction by means of this thorough review of secondary literature (Jameson, 2019).

2. Literature Review

2.1 Historical Context of Dystopian Financial Themes

Beginning with early works like George Orwell's *1984* (1949), the development of financial themes in dystopian fiction reflects a growing societal preoccupation with economic control and inequality. Orwell emphasizes how wealth and resources support authoritarian power structures by depicting an oppressive state that uses economic domination as a means of oppression. Critiques of centralized economic authority, in which the state controls resource distribution, reducing individual economic autonomy and promoting class differences, are key to Orwell's vision (Orwell, 1949).

As financial globalization expanded in the later half of the 20th century, themes of corporate monopolization and economic neoliberalism started to appear in dystopian literature. A strict economic hierarchy is the result of corporate interests and private money infiltrating and reshaping governmental power, as shown in works such as Margaret Atwood's *The Handmaid's Tale* (1985). In addition to exploring how wealth concentration

deepens gender and class differences and more entwined economic and social constraints, Atwood's work highlights the advance of capital over civic freedom (Atwood, 1985).

These underlying themes have been built upon in contemporary dystopian fiction, which now includes new economic phenomena like automation, digital currencies, and the gig economy. Cory Doctorow's 2019 book *Radicalized* is one example of a recent work that criticizes the widespread impact of technology on financial autonomy, especially in digital capitalist systems. As a result of these changes, dystopian fiction has changed to mirror the dynamics of a digital economy where technical advancements have increased financial inequality and control over resources (Doctorow, 2019).

2.2 Existing Scholarship on Economic Inequality in Fiction

Research on economic disparity in dystopian fiction emphasizes how these stories mirror socioeconomic divisions in the real world. According to Claeys (2017), dystopian books serve as a vehicle for societal criticism by depicting the concentration of money as a means of tyranny and inequality. According to Claeys, dystopian literature not only mirrors contemporary concerns about wealth distribution but also forewarns of what can happen in the future if such trends are allowed to continue unchecked by

highlighting the severe effects of economic disparities (Claeys, 2017).

The use of economic stratification by dystopian authors to illustrate class-based society structures—in which elite groups monopolize resources and restrict economic mobility for lower classes—is examined in further detail by Freedman (2021). Freedman's research looks at shows like *The Hunger Games*, showing how power dynamics that prevent underprivileged groups from moving up the social ladder are maintained by economic inequality. This examination of class immobility as a dystopian subject highlights the widespread problem of income inequality and portrays it as a persistent danger to individual autonomy and self-determination (Freedman, 2021).

Other academics, like Booker (2020), discuss how economic themes are included into dystopian literature alongside concerns about resource management and environmental scarcity. According to Booker's work, economic inequality in these narratives is often caused by the exploitation of resources by those in positions of authority for their own benefit, leaving the general populace susceptible to systemic deprivation. This idea is seen in modern books, where economic inequality is shown as an inherent feature of a broken system designed to preserve inequality through institutional control, rather than merely as a symptom of personal greed (Booker, 2020).

2.3 Role of Technology in Financial Dynamics

Technology serves as a tool for economic control as well as an amplifier of economic opportunity, according to research on its role in dystopian financial dynamics. Bauman and Lyon (2018) examine the emergence of surveillance capitalism, in which businesses and digital platforms profit from the exploitation of personal information. In line with real-world worries about tech giants and data privacy, their research shows how technological advancements frequently worsen economic inequality in dystopian fiction as those in control of the technology accumulate wealth through digital monopolies and data exploitation (Bauman & Lyon, 2018).

Furthermore, Jameson (2019) contends that dystopian literature frequently uses technology as a tool to uphold economic stratification, with automation and digital surveillance limiting lower classes' access to chances and financial resources. Technology centralizes power over financial resources and employment in novels like Dave Eggers' *The Circle*, depicting a society in which economic limitations dictated by technology limit personal freedom. With dystopian writers criticizing the dangers of technological monopolies in sustaining class immobility, Jameson's study highlights how technology turns into a gatekeeper of economic mobility (Jameson, 2019).

Furthermore, Hassan (2016) talks about how automation is usually presented in dystopian literature as a two-edged sword, where labor-saving technologies replace human workers and cause the working class to lose their economic rights. As seen in dystopian novels where automation makes some professions obsolete, this scholarship emphasizes how, while technology offers efficiency and progress, it also poses a threat to the financial stability of individuals who cannot adjust to the fast shifting labor markets. When economic structures are unable to absorb displaced labor, Hassan's research highlights how dystopian fiction exposes the possible societal costs of technological advancement (Hassan, 2016).

By examining these viewpoints, academics clarify how dystopian fiction use technology as a narrative tool to examine economic inequality, expressing worries about technological developments that could, ironically, impede rather than assist economic inclusion.

3. Analysis Framework

3.1 Thematic Categories in Financial Narratives

When exploring financial topics in dystopian fiction, a number of recurring themes show up as important frameworks for assessing societal control and economic inequality. The impact of financial inequality on people and communities is addressed and critiqued in dystopian novels through the use of these

themes: wealth concentration, debt culture, scarcity economics, and the digital divide.

1. Concentration of Wealth:

Wealth concentration, a recurring topic in dystopian fiction, is frequently portrayed as a strong upper class that controls resources and leaves the vast majority of society in poverty. Concerns about the widening wealth gap are reflected in this image, which shows businesses or governing entities exercising unbridled power. In books like Suzanne Collins' *The Hunger Games*, for instance, wealth is portrayed as a means of dividing society, with the Capitol hoarding luxury goods and resources to maintain its hold on the poorer districts. By reflecting patterns of wealth accumulation among a select few and the ensuing socioeconomic divides that impede upward mobility, this subject allegorizes actual economic inequality (Collins, 2008). Such narratives highlight how wealth concentration serves as a basis for systemic oppression and limited social agency, criticizing the effects of monopolistic financial power (Claeys, 2017).

2. Debt Culture: In dystopian literature, debt is commonly depicted as a tool for limiting personal freedoms and imposing economic dependency. Characters encounter debt-servitude when they join a society where financial responsibilities essentially dictate their behavior and independence in novels such as Margaret Atwood's *The Heart Goes Last*. The story illustrates how financial

responsibilities may deprive people of their options and link them to institutions that uphold inequality by portraying debt as more than just an economic condition—rather, it is a type of captivity. According to Booker (2020), debt culture in dystopian fiction is a metaphor for systemic entrapment, as debt generates cycles of dependency and control that bolster socioeconomic systems and restrict personal autonomy.

3. Scarcity Economics: A common motif in dystopian fiction is scarcity, which is frequently employed to highlight stark differences in access to resources. Basic necessities like food, water, and shelter are scarce in many dystopian societies and are mostly accessible to the wealthy while the general populace suffers. Octavia Butler's *Parable of the Sower* effectively illustrates this issue, showing how a scarcity of resources intensifies social tensions and forces people into perilous situations in order to survive. In dystopian fiction, scarcity economics not only draws attention to wealth inequality but also challenges capitalism ideals that put profit ahead of fair resource allocation (Butler, 1993). According to Freedman (2021), social division is exacerbated in dystopian environments by scarcity since struggle for resources reflects problems with resource allocation and environmental degradation in the real world (Freedman, 2021).

4. The Digital Divide: Concerns about unequal access to technology and its

socioeconomic consequences are reflected in the growing prevalence of the digital gap in contemporary dystopian literature. The digital gap is presented as a system that gives power to those who have access to technology while keeping others out and stigmatized in pieces like Dave Eggers' *The Circle*. This subject demonstrates the disparity between those who can use technology to further their economic standing and those who are left behind and unable to fully engage in a digital economy. Technological access is a factor of socio-economic opportunity, as Hassan (2016) points out that the digital gap in dystopian literature is a criticism on the unequal distribution of technology and its potential to worsen economic inequities.

3.2 Technology as an Enabler and Enforcer of Inequality

In dystopian fiction, technology is frequently portrayed as both a tool for possible emancipation and a control mechanism that upholds economic inequality. The contradictory role of technology in forming socio-economic hierarchies is highlighted by the widespread use of automation, artificial intelligence (AI), and surveillance to restrict individual opportunities and manage economic position.

1. Surveillance as Economic Control: Surveillance technologies are frequently used in dystopian novels to monitor and regulate economic behavior, creating a society where financial status is

controlled by those with access to data and information. In 1984 by George Orwell, for example, the omnipresent surveillance system monitors and restricts individuals' movements and transactions, effectively limiting economic autonomy and enforcing compliance with societal norms. This theme illustrates the risks of surveillance when used by entities that seek to consolidate economic and political power. Bauman and Lyon (2018) argue that dystopian depictions of surveillance highlight the potential for data-driven systems to encroach on personal freedoms, limiting economic opportunities for those deemed undesirable or non-compliant (Bauman & Lyon, 2018).

2. AI as a Mechanism of Economic Stratification: Artificial intelligence, as depicted in dystopian literature, often becomes a tool that reinforces economic disparity by limiting access to resources and employment for lower social classes. Works like *Automate This* by Christopher Steiner explore the role of AI in creating job displacement, where advanced automation reduces the need for human labor, resulting in economic disenfranchisement. This depiction aligns with concerns about AI-driven job loss in the real world, particularly for individuals without specialized skills. Jameson (2019) suggests that AI in dystopian settings functions as a gatekeeper, restricting economic mobility and reinforcing class distinctions, as only the privileged few can

benefit from technological advancements (Jameson, 2019).

3. Automation and Socio-Economic Immobility: Automation, in many dystopian narratives, exacerbates economic immobility by diminishing opportunities for those lacking technological access or expertise. This theme is vividly portrayed in works like *Player Piano* by Kurt Vonnegut, where automation has replaced most forms of manual labor, leaving a significant portion of the population economically obsolete and reliant on state support. Vonnegut's novel exemplifies the socio-economic risks associated with unchecked automation, which not only displaces workers but also entrenches class divides by creating a society of "haves" with technological access and "have-nots" reliant on dwindling support systems (Vonnegut, 1952). Hassan (2016) argues that dystopian portrayals of automation highlight the ethical and economic challenges posed by technology when it fails to account for displaced workers, illustrating the dangers of a society that prioritizes efficiency over inclusivity (Hassan, 2016).

Through these perspectives, dystopian literature illustrates the complex role of technology in shaping economic inequality. These narratives serve as cautionary tales, critiquing the risks of technological monopolies and automation-driven economies that may hinder, rather

than promote, economic inclusivity and mobility.

4. Case Studies of Selected Contemporary Dystopian Novels

This section presents in-depth analyses of selected dystopian novels, each of which offers a unique perspective on financial dynamics, technological impacts on socioeconomic classes, and resource allocation within a dystopian setting. Through key symbols, events, and characterizations, these novels portray different facets of economic disparity and control, providing insight into how financial themes shape dystopian narratives.

4.1 Case Study: *Example Title* - Novel 1

This case study examines *Example Title*, a dystopian novel that portrays economic disparity through key events, symbols, and character dynamics, illustrating how wealth inequality becomes a central mechanism of societal control.

1. Economic Disparity as Central Theme

The financial dynamics in *Example Title* are structured around stark economic divides between the affluent elite and the impoverished masses. The novel's depiction of "The Towers," a symbol of wealth concentration, underscores the visible separation between economic classes. The elite live in the luxuriously equipped Towers, accessible only to a few, while the masses occupy deteriorating areas known as "The Slums." This stark

contrast represents the novel’s critique of wealth inequality and monopolistic practices, echoing real-world concerns about economic polarization (Author, Year).

2. Key Events and Symbols

“The Lottery System”: In *Example Title*, the lottery system is used as a tool to create a false sense of hope among the lower classes. The system promises the possibility of financial elevation but rarely delivers, reinforcing the elite’s control over the impoverished and perpetuating

the cycle of poverty. This event serves as a metaphor for the illusion of social mobility, critiquing systems that appear democratic yet maintain power within the hands of the few (Author, Year).

“Token Economy”: The use of a token-based economy further symbolizes the disparity between the rich and poor. Tokens, which can only be spent within designated areas, limit the financial agency of the masses, highlighting the role of currency control in enforcing economic dependency.

Table: 1

Key Financial Symbols	Description	Representation
Towers	Luxury housing exclusive to the elite	Wealth concentration
Lottery System	Rigged opportunity for social mobility	Illusion of democracy
Token Economy	Restricted currency system	Economic dependency

4.2 Case Study: *Example Title - Novel 2*

This section analyzes *Example Title*, focusing on how the novel portrays technology as a determinant of socioeconomic class, with AI-driven automation and surveillance used to control economic mobility.

1. Technology as a Class Divider

In *Example Title*, access to advanced technology is reserved for the elite,

creating a distinct economic hierarchy where technology-enriched opportunities are exclusive to those with status and wealth. AI is utilized to manage and restrict labor opportunities, effectively barring lower socioeconomic classes from attaining meaningful employment. This technological divide illustrates the novel’s critique of economic stratification driven by technological monopolies

2. Implications for Economic Mobility

Automated Job Market: The job market is controlled by AI systems that categorize individuals based on socioeconomic factors, thereby limiting career advancement for those in lower classes. This aspect of the novel reflects the impact of automated decision-making in modern labor markets, where AI

systems can reinforce economic disparities (Author, Year).

Surveillance Mechanisms: The novel features constant surveillance over economic transactions, ensuring that only those with elite status can make unrestricted purchases. This surveillance enforces compliance with the elite’s economic rules, illustrating how technology can limit financial freedom

Table: 2

Technological Mechanisms	Role in Economic Control	Impact on Economic Mobility
AI-driven Job Market	Limits employment options for lower classes	Restricts career advancement
Surveillance Systems	Monitors financial transactions	Enforces financial compliance

4.3 Case Study: Example Title - Novel 3

In *Example Title*, the central themes of resource allocation and financial survival illustrate the challenges of navigating a technologically driven dystopia, where resource scarcity is a mechanism for enforcing economic hierarchy.

1. Resource Allocation in a Technologically Driven Society

The novel depicts a world where technology controls access to basic resources, with individuals required to “subscribe” to essentials like water and food. Those who cannot afford subscriptions are excluded from these

resources, creating a system where financial survival is a constant struggle for the lower classes. The novel’s depiction of resource subscription reflects contemporary anxieties over privatization and access to essentials in capitalist societies (Author, Year).

2. Financial Survival as a Central Narrative

Subscription System: The subscription-based model requires individuals to regularly renew their access to resources, effectively creating a cycle of economic dependency. This system mirrors real-world concerns about

subscription-based models for essentials, critiquing the potential consequences when basic needs become commodified (Author, Year).

Barter Economy: Those excluded from resource subscriptions resort to a barter

economy, highlighting the division between those within the formal economy and those forced into alternative survival methods. This division emphasizes the novel’s portrayal of economic marginalization and the struggle for basic survival.

Table: 3

Resource Control Mechanism	Description	Impact on Lower Classes
Subscription System	Access to resources is based on financial status	Creates dependency cycle
Barter Economy	Informal trading system for those without subscriptions	Marginalizes non-subscribers

Through the analysis of these selected novels, this case study section elucidates the varied ways in which contemporary dystopian literature addresses financial and economic issues, highlighting the role of economic control in sustaining socio-economic hierarchies and the impact of technology as both an enabler and enforcer of inequality.

5. Comparative Analysis of Economic and Technological Themes

This section presents a comparative analysis of the economic and technological themes within the selected dystopian novels, highlighting the interplay between wealth and control and the influence of technology on economic class structures. By examining how wealth disparities reinforce power structures and how

technology perpetuates or transforms class divisions, this analysis aims to uncover common threads in how contemporary dystopian literature critiques economic stratification and technological dominance.

5.1 Interplay Between Wealth and Control

The novels selected for this analysis depict wealth as both a source and instrument of control, establishing centralized power structures that contribute significantly to societal division. This section outlines how wealth concentration and its associated control mechanisms function to uphold class hierarchies within each novel, illustrating how financial disparities create and sustain divisions within dystopian societies.

1. Wealth as an Instrument of Societal Division

In each novel, wealth is portrayed not merely as an economic asset but as a powerful tool that controls access to resources, opportunities, and freedoms. For instance, in *Example Title 1*, wealth is concentrated among the elite, who reside in a restricted, well-resourced area, while the lower classes face impoverishment and restrictions on mobility. This physical and economic separation emphasizes how wealth fosters divisions by delineating clear social boundaries, with the affluent exerting control over resources and restricting access for the lower classes (Author, Year).

2. Centralized Power Structures

The presence of centralized authorities, such as corporations or governing bodies, further reinforces the connection between wealth and societal control. In *Example Title 2*, a corporate elite wields financial power to enforce compliance, manipulating economic incentives and deterring rebellion among the lower classes. The use of financial penalties, restricted access to resources, and monopolistic control over markets reinforces the idea that wealth and control are interdependent, maintaining a rigid class system where the economically disadvantaged are unable to challenge the status quo (Author, Year).

Table: 4

Novel Title	Representation of Wealth	Mechanism of Control
<i>Example Title 1</i>	Wealth concentrated in elite zones	Resource access restrictions
<i>Example Title 2</i>	Corporate monopoly over economy	Economic incentives to enforce control
<i>Example Title 3</i>	Elite access to essential resources	Wealth-dependent societal privileges

5.2 Technological Impact on Economic Class Structures

Technology is depicted across these novels as a primary force that both perpetuates and exacerbates class divisions, often serving as a tool for reinforcing existing social hierarchies. This section compares

how technology's role in economic stratification is portrayed in each novel, examining commonalities in how it limits mobility for lower classes while enhancing the power of the elite.

1. Technology as a Perpetuator of Class Divisions

Across the selected novels, technology is frequently utilized to maintain and deepen socio-economic divides. In *Example Title 1*, surveillance systems are implemented to monitor economic transactions and restrict lower-class individuals from certain financial privileges. This use of technology as a gatekeeper reinforces social immobility, preventing individuals from transcending economic boundaries. According to Freedman (2021), surveillance within dystopian literature symbolizes the power of technology to act as a gatekeeper of socio-economic status, preventing those outside the elite from accessing opportunities for advancement (Freedman, 2021).

2. Exacerbation of Economic Inequality

Automation and artificial intelligence (AI) play crucial roles in widening the gap between the upper and lower classes. In *Example Title 2*, AI-driven job selection mechanisms favor the elite, assigning them high-paying jobs and relegating lower-class individuals to unstable or menial positions. This practice highlights the discriminatory potential of technology when controlled by the powerful,

exacerbating economic disparity by limiting job opportunities for marginalized groups. According to Hassan (2016), such depictions critique the societal risks of AI-driven economic systems that fail to consider equitable distribution of work and wealth (Hassan, 2016).

3. Transformation of Class Divisions Through Technological Monopoly

In some cases, technology is depicted as transforming economic classes by creating new forms of dependency and control. In *Example Title 3*, individuals' access to basic resources, such as food and water, is mediated through a subscription-based digital system controlled by an elite few. This structure forces individuals into financial dependency, transforming traditional class boundaries by redefining economic survival as a function of technological access. By illustrating a world where class status is determined by access to technology, this novel underscores the potential for technology to reshape the socio-economic landscape entirely, making technology both an enabler and enforcer of modernized class hierarchies (Author, Year).

Table: 5

Technological Mechanism	Impact on Class Division	Example Novel
Surveillance Systems	Limits financial privileges	<i>Example Title 1</i>
AI-Driven Job Allocation	Assigns high-paying jobs to elite	<i>Example Title 2</i>
Subscription-Based Access	Creates financial dependency	<i>Example Title 3</i>

Through this comparative analysis, it is evident that contemporary dystopian novels critique the role of both wealth and technology as dual forces in enforcing class hierarchies. The themes of wealth concentration and technological control reflect anxieties over economic inequality and technological monopolies in modern society, underscoring the risks of systems where access to resources and opportunities is determined by financial status and technological control.

6. Discussion

The analysis of contemporary dystopian fiction reveals significant insights into the economic and technological themes that resonate with current societal challenges. This discussion reflects on the implications of these narratives for understanding real-world financial and technological trends and addresses the limitations and ethical implications inherent in their representations.

6.1 Implications of Dystopian Narratives for Real-World Economic and Technological Trends

Dystopian fiction serves as a critical lens through which contemporary issues surrounding economic inequality and technological dominance can be examined. The narratives crafted within these novels reflect and amplify the anxieties present in our society, making them highly relevant to current financial and technological challenges.

1. Reflection of Societal Anxieties

The depiction of wealth disparities and centralized power structures in dystopian fiction mirrors real-world economic conditions. For example, the stark divisions between the affluent and the impoverished seen in *Example Title 1* resonate with contemporary concerns about rising inequality and the concentration of wealth in the hands of a few. According to Piketty (2014), the growing disparity in income distribution poses significant risks to societal stability, echoing the themes presented in dystopian narratives where economic divisions lead to societal fragmentation (Piketty, 2014). By reflecting these anxieties, dystopian fiction invites readers to critically examine the trajectory of our economic systems and the implications of unchecked wealth accumulation.

2. Warnings About Technological Overreach

The narratives also highlight the potential dangers of technological overreach and the implications of automation on employment. As depicted in *Example Title 2*, the reliance on AI and surveillance technologies to maintain economic control raises concerns about privacy, autonomy, and the future of work. As Brynjolfsson and McAfee (2014) argue, the advent of automation may displace jobs and exacerbate inequality, similar to the scenarios depicted in dystopian settings. The authors caution that without careful consideration and regulation, the benefits

of technological advancements could be unevenly distributed, mirroring the fears expressed in fiction (Brynjolfsson & McAfee, 2014). Dystopian narratives, therefore, serve as cautionary tales, urging society to confront the ethical implications of technology while advocating for equitable access to its benefits.

3. Call for Societal Reflection and Change

The moral questions raised by these narratives compel readers to reflect on their societal roles and responsibilities. The critique of economic structures and technological control invites discussions about systemic change and the need for policies that promote equity and social justice. As seen in *Example Title 3*, where resource allocation becomes a means of control, readers are prompted to consider how modern systems can be reformed to prioritize equitable distribution and access to essentials. This call for reflection is particularly vital in an age where technological advancements and economic strategies can either exacerbate or alleviate existing inequalities (Author, Year).

6.2 Limitations and Ethical Implications

While dystopian narratives provide valuable insights into economic and technological issues, they also come with limitations in representation and ethical implications that warrant consideration.

1. Limitations in Representation

Dystopian fiction often simplifies complex economic and social issues into binary

oppositions between the elite and the oppressed. This reductionist approach can obscure the nuanced realities of economic inequality, which may involve diverse factors such as race, gender, and geography. For instance, the portrayal of the poor as a monolithic group may neglect the unique challenges faced by marginalized communities. According to Davis (2020), the lack of intersectional representation in dystopian narratives can lead to a limited understanding of the complexities surrounding inequality and may inadvertently reinforce stereotypes (Davis, 2020). As such, it is crucial for contemporary authors to strive for a more comprehensive representation of social issues to foster greater understanding and dialogue.

2. Ethical Implications of Financial Themes

The portrayal of financial themes in dystopian settings raises ethical questions about the potential normalization of economic disparities and the commodification of essential resources. By presenting extreme scenarios of inequality and resource scarcity, dystopian fiction risks desensitizing readers to real-world issues. Critics argue that such portrayals may lead to fatalism, where audiences feel helpless to change systemic inequalities because they are presented as inevitable (Author, Year). This could inhibit collective action and advocacy for policy reforms aimed at addressing financial injustices.

3. Moral Responsibility of Authors

Furthermore, authors bear a moral responsibility to engage thoughtfully with the issues they depict. While exaggeration can be an effective literary tool, it is essential that writers balance artistic license with social responsibility. By approaching economic themes with sensitivity and accuracy, authors can contribute to informed discussions about real-world challenges while avoiding harmful stereotypes and oversimplifications.

In conclusion, the exploration of economic and technological themes in dystopian fiction reveals critical insights relevant to contemporary society. While these narratives serve as powerful reflections of our collective anxieties, they also pose challenges regarding representation and ethical considerations. As readers engage with these texts, it is vital to maintain an awareness of their implications and strive for a more nuanced understanding of the complexities surrounding economic and technological issues in the real world.

7. Conclusion

The exploration of financial themes in contemporary dystopian fiction offers a critical lens through which to analyze economic inequality and the role of technology in shaping societal dynamics. This conclusion synthesizes key findings from the analysis and provides suggestions for future research to further enrich our understanding of these themes.

7.1 Summary of Findings

The analysis of selected contemporary dystopian novels reveals significant insights into how financial themes intersect with societal issues, particularly economic inequality and technological control. The following points summarize the key findings:

1. Representation of Economic Inequality

The narratives underscore the pervasive nature of economic disparities, illustrating how wealth concentration and the stratification of society result in profound inequities. Dystopian settings frequently depict a divide between the affluent elite and the impoverished masses, highlighting the social and moral implications of unchecked capitalism (Author, Year). This reflection serves as a critique of contemporary economic systems, emphasizing the risks posed by increasing wealth gaps.

2. Technological Mechanisms of Control

Technology emerges as both a facilitator and enforcer of economic stratification in these narratives. Surveillance, automation, and AI are depicted as tools that maintain and exacerbate class divisions, often limiting opportunities for social mobility among lower-class characters. As demonstrated in *Example Title 2*, the reliance on technology to uphold economic hierarchies raises ethical concerns about privacy, autonomy, and the future of work

in real-world contexts (Brynjolfsson & McAfee, 2014).

3. Critical Reflections on Society

The examination of financial themes in dystopian fiction compels readers to reflect critically on the ethical implications of current economic practices and technological advancements. The narratives challenge audiences to consider the moral responsibilities associated with wealth and power, advocating for a more equitable distribution of resources and opportunities. This call for reflection is particularly relevant in light of ongoing discussions surrounding economic justice and technological ethics in contemporary society (Piketty, 2014).

4. Cautionary Tales for the Future

Dystopian narratives function as cautionary tales, warning readers of the potential consequences of allowing economic inequalities and technological monopolies to flourish unchecked. The exaggerated scenarios presented in these novels serve to amplify real-world concerns, prompting discussions about the need for systemic reform and policy changes to address the challenges of economic inequality and technological governance (Author, Year).

7.2 Suggestions for Future Research

While this study has explored key financial themes in contemporary dystopian fiction, several areas warrant further investigation to deepen our understanding of the relationship between economics,

technology, and societal dynamics. Future research could focus on the following aspects:

1. Exploration of Other Economic Dimensions

Future studies could investigate additional economic dimensions that intersect with financial themes in dystopian literature, such as the impact of globalization, labor rights, and environmental economics. By examining how these factors interact with themes of economic inequality and control, researchers can develop a more comprehensive understanding of the complexities within dystopian narratives.

2. Inclusion of Diverse Perspectives

Expanding the scope of research to include diverse voices and authors from various cultural backgrounds can enhance the richness of the analysis. This approach could reveal how different socio-economic contexts influence the portrayal of financial themes in dystopian fiction, allowing for a more nuanced examination of global economic inequalities and their literary representations.

3. Interdisciplinary Approaches

Future research could adopt interdisciplinary methodologies that incorporate insights from economics, sociology, and technology studies. By engaging with multiple academic fields, researchers can better contextualize the themes present in dystopian fiction within broader societal frameworks, thereby

illuminating the implications of these narratives for understanding contemporary challenges.

4. Longitudinal Studies of Technological Evolution

Investigating the evolution of technology within dystopian narratives over time could provide valuable insights into how societal anxieties shift in response to real-world technological advancements. Such studies could focus on the portrayal of emerging technologies, such as biotechnology and virtual reality, and their implications for economic inequality and societal control.

In conclusion, the study of financial themes in contemporary dystopian fiction reveals critical insights into economic inequality and the role of technology in shaping social hierarchies. These narratives not only reflect societal anxieties but also serve as important cautionary tales that challenge readers to consider the ethical implications of their economic systems and technological advancements. Through continued research, scholars can further explore these themes, contributing to a deeper understanding of the complexities inherent in our rapidly changing world.

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Centurion
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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

The Intersection of Postcolonial Ecofeminism and Indian English Literature: A Focus on Arundhati Roy's Novels

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Abstract:

Indian-ness in English literature encapsulates the socio-cultural and historical ethos of India as articulated through the medium of English. The works of Indian authors writing in English serve as a connecting link between traditional Indian narratives and Western literary forms, enabling a unique fusion of indigenous themes and global perspectives. Writers such as R.K. Narayan, Anita Desai, Salman Rushdie, Arundhati Roy, and Jhumpa Lahiri have been instrumental in portraying the very essence of "Indian-ness," bringing to light the complexities of identity, colonial legacy, and the negotiation between tradition and modernity. Indianness is manifested in various ways, from the portrayal of Indian societal norms, caste structures, and religious practices to the psychological and emotional depth of characters navigating a rapidly globalizing world. This literary concept also encompasses the diverse languages, rituals, and landscapes of India, juxtaposed against the English language's colonial history. For instance, Salman Rushdie's *Midnight's Children* captures post-colonial India's chaos and multiculturalism, while Arundhati Roy's *The God of Small Things* highlights regional culture and political tensions *at their very best*.

This paper aims to outline the lineage of postcolonial ecofeminism and Indian English literature, a study of Arundhati Roy's novels, which broadly foreground the link between women and nature. This paper tries to portray the development of women writers in India in an age of globalized technological development. In addition to this paper also tries to highlight and the emerging writers of India in the field of ecofeminism. The argument further reveals the dualism of nature and culture, yet straddling the grey area between the two binaries. This is particularly highlighted by Arundhati Roy in her novels *The God of small Things* and *The Ministry of Utmost Happiness*.

Keywords: Indianness, English literature, post-colonialism, identity, hybridity, tradition, modernity, cultural ethos, colonial legacy, eco feminism, marginalized voices, postcolonialism.

Introduction:

The triangular approach of linking colonialism with patriarchal exploitation and environmental degradation is the gist of postcolonial ecofeminism, highlighting the double marginalisation of female as well as environment. In short, it adds the fervour of colonialism into the traditional approach of ecofeminism, culminating the sense of 'double bind'. This paper examines the history of postcolonial ecofeminism in Indian English literature through an analysis of Arundhati Roy's novels, which primarily highlight the relationship between women and the natural world. It also attempts to illustrate the growth of Indian women writers prioritizing eco-ethics in a period, where the whole world is blindly running behind technological advancement in a non-pragmatic way. Furthermore, it aims to evolve the connecting link between post-colonial ecofeminism and India's upcoming authors within the ecofeminism discipline, maintaining the rich legacy as

much as possible. The complex interplay of nature and culture has further been revealed by the argument, lying in the grey area that separates the two extremes of socio-cultural terrain. That very argument may be insignificant for the primary imagination of common people, but the secondary imagination might have ignited the creative faculty of Arundhati Roy, bringing it to the lime light in *The God of Small Things* and *The Ministry of Utmost Happiness*.

1.1.1. DEVELOPMENT OF ENGLISH LITERATURE IN INDIA:

In Indian literary history, English literature made its literary debut in India through the works of Henry Louis Vivian Derozio and Michael Madhusudan Dutt. Later, it gained recognition through the works of Rabindranath Tagore, Sri Aurobindo, R K Narayan, and numerous other talented Indian writers who were able to lay the groundwork for IWE (Indian English writing) in India during the 1920s. Subsequently, Indian English literature

came to be known as Indo-Anglican literature. In India, people frequently refer to English as "Babu" English. It covers a wide range of topics and philosophies. Indian writers in English have advanced all the way to the present day transcending all the spatio-temporal obstacles. The growth of English literature in India was tremendously guided by a few of the country's subsequent literary artisans. ~~English~~—Salman Rushdie, Vikram Seth, and Rohinton Mistry are a few of India's well-known contemporary writers, who have successfully taken forward the literary endowment to a whole new level.

The talented female writers of India have brought about some significant modifications in Indian English. Being the first female writer in India, Nayantara Sehgal's works have been widely acknowledged till now. Moreover, Indian English literature has been greatly benefited from the artistic contributions of Anita Desai and Arundhati Roy. The works of fiction written by Arundhati Roy had the capacity to drastically alter the society at that time. There were plenty other talented writers in addition to these, including Jhumpa Lahiri, Amitav Ghosh, and V. S. Naipaul, who have shaped the Indian English literature in a sublime way.

1.2 DEVELOPMENT OF THE IDEA; POST COLONIAL ECO FEMINISM:

Although it has been around for a while, post-colonial ecofeminism is still in its infancy, waiting for its phase of

maturation. The associated domains of post-colonial ecocriticism must appropriately acknowledge the "double bind" of being colonised and feminine. The interplay of postcolonial motifs with environmental issues is the main aspect of postcolonial ecocriticism. Numerous detractors, especially those from the deep ecology strain, have claimed that post-colonialism is fundamentally anthropocentric and that ecological issues take a backseat to other discourses that have historically fuelled racial injustice. On the other hand, ecocriticism has come under fire for failing to acknowledge this bitter colonial past, which led to the emergence of "universal" environmental and bio-geo-ethical issues. For instance, women as colonised entities have been "repeatedly naturalised" in discourses of purity about environmental literature and critique. In order to combat colonial attitudes of social and environmental supremacy as well as ongoing imperialist modes, it is quintessential to integrate post-colonial issues with environmental challenges.

1.3 LITERATURE REVIEW:

Postcolonial ecocriticism focuses on the intersection of postcolonial and environmental issues, Dr. Priyanka Singh "post colonialism is inherently anthropocentric and ecological concerns are secondary to other discourses that have historically contributed to racial discrimination. Ecocriticism, on the other hand, has been criticized for ignoring such

a history of colonialism thereby giving rise to ‘universal’ environmental and bioethical concerns. In discourses of purity concerning environment literature and criticism, women as the colonized.” (Sing, 2023)

Within the colonial context of India, women grapple with silenced voices, Nurul Lailatul Hasanah, Suci Suryani “They are intricately linked to both their gender and socio-economic status. This study uses the descriptive-qualitative method to analyse the data in the form of the characters' dialog and the author's narration. The results of the study indicate that Ammu, Mammachi, and Rahel experienced their own silenced voices, and the reasons are due to their class and patriarchy system and their resistance to different genders in justice” (Hasanah and Suryani, 2023)

Post colonial feminist brought the view of universal sisterhood under threat, Rajeswari Sundar Rajan and You me Park “Postcolonial feminism cannot be regarded simply as a postcolonial study, or, alternatively, as another variety of feminism. Rather it is an intervention that is changing the configurations of both postcolonial and feminist studies. Post colonial feminisms is an exploration of and at the intersection of colonialism and neo colonialism with gender, nation, class race and sexualities in the different contexts of women's lives, their subjectivise, work, sexuality, and right” (Scharz and Ray, 2005).

“Long history of prejudices and in human remarks against females prevailed over countless social and cultural text ultimately led to the emergence of feminism in late 60s and early 70s of twentieth century in the west. Since then, feminists well all out to reexamine issues of sex, gender and even language (as byproducts of patriarchy) in literary and cultural discourses. Feminism like Marxism and Post colonialism invalidates unjust power relationship. Feminists having an appositional stance started questioning their inferior status and asked for amelioration in their social position” (Freedman, 2002)

“In order to make a novel ‘Feminine scripture’ novelists should draw on French radical thinker. Helene Cixous and appreciate her proposal that they should write “which is typically” characteristically feminine in style, language, tone and feelings and completely different from (and opposed to) make language and discourse” (Cuddon, 1999).

2.ABOUT THE NOVELS:

THE GOD OF SMALL THINGS: PLOT REVIEW:

The God of Small Things, written by Suzana Arundhati Roy and published in 1997, was well-received by both readers and critics. Just the year it got published, it was awarded the Man Booker Prize. The novel's plot takes place in Kerala's Ayemenem. The main characters of the

novel include Ammu, her twin kids Rahel and Estha, their grandmother Mammachi, Uncle Chako, and Great Aunt Baby Kochama. Papachi's spouse is Mammachi. Because of Papachi's cruel actions, which damage their marriage, Mammachi separates from him and opens *Paradise Pickles and Preserves*, a pickle factory behind her home by the Meenachal River.

Chako marries Margaret Kochama after attending Oxford. Rather than having a daughter with Choko, Margaret leaves Chako for another guy, Joe. When Ammu approaches Baba about leaving Ayemenem, Baba reveals that he is an alcoholic. She consequently departs from Baba and heads back to Ayemenem. A character named Velutha, an untouchable, resides close to the family. Joe is killed in a collision. Sophie Mol and Margaret Kochama are invited to spend the holiday in Ayemenem. Sophie Mol is pulled to the Meenachal River when she and the twins decide to visit the "History House." Because of what she told Inspector Thomas Mathew, Baby Kochama tries to persuade Estha that Velutha killed Sophie Mol in order to avoid being caught by the police. The inspector concludes Velutha is innocent despite Velutha's attempt to rape Ammu. Velutha is taken to jail and passes away there that night as a result of Estha's false accusation. Estha was compelled by Ammu to go back to Baba. After being apart for twenty-three years, the twins are reunited. Mammachi had passed away by then, and Kochu Maria, the cook, had spent all watching television during the day. The

historical home is now a five-star establishment. Rahel and Estha eventually locate a notepad in the end.

When Arundhati Roy's book was released in 1997, opinions were divided. Because of her Indian heritage, the author was praised by some reviewers as "Female Rushdie," "establishing the cultural striking back of the once-peripheral" (Bohmer, 165); other commentators commended Arundhati Roy for her innovation and uniqueness in using the English language. Examining the three primary female characters in *The God of Small Things*—Mammachi, Baby Kochama, and Ammu—and how they relate themselves to Velutha, the book's male protagonist, will help us understand how Roy fictitiously creates targeted voices for the marginalised unheard women. The three ladies have varying responses and feelings towards Velutha, an Untouchable, who belongs to the lowest caste known as Paravans. Different facets of their personalities emerge based on how they interact with him. It is simpler to talk about the characters' acts in terms of agency and responsibilities, because the characters are adults, when the novel's major events occur. This was also evident against the backdrop of environmental issues like the concerning topic of Meenachal River's contamination.

2.1. ECOFEFINIST OVERTONE: THE GOD OF SMALL THINGS:

In the novel, Chako, Rahel and Estha's Oxford educated scholaruncle, Rhodes

lectures them on history, is a fine example of eco feminist evidence in Arundhati Roy: “Then, to give Estha and Rahel a sense of historical perspective.....he told them about the earth woman. He made them imagine that the earth- four thousand six hundred million years old, was a forty six years old woman. It had taken the whole earth woman’s life for the earth to become what it was. For the oceans to pass. For the mountains to rise. The earth woman was eleven years old, Chako said, when the first single celled organism appeared. The first animal creatures like worms and jelly fish appeared only when she was forty. She was over forty-five, just eight months ago when dinosaurs roamed on the earth. The whole human civilization as we know it, Chako told the twins, began only two hours ago in the earth woman’s life. As long as it takes us to drive from Ayemenem to Cochin. It was an awe-inspiring and humbling thought, Chako said.... That the whole of contemporary History, the World Wars, the war of Dreams, the Man on the Moon, science, literature, philosophy, the pursuit of knowledge was no more than a blink in of the earth woman’s eyes.....Andeverything we are and ever will be are just a twinkle of her eye” (Roy,1997,pp, 53-54) The use of the word “earth-woman” and the direct comparison of woman and earth shows the eco feminist use of language in the novel by Arundhati Roy. The novel has a deep eco critical overtone that gradually develops into an eco-feminist connotation.

2.2.THE MINISTRY OF UTMOST HAPPINESS: PLOT REVIEW:

The Indian English literature has waited almost two decades for the publication of *The Ministry of Utmost Happiness* after the release of Arundhati Roy’s first novel *The God of Small Things* in 1997. The novel *The Ministry of Utmost Happiness* published in the year 2017 by Arundhati Roy. The novel reveals the character of Anjum, a Muslim Hijra. Anjum’s initial name was Aftab and she was raised as a boy as one can see in the initial paragraphs of the novel. As the novel progresses, he decides to reject his male identity. She decides to live the rest of her life as Anjum. Furthermore, she goes to Khwabgah to join the Hijra community near her house, there she works as an entertainer and as a sex worker. Furthermore, in the novel the readers can see Anjum adopting an abandoned toddler and named her Zainab in her 40s. She then makes her mind to leave from Khwabgah in order to give her daughter a civilized life and to live with her daughter as a normal mother-daughter life like the other civilized women of the society. The second major turning point of the novel is the introduction of the character S.Tilloattama or ‘Tillo’. Tillo meets three men Biplab Dasgupta, Nagraj Hariharan and Musa Yswi and the three men eventually fall in love with her in Delhi. Tillo gets arrested for some reasons and marries Naga on Musa’s advice. Soon she discovers that she is pregnant by Musa and aborts her child in fear. Eventually she

gets separate from the marriage with Nagraj after fourteen years of marriage. In the final chapters of the novels, Musa comes to visit Tillo at Jannat guest house. Anjum takes Miss Jebeen second (Tillo's adopted daughter) and dung beetle that lives near Jannat guest house that "things would turn out all night the end. Because Miss Jebeen, Uday Jebeen, was come. (Roy, 2017, p, 444)

2.3. Ecofeminist Overtone: the ministry of utmost happiness:

The opening lines of the novel describes the condition of Anjum, who is broken by the peculiar norms of the society and asks Imam: ".....you tell me where do the old birds go to die? Do they fall on us like stones from the sky? Do they stumble on their bodies in the streets? Do you not think that the all-seeing, Almighty one who put us on this earth has made proper arrangements to take us away" (Roy, 2017, p, 05) There is another evidence of the concept of eco feminism in the novel, telescoped by Arundhati Roy in the voice of Tillottama; "There was an Indian rock python in every case in the snake house, Snake scam. There were cows in the Sambar stag's enclosure. Deer scam. And there were women construction workers carrying bags of cement in the Siberian Tiger enclosure. Siberian tiger scam. Most of the birds in the aviary were ones you could see on trees anyway. Bird's scam." (Roy, 2017, p, 235)

3. Understanding the characters of the novels from eco feminist perspective: the god of small things:

The twin's mother Ammu has a close relationship of Meenachal river that passes through Ayemenem. Like the river, she is calm from her face, but she always has a hidden volcano inside her. She loves to spend most of her times looking at the river. Here Ammu can be the replica of the Meenachal river because both Ammu and the river can be seen as the pathetic figures of the novel. Both the characters struggle for their survival in the novel. Papachi is the representation of the typical male dominated society of the post-colonial epochs of after-independence era. He is jealous, mean, narrow minded and egoistic. Though he is an educated fellow, still he tries to dominate her wife Mammachi. He always tries to control her wife physically as well as mentally. He doubts his wife when she talks with any other man expect him. Therefore, he forcefully stops her wife's violin classes because the violin teacher is a male teacher. He also physically abuses his wife and daughter.

The concept of eco feminism runs through the character of Mammachi. What eco feminism says is that when the woman is tired of the oppressive approaches of typical male dominated society, the nature then becomes savage for the wounded woman. Here, the novel recapitulates the same aspect. Mammachi can be the fine example of the relationship of woman and

nature as she leaves her husband's house and starts her own business "The Paradise Pickles and Preserves" with the help of nature. Like Ammu she could able to discover her link with nature. In the novel, the readers can see her link with nature, when she takes the help of nature and the natural ingredients to set up her pickle factory. Baby Kochama is another female character of the novel, who is also connected with the nature because of her own situation of the life. She is not abused by any men of the society, but she tries to get father Mulligan as she loves her a lot. She tries to get him, but all her attempt goes in vain. Having harassed by her own mental condition, he goes to U.S. There she studies Ornamental Gardening. After she gets done with her studies in the U.S., she returns to Ayemenem. She then turns the old Ayemenem house to a beautiful and colourful garden. Many people from the distance comes to visit the garden.

3.1.THE MINISTRY OF UTMOST HAPPINESS:

Roy represents Anjum, a transwoman as a "dual being", she is the so called "others" in the society. That society is such a society where her gender is not acceptable by the people. She borned as Aftab and is told to behave and act like a man. Her mother Jahanara Begum, expected him to be a son but the birth of a hermaphrodite is not acceptable by Jahanara Begum. Mulaquat Ali is also not satisfied with Anjum's gender and tries to change her biological sex organ into a male organ,

which is against the rule of nature. Her natural gender or identity is not acceptable by her own parents. The readers of the can see the graveyard, which is a natural symbol of decay and destruction, appearing in the beginning and in the end of the novel. Anjum finds peace after she leaves from Khwabgah. Roy successfully portrays the concept of eco feminism through the character of Anjum when she turns the graveyard into a guest house and names it *Jannat-e-paradise*. Tillo's school, Saddam Hussain's marriage and Zainab's little zoo-'a Noah's Ark of injured animal's" are "congratulated them for the courage it must require to feed a caged hippo razor blades." (Roy,2017, p,235) Arundhati Roy has shown cased the major characters in her fiction using ecofeminist paint. She connects her female characters to nature when the characters face some trouble because of the society or because of any other reasons. From talking about the characters of The God of Small Things Ammu and Mammachi to the characters of The Ministry of Utmost Happiness Anjum and S. Tillottama. Arundhati Roy helps her female characters to find their inner peace through nature assisted autonomy. The above-mentioned characters of Arundhati Roy find solace and heals through the nature and its immediate constituents.

CONCLUSION:

In the novels of Arundhati Roy, one can perceive the clear connection of women with nature. The women are suppressed by

the so called male ruled society and by the patriarchy, like nature is tamed by the culture. Arundhati Roy's fictions often deal with the nature and natural entities like flora and fauna. After the betrayal by the harsh society, her female characters find solace in the lap of nature. In the novel *The God of Small Things*, Ammu makes a virtual friendship with Meenachal river as a way of spiritual escape from the oppressive forces. Mammachi runs her own pickle factory with the help of nature and rebuilds herself. Baby Kochama turns the old Ayemenem house to a beautiful garden. Coming to her second novel *The Ministry of Utmost Happiness*, she has built the novel in the ecofeminist tone. In this novel Roy has created a world using animals like gibbon, hippo, snake, birds and trees and connects them with the characters of the novel. Graveyard which is a sign of decay and destruction, Roy's character Anjum, the transwoman builds a colourful guest house in that graveyard. This shows that the nature becomes the only companion of the woman. Arundhati Roy's writings could able to give a voice to the so called third world women and the subaltern by imprinting the deep-rooted social issues in readers' hearts through her notable works.

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Centurion
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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

The Devil Child: Demonic Possession and Witchcraft in the Horror Films

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Abstract

The Gothic novel's rise in popularity during the eighteenth century led to the emergence of the horror genre. Gothic literature and media can be considered a means of confronting the darker aspects of human nature. The paranormal, fear, and themes of death are all present in Gothic literature. The conflict between faith and science in the movie is often compared to the struggle for understanding these two dimensions of the human mind. The psychological complexity of possession is the focus of 'The Exorcism of Emily Rose', and 'The Exorcist' which offers a perceptive exploration of this complex phenomenon and emphasizes the importance of discussing and integrating repressed emotions and trauma. 'The Sixth Sense and IT Chapters 1 and 2' provide insightful analyses of Freudian psychological concepts, emphasizing the importance of discussing and processing one's past traumatic experiences and therapy's role in helping people recover and advance psychologically.

These films offer enlightening perspectives on the psychological complexity of individuals and how trauma can be conquered to lead happier, healthier lives. The films mentioned above demonstrate that cinema can comprehensively explore complex psychological concepts, including demonic possession, witchcraft, and the fear of death. These films examine the suppressed regions of the human mind through Freudian analysis, and they employ magical techniques to confront and expose these imperfections. In the end, these

movies are powerful gauges of our phobias and fears; they give us insight into the complexity of human mind-nature interaction with the external world.

Keywords- Trauma, Gothic, Demonic, Complexity, Traumatic.

INTRODUCTION

Modern horror did originate with the rise of the Gothic novel in the eighteenth century, but the genre was truly born in the early twentieth century with the release of classic movies like *Nosferatu* (1922) and *Dracula* (1931). The horror genre has experienced significant changes in recent years, but its popularity and quality have remained steady.

According to film historian David Roche, a new generation of filmmakers is resurrecting the horror genre by creating thought-provoking films that challenge traditional norms and create a new wave of audiences. It is believed that the Gothic novel was responsible for the development of the horror genre, which has undergone a significant change over time and experienced a resurgence in popularity and high quality in the twenty-first century. As long as society struggles with fear and anxiety, the horror genre is likely to remain important and relevant. (Roche 201)

The idea of a ghost has long been popularly linked with the themes of terror and horror in literature. Darkness, fear, and the unknown are common themes in the artwork of ghosts, monsters (especially human beings), and vampires that can both frighten and disturb readers.

Psychoanalysis' detractors frequently interpret the Gothic genre in terms of

repressed desires and irrational fear. According to this interpretation, Gothic signifies the return of repressed aspects to the conscious mind when restraints on the ego cannot keep the psychic energy in check within the subconscious. Therefore, Gothic literature and media can be viewed as a way to investigate and confront darker aspects of the human psyche.

In the Gothic subgenre, ghosts can signify things like staying in the afterlife, expressing guilt and trauma, or entering the present through paranormal means. The ghost theme, frequently used in literature and pop culture, serves as a reminder of human nature's mysterious and sometimes alarming aspects. The Gothic literary style can include themes such as death, mourning, loss, and the demarcation or separation of life and death. By focusing on these themes, gothic literature, and media can help us understand how the suppressed can come back to life and how we might deal with these inner demons.

In the 18th century, gothic art may have signaled a return to the sacred and transcendent, or even an outcry of imagination against reason in the midst of advancing modernity and secularism that rejects supernatural powers. On average, the Gothic is linked to reclaiming the obstinate neoclassical ideal of order and unity as it sought to recapture the

boundless primordial and barbaric creative freedom. Ghost and horror fiction, as well as films, are still influenced by Gothic literature. One of the challenges of considering the Gothic a genre that is inherently dark and nebulous is its failure to be abstracted from the literary forms it emerges from or those that follow it after its extinction. Thus, the creation of the gothic style indicates an imaginative viewpoint, and the process of creating the gothic style from a collection of parts is frequently reversed in Gothic criticism. There are times when the gothic genre seems more like a collection of framed conventions, still images of people or landscapes displaying intense emotion, and copies of these images.

Although the folklore surrounding demonic possession varies greatly among cultures, many of them consider the phenomenon to be a way for evil spirits, ghosts, or ancestors to contact the living. According to Rudin, who discusses possession in his book, possession can serve as a site of resistance against long-standing cultural norms: "Possession offers individuals the possibility of expressing what is often deeply repressed selves and desires" (Rudin 149).

In some cultures, being in possession is seen as a penalty for crimes or curses. According to some societies, possession is regarded as a curse, brought on by a supernatural agency and visited upon a person or family. The belief holds that individuals possess more than just

themselves and that those who take action may be held accountable for their actions.

Certain societies consider possession to be an ongoing condition that necessitates constant care and treatment. For instance, in traditional African belief systems, possession is viewed as a chronic condition that necessitates the help of healers and middlemen. According to Ogunyemi, the practice of possession cults. Joining one of these cults requires a long-term commitment because they are not episodic and have a significant impact on the community's spiritual life (Ogunyemi 145).

Folklore beliefs about demonic possession can be seen as retribution, a chronic illness, a channel for ancestors or ghosts, or a means of achieving spiritual transcendence, and they vary greatly across cultures. While some cultures view possession as a problem that requires ongoing care, others place a higher priority on ritual practices as a means of managing and treating possession.

Even Christian children frequently experience severe demonic possession without their parents even being aware of it. I also discovered that children under the influence of demons are even more fantastic and stubborn than adults. Parents may become overwhelmed and silent when they see their kids acting out demons while giving birth. Even today, many societies still believe that unusual behavior that might indicate mental health problems is

the result of spirit possession, especially in less developed parts of the world where such beliefs are the most important aspects of the culture. It's interesting to note that theories about spirit possession do not fully account for the effects of psychopathology-related experiences.

A Christmas Carol, *Casper the Friendly Ghost*, and *Ghostbusters* are examples of movies where the ghost is amicable, but *The Amityville Horror*, *The Sixth Sense*, and *Poltergeist* are examples of movies where the ghost is malevolent. Ghosts are used to represent the 'soul or spirit of a deceased person' that can appear in the physical world. Ghosts can take many different forms and have different levels of visibility and realism. Around Halloween was the best time to watch ghost movies, listen to ghost stories, and talk about ghosts. Popular culture is filled with a variety of notable ghost characters.

It is a fact that evil exists within the Catholic Church, and they are actively engaged in fighting against it. The Catholic Church's catechism portrays human history as "the chronicle of a long battle against the powers of darkness", but it places special emphasis on the need for individuals to uphold moral ideals amid this conflict (*Catechism of the Catholic Church* 409–412).

Emotional, spiritual, and religious factors are linked to an increased susceptibility to paranormal experiences such as ghosts and spirits. Irwin states that "Belief in the

paranormal has been associated with a range of personality characteristics or psychological variables, particularly mystical experiences, anxiety, and suggestibility" (Irwin 15).

Children's fascination with ghosts and spirits is largely due to their innocence and curiosity about death and the afterlife. According to Thompson, young children are often fascinated by the idea of ghosts and spirits. The notion that "there is something out there beyond the limits" particularly appeals to them in life in general" (Thompson 60).

Paranormal beliefs are often associated with emotions, spirituality, and religion. Despite the Catholic Church's recognition of the existence of evil and its ongoing battle, children are often subjected to the idea of ghosts and spirits due to their innocence and natural curiosity about what happens after death.

The depiction of horror films highlights the conflict between good and evil with their children. Their interactions with evil forces highlight the loss of innocence that may be felt by viewers. Horror movies, according to Clover, "expand precisely those qualities that make children so gratifying—their vulnerability, naivete, and innate goodness" (Clover 11).

The portrayal of children committing terrible crimes in horror films can be particularly disturbing, as it raises questions about their innocence. According to Konantz "A child behaving

violently or evilly is a direct affront to the viewer's perception of morality, which depends on the presumption that children are inherently innocent and good". (Konantz 170).

The symbolism of purity and innocence is often associated with young girls. A girl child is a representation of innocence, hope, vulnerability, or salvation, according to Hoogland (Hoogland 215). In horror films, this symbolism adds to the horror of violence committed by a female child, even though it is commonly believed that she is inherently good because of her fragile and innocent nature. According to the paranormal group, children and babies are more prone to being considered paramilitary due to their developing mental faculties, while mature individuals become disillusioned with popular culture and develop different perspectives on events, people, and experiences. It is common for children to see ghosts, and there is no need to worry about it as their undeveloped eyes do not frighten them. Both infants and children experience it as either normal or unusual. They might occasionally have frightened or frightful experiences. A child might invite demonic possession knowingly or unknowingly, which would lead to possession. A child's body may be infiltrated by evil spirits due to an object or ceremony that creates a portal. It can also happen when a child uses it. In some films, a young viewer may discover a toy or object that is haunted or exudes a strong, evil energy. Other times,

the ritual the child participates in may be the cause of possession. Fear of the unknown and the risks of curiosity are frequent themes.

It demonstrates how actions that may not be immediately apparent can have unexpected consequences and how powerful forces can exert an insurmountable impact on our lives. While we should always be watchful and aware of our surroundings, we shouldn't let fear rule our actions.

Cases of alleged possession have been reported worldwide, particularly in Asia, Africa, and Latin America. There are various theories of possession, such as the Dybbuks from Jewish mythology that cause psychological and spiritual harm to victims or the ritualistic possession of an animal or plant related to an ancestor. The occurrence of witch hunts in Western Europe and North America during the late sixteenth and early seventeenth centuries resulted in a significant number of cases of demonic afflictions. Freud's theories on desire and anxiety, which are central to horror film theory in psychoanalysis and horror movie history, also serve as a conceptual model for psychoanalysts.

The possession of a child in certain horror films is believed to be due to curses, witchcraft, or black magic. This could be a recurring theme in movies about witches, covens, or spells. The possession could have been caused by a curse or spell cast by one of the witches in the family, or by

the practices of their forefathers. These themes are particularly disturbing because they blend reality with the supernatural. They frequently play a part in our cultural anxieties about black magic and the unknown. It is possible that a child's possession is linked to an evil family or ancestry that is cursed, and it is important to note that the portrayals of witches and magic in these films are often overemphasized and do not accurately reflect actual events. In these films, people or families who are thought to be cursed or who have a history of involvement with the occult or the supernatural are frequently depicted. One could view the child's possession as either a result of the family's inability to make amends for past sins or as an inevitable consequence. This topic emphasizes our concern for what others may do and how we can avoid it. It's crucial to keep in mind that these are fictional tales and do not accurately depict reality. The majority of evil theories are based on myths or falsehoods, and we should avoid accepting them with suspicion and critical analysis.

Literature Review:

Academic scholars have given immense importance to children's demonic possession and witchcraft in movies like *The Exorcist*, *The Exorcism* by Emily Rose, *The Sixth Sense*, and *The IT Chapters* 1 and 2.

Scholars like Judith Lewis Herman's book *"Trauma and Recovery: The Aftermath of*

Violence - From Domestic Abuse to Political Terror" provide a detailed account of the traumatic experiences and recovery strategies that people can experience. Herman discusses the range of trauma types, from war and terrorism to sexual assault and domestic violence. Additionally, she delves into the impact of trauma on both the mind and body, as well as the process of recovery and healing for those affected. Emotional and behavioral problems, such as depression, anxiety, and post-traumatic stress disorder, are common among complex trauma survivors. In treating such complex trauma, she says There is a multi-disciplinary approach that includes counseling, medication, and social support. "Herman highlights the significance of the therapeutic alliance in healing". According to her, effective therapy must emphasize developing a close bond between the patient and the therapist because this can create a secure environment in which the patient can discuss their trauma. Trauma victims are often stigmatized and isolated, which is why Herman believes therapists should be more compassionate and non-judgmental. Her book is a priceless tool for people trying to cope with the effects of violence because it acknowledges the complexity of trauma and the healing process.

Another Scholar *Anna French*, a writer has also written a book on *Children of Wrath: Possession, Prophecy and the Young in Early Modern England* focuses on severe religious experiences like demonic

possession and divine prophecy, this book investigates issues surrounding early modern infancy. Readers are introduced to the dualistic character of early modern views on their children through published reports of possession and prophesy. Additionally, it dispels the myth of modern period children's lives were unimportant by highlighting instances in which kids may be given authority or cast in roles of spiritual agency. The background of extreme spiritual connection, early modern religion's 'lived experience,' and the history of infancy are the three main topics it addresses.

Another Researcher Ellen Peel's "*Psychoanalysis and the Uncanny*" explores how the uncanny is a part of psychotherapy. "*The Uncanny*" by Sigmund Freud in 1919 is the first essay that introduced the idea of it, and it has since gained significant attention in the fields of literary studies and psychoanalysis. The resultant is a sensation of discomfort or strangeness, known as the uncanny, when something is both familiar and unfamiliar at once. Peel discusses these concepts about psychoanalytic ideas in her work. Peel begins by giving a succinct summary of Freud's theory of the uncanny. Freud believed the experience of the repressed returning is what creates the uncanny. The familiar becomes strange and creepy when it is reduced to its most basic, primitive components. Peel notes that physical objects such as dolls, wax figures, and

artificial limbs are often linked with the paranormal. The uncanny's relationship to psychoanalytic concepts like the death drive and the Oedipus complex is the subject of the following section by Peel. According to her, repressed sexual desires frequently resurface when the uncanny appears as a manifestation of the repressed. She also argues that the death drive is linked to the uncanny, which represents a return to nonexistence and undifferentiation. Additionally, she emphasizes the therapeutic value of working with the unpredictable, stating that it can be advantageous for both therapists and patients.

Jessica Balanzategui's book, "*The Uncanny Child in Transnational Cinema: Ghosts of Futurity at the Turn of the Twenty-First Century*" examines how foreign films portray uncannily young children from the late 1990s and early 2000s. The book looks at how these depictions highlight worries about humanity's future and potential risks from cutting-edge technology. The image of the unrecognizable child, as per Balanzategui, is a representation of destiny and all its potential implications. The uncanny child figure is a reflection of the anxieties and fears that society has in today's world due to technological advancements, which Balanzategui argues can be used to explore various themes related to this concept. These themes include how technology shapes human identity, the challenges of parent-child relationships, how kids fit into

society, and how politics and economic policies shape our lives. She examines a variety of foreign movies with eerie children throughout the book, including *The Others* (2001), *The Ring* (2002), and *The Host* (2006). The use of unsettling child characters by filmmakers as a means of exploring the wider socio-political landscape and surrounding cultural norms is highlighted here. The relevance of how the unsettling child is perceived in various cultures. Balanzategui asserted that international films display a range of cultural anxieties that fluctuate based on the directors' cultural perspectives. The book demonstrates how these figures are actively questioning and attempting to make sense of the complexities of contemporary life in different cultural contexts through a detailed analysis of the uncanny child figures in numerous international films. The study of the creepy child persona in worldwide cinema provides a unique and captivating means of comprehending the social issues of their time.

Research Methodology:

The research project is focused on examining horror fiction through an interdisciplinary approach that incorporates Freudian theory. The study will examine a variety of academic essays on horror fiction and critical analyses of the horror genre. The study will focus on films and secondary sources textual criticism, articles, and journals to help interpret horror literature. It is qualitative

and aims to make inferences from various data sources while also reviewing literature using a literature review approach that considers both primary and meta-literature sources. The literature review will feature journals and articles on horror fiction and related topics, as well as the Freudian theoretical framework. Films that fit into the horror genre will be used as the primary source of data for this study.

The Devil Child as Cultural Anxiety

The motif of the held child in horror cinema occupies a important symbolic position — it transgresses the abecedarian cultural supposition that childhood is a realm of purity, innocence, and vulnerability. Films like *The Exorcist* (1973) challenge this ideal by portraying a complete inversion of innocence. Regan, a pre-adolescent girl, becomes the locus of an intense spiritual and bodily transformation. Her possession by the demon Pazuzu marks a radical disruption not only of her own identity but of her family's social, moral, and religious framework.

Regan's metamorphosis embodies artistic anxieties about nonage, fornication, and moral corruption. The grotesque differences of her body — levitation, tone-mutilation, foul language — fantasize a deep-seated artistic fear that beneath the face of domestic life lurk dark, willful forces. This depiction parallels broader fears of societal breakdown during the 1970s, including challenges to traditional

authority(religion, patriarchy), sexual emancipation, and the loss of spiritual values. The Exorcism of Emily Rose(2005) updates this converse by combining supernatural horror with legal drama. Emily's possession is delved through the prism of ultramodern institutions — law, drug, and wisdom — each of which fails to adequately grasp her condition. The courtroom becomes a symbolic point of ideological conflict can religious experience be validated in a secular world? This narrative aligns possession with spiritual suffering that ultramodern systems — concentrated only on empirical confirmation — can not heal. Emily becomes a martyr-like figure whose suffering reviews institutional blindness to metaphysical realities. Through the figure of the held child, these flicks stage artistic anxiety about moral decline, institutional inadequacy, and the fragility of innocence in a world increasingly defined by secularism and moral relativism.

Freudian Frameworks the Return of the Repressed

Freudian psychoanalysis offers a rich lens to interpret the miracle of child possession in horror films. According to Freud, the unconscious mind houses repressed solicitations, traumas, and fears that ultimately return in disguised forms. Horror films like *The Sixth Sense*(1999) and *IT*(2017) personalize this return through ghostly or monstrous figures that haunt the child promoter.

In *The Sixth Sense*, Cole's ability to see and communicate with the dead serves as a conceit for the psychoanalytic process. He's burdened with implied and unseen traumas — not only his own, but those of the spirits that appear to him. His eventual mending comes through recognition and articulation — emblems of the “ talking cure ” in Freudian remedy. The ghosts are n't evil; they're instantiations of undetermined grief and injustice, moping because they've not been conceded. Cole's innocence allows him access to the repressed, making him a conduit for collaborative catharsis. In discrepancy, *IT* portrays suppression on a collaborative scale. The monster Pennywise symbolizes the city's buried traumas systemic racism, child abuse, homophobia, and neglect. The grown-ups of Derry have consciously forgotten or denied these horrors, and the children come the primary victims. The monster's cyclical return represents how unaddressed trauma resurfaces, further intimidating and destructive each time. The disasters Club, as children, must defy this horror directly, illustrating Freud's assertion that repressed content noway remains buried indefinitely — it always returns. Possession and haunting in these narratives therefore reflect the unconscious mind's struggle with trauma. Children, whose psyches are still forming, warrant the defenses of grown-ups, making them susceptible to internal and externalized forms of terror. Their “ possession ” becomes a conceit for how

artistic, domestic, and psychic restraint find expression.

Witchcraft, Ancestral Guilt, and Cultural Memory

Child possession narratives are often entwined with themes of witchcraft, ancestral sin, and generational trauma. These films personalize domestic guilt and literal injustice, showing how the once infects the present through children — nonfictional and emblematic heirs of their lineage. In *Hereditary* (2018), Ari Aster constructs a chilling narrative where possession is inherited. The demon Paimon does not attack arbitrarily; it targets a birth, and its infestation is eased by the family's dame. The film uses possession not as a random spiritual event but as a consequence of family secrets, internal illness, and cultic constancy. The child, Charlie, and latterly her family Peter, come vessels for this ancestral curse. The horror lies not just in the supernatural events but in the consummation that the family's fate was sealed by the conduct of former generations. This idea of inherited possession parallels Freud's proposition of the "family love," wherein buried family histories, battles, and solicitations return in distorted forms. The child's possession becomes an fable for the unconscious transmission of trauma. The family becomes a haunted space, where verity can not be spoken and therefore emerges as terror. Furthermore, numerous films — *The Ring* (2002), *The Witch* (2015), *Orphan* (2009) — depict youthful girls as

either witches or victims of necromancy. This challenges the unsexed artistic narrative of the innocent, unresistant girl-child. In *The Witch*, Thomasin is criticized for her family's mischances and ultimately joins the witches in the forestland. This metamorphosis reviews patriarchal fear of womanish agency. The girl, associated historically with chastity, becomes the depository of transgressive power, echoing artistic guilt over centuries of womanish persecution — witch hunts, suppression of womanish sexuality, and silencing of women's voices.

These narratives use possession and witchcraft to critique how societies construct innocence and wrong, particularly along gender lines. The held child becomes a point where artistic memory, literal injustice, and suppressed womanish power meet.

Religion, Ritual, and Redemption

Religion, particularly Catholicism, is central to numerous possession narratives. Exorcism serves both as a literal method of spiritual sanctification and as an emblematic ritual — restoring social, moral, and cosmic order. Flicks like *The Exorcist* portray the Church as a bastion of hope against satanic forces. The priests, through immolation and faith, act as mediators between the sacred and the profane.

Still, horror films are infrequently innocent of religious authority. While *The Exorcist* eventually affirms the Church's part, it also shows the mortal limitations of its

representatives — Father Karras is agonized by guilt and doubt. The Exorcism of Emily Rose takes this farther by questioning whether religion can be understood within secular legal fabrics. The courtroom becomes a symbolic battleground where the metaphysical is put on trial.

This pressure reflects broader societal questions about the place of religion in a scientific, rational world. As society grows further temporal, possession narratives come more complex — lower about affirming faith and further about questioning its capability to address mortal suffering. Rituals of exorcism are no longer just spiritual acts; they're also acts of narrative resolution, where belief, trauma, and justice intersect. Irwin notes that factors similar as suggestibility and artistic environment influence experiences of possession. therefore, possession may reflect not just supernatural reality but cerebral need. Films exploit this ambiguity, allowing observers to oscillate between belief and skepticism. The ritual, also, becomes a dramatic performance of redemption — not just for the held child but for the culture that fears its own loss of faith.

Ghosts and the Paranormal as the Voice of the Suppressed

In numerous horror flicks, ghosts and supernatural marvels are conceits for the repressed. Freud's conception of the “uncanny”(das Unheimliche) explains why

certain effects — like ghosts, doubles, and déjà vu — are both familiar and intimidating. They're repressed rudiments of the tone that return, challenging the boundaries between real and fantastic .

Films like *The Sixth Sense* and *Ma*(2013) use child characters to access this uncanny realm. Children, with their heightened perceptivity and minimum social exertion, are more “ open ” to the paranormal. Their propinquity to the unconscious makes them natural foreseers and practitioners of suppressed trueness. Ghosts in these narratives are n't malevolent by nature — they are echoes of injustice and trauma seeking resolution. In *Mama*, for case, the ghost is a mama figure who can not let go of her dead child. She haunts the adopted children of another family, not out of malignancy, but out of undetermined grief. The child characters serve as interposers — helping both the ghost and the living process their emotional injuries. Ghosts, also, are expressions of what can not be said in polite society abuse, loss, violence, and guilt. Their relations with children emblemize an hassle between the suppressed and the suggestive. The child's capability to “ see ” and empathize with the ghost suggests that mending comes through recognition and understanding — what Freud calls “ working through ” suppression.

The held Child and the Fear of the unborn maybe the most unsettling aspect of the held child is its emblematic representation of the future gone amiss. Children are

culturally enciphered as symbols of stopgap, eventuality, and durability. When they're corrupted, it signifies a dislocation in the generational narrative — a fear that the sins of the history will be inherited and amplified by unborn generations. In a world fraught with ecological collapse, profitable insecurity, and political polarization, the held child becomes a conceit for climactic anxiety. In IT, the monster feeds on the city's neglect of its children. The fear is n't just of the critter but of the adult world's incapability to cover innocence or defy its own failures. The return of Pennywise every 27 times suggests a cyclical heritage of trauma also, in *The Omen* (1976), Damien represents an anti-Christ figure — born into honor, loved by all, yet fated to bring about the world's destruction. His calm address and innocent face belie a cosmic trouble. Then, possession is n't just about the individual child it's about the fortune of humankind.

These narratives suggest that unless once traumas are addressed — be they particular, social, or literal — they will pollute the future. The held child warns us that innocence, if left unguarded or repressed, can come the veritably vehicle of destruction.

CONCLUSION

The horror genre has developed dramatically from 18th-century Gothic literature to current media, with the focus remaining on personal fears and societal worries. Death, trauma, and the

paranormal continue to be major themes, reflecting the complexity of culture and psychology. Gothic novels and horror films dig into the unconscious, dealing with suppressed impulses, unresolved childhood trauma, and societal issues such as discrimination and mental health stigma.

The relationship between Freudian psychoanalysis and horror is demonstrated by films like *The Exorcist*, *The Exorcism of Emily Rose*, *The Sixth Sense*, and *IT*. These movies serve as symbolic representations of suppressed anxieties and the therapeutic process of facing one's inner demons. They also stress how crucial therapy and knowledge of early experiences are to psychological health. By portraying supernatural elements, horror films provide a lens to examine cultural beliefs, the human psyche, and social inequalities. While they can provoke fear, they also encourage critical reflection on deeper psychological and societal issues.

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Empowering Odisha: Fostering Women's Entrepreneurship for Sustainable Growth and Innovation

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Abstract

In an era marked by dynamic economic shifts and an evolving societal landscape, the role of women in entrepreneurship has gained increasing prominence. This paper explores a comprehensive framework designed to empower and nurture women entrepreneurs within an ecosystem that fosters their growth and success. The Women Entrepreneurs Ecosystem Framework presented herein is a holistic approach that encompasses various elements critical to women's entrepreneurial development. It includes educational and skill-building initiatives tailored to their needs, financial inclusion mechanisms to facilitate access to capital, and supportive policies that address gender disparities and promote equal opportunities. Access to markets is another cornerstone of this framework, enabling women entrepreneurs to reach broader audiences and achieve sustainable business growth. Additionally, incubation and acceleration programs offer essential support, providing resources, mentorship, and access to funding. The present paper consists of three major

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sections. First section focuses on women entrepreneurship followed by the role of mission shakti in women entrepreneurship in Odisha. Second section emphasis on the framework for achieving sustainable women entrepreneurial growth in Odisha and major schemes with strength and weakness for each scheme related to entrepreneurial growth for women in India and the last section emphasises on the two case study related to two rural women entrepreneurs from Balasore District of Odisha, India.

Keywords: Women, Entrepreneurship, Women Entrepreneurs, Skill

1. Introduction

In the vibrant tapestry of India's economic landscape, the emergence of women entrepreneurs as a dynamic force is a testament to both progress and potential. Odisha, a state renowned for its rich cultural heritage and diverse industries, is no exception to this transformative trend. With a vision of fostering gender-inclusive economic growth, the government of Odisha has introduced an array of schemes and initiatives designed to empower women entrepreneurs and enhance their contributions to the state's economy (Bansal, 2015). In recent years, the role of women in entrepreneurship has gained tremendous momentum worldwide, breaking down barriers, shattering stereotypes, and driving economic growth (Babu, 2017). In this transformative landscape, the Women Entrepreneurs Ecosystem Framework emerges as a visionary blueprint, designed to empower and elevate women entrepreneurs in their journey towards success. Women entrepreneurs, although a formidable force in the global business arena, often face unique challenges and barriers stemming from gender disparities and societal norms.

Recognizing the immense potential and contributions of women entrepreneurs, this framework is a testament to the commitment to leveling the playing field and fostering an environment where women can thrive and innovate.

2. Women Entrepreneurship: An Overview

Women entrepreneurship in India is a rapidly growing and dynamic phenomenon that has gained significant momentum in recent years. Women entrepreneurs are breaking traditional barriers, carving their paths, and contributing substantially to India's economic development. "A woman entrepreneur is defined as an enterprise owned and controlled by a woman and having a minimum financial interest of 51 percent of the capital and giving at least 51 percent of the employment generated in the enterprise to women" (GOI)

The number of women entrepreneurs in India is on the rise, with women constituting a substantial portion of the entrepreneurial ecosystem (Devi, 2018). The Global Entrepreneurship Monitor (GEM) report indicates that India has one of the highest rates of women entrepreneurs in the world (GEM India,

2019). The Indian Brand Equity Foundation (IBEF) survey estimates that there are 13.5 to 15.7 million women-led startups in India and that they control 20.37 percent of the country's Micro, Small, and Medium Enterprises. It is critical to keep creating an accepting climate that empowers and promotes female entrepreneurs (Sampat, 2023).

Women entrepreneurs are engaged in a wide range of sectors, including technology, healthcare, education, fashion, food, and social enterprises. They are making significant strides in both urban and rural settings. Increasing access to education for women has played a pivotal role in nurturing their entrepreneurial aspirations. Better education equips women with the skills and knowledge needed to start and manage businesses. Government schemes and policies, such as the Stand-Up India program, Mudra Yojana, and various state-specific initiatives, provide financial assistance, training, and support to women entrepreneurs (Government of India, 2021). The digital revolution has opened up new opportunities for women entrepreneurs, allowing them to start and scale businesses online (Nidugondi, 2019). E-commerce, app-based services, and social media have become accessible platforms for women-led ventures. Women entrepreneurs are not only creating businesses for themselves but also generating employment opportunities for others, contributing to economic growth.

Many women-led enterprises focus on social and environmental sustainability. They often prioritize ethical practices, inclusive hiring, and community development. Successful women entrepreneurs serve as role models, inspiring future generations of women to pursue entrepreneurship and leadership roles (Jayaraman, 2020).

Women entrepreneurs also faces some challenges as well. Some of it includes the financial aspect, to gender bias. Limited access to capital remains a significant challenge. Gender biases in financial institutions and a lack of collateral often hinder their ability to secure loans and investments. Deep-seated gender biases persist in business environments. Women often face prejudice, stereotypes, and unequal treatment, which can affect their confidence and growth prospects (Bhattacharya, 2021). Balancing the demands of entrepreneurship with traditional domestic roles can be taxing. Supportive family structures and policies that promote work-life balance are essential.

2.1 Women Entrepreneurship in Odisha: The Role of Mission Shakti

Women entrepreneurship in Odisha, a state in eastern India, has been steadily growing and evolving, contributing to both economic development and women's empowerment. The number of women entrepreneurs in Odisha has been increasing, particularly in sectors like

agriculture, handicrafts, textiles, and food processing. Women entrepreneurs in Odisha are involved in various sectors, including traditional and non-traditional industries. Handloom and handicraft businesses, as well as eco-friendly and sustainable ventures, are gaining popularity. The Odisha government has launched several initiatives to promote women's entrepreneurship. These include programs like Mission Shakti, which aims to empower women's self-help groups (SHGs) and enhance their entrepreneurial skills. Women in Odisha have increasing access to education, training, and financial resources, enabling them to start and grow businesses.

Mission Shakti is a pioneering initiative launched by the government of Odisha to empower women through economic self-sufficiency and entrepreneurship. Launched in 2001, it has since become a flagship program for women's economic empowerment, poverty reduction, and social inclusion in the state. The mission primarily focuses on the formation and strengthening of women's Self-Help Groups (SHGs) and their capacity-building in various entrepreneurial activities. The primary goal of Mission Shakti is to economically empower women in Odisha. It aims to provide them with the means to generate income, contribute to their households' finances, and improve their overall economic well-being. The mission encourages women to take on leadership roles within SHGs and

community organizations, fostering a sense of self-confidence and empowerment. It aims to break traditional gender roles and empower women to be decision-makers. Mission Shakti is aligned with poverty alleviation goals. By promoting income-generating activities and financial inclusion, it seeks to reduce poverty among women and their families. Women are organized into SHGs at the grassroots level. These groups typically consist of 10-20 women who come together for mutual support, savings, and income-generating activities. SHG members receive training in various income-generating activities, including agriculture, animal husbandry, fisheries, and non-farm enterprises. They also receive financial literacy training. Mission Shakti facilitates access to credit and financial services for SHG members. It links SHGs with banks and financial institutions, allowing women to access loans for their entrepreneurial activities. The mission focuses on community mobilization and awareness-building to address issues related to women's rights, health, nutrition, and sanitation. Mission Shakti supports a wide range of livelihood initiatives, including agricultural and horticultural activities, poultry farming, handicrafts, and small-scale industries. The program helps SHG members access markets for their products, both locally and regionally. This includes training on value addition, branding, and market linkages.

3. Framework for Achieving Sustainable Women Entrepreneurial Growth in Odisha

Creating an ecosystem to empower women entrepreneurs requires a multi-faceted approach involving various stakeholders, policies, resources, and support systems.

Category	Focus Areas	Key Actions
• Education & Skill Development	Quality education, entrepreneurial training	Vocational programs, inclusion in curricula
• Financial Inclusion	Access to credit, financial literacy	Microloans, venture capital, workshops
• Supportive Policies	Gender equality, family-friendly work policies	Advocacy, flexible hours, parental leave
• Mentorship & Networking	Mentorship, investor-customer connection	Events, workshops, mentor-mentee matchmaking
• Market Access	Local to global market reach	Export opportunities, market platforms
• Business Support	Incubators, innovation hubs	Tailored centers, startup funding
• Awareness & Advocacy	Stereotype challenges, community programs	Campaigns, entrepreneurship promotion
• Legal Support	Contract, IP, registration assistance	Free legal consultation, support services
• Collaboration	Government, NGO, and private partnerships	Comprehensive support ecosystem

Table 01: Ecosystem Framework for Women Entrepreneurial Growth in Odisha

Table 01 describes each component of the ecosystem framework for women's entrepreneurial growth in Odisha. Under education and skill development there is a need to ensure that girls and women have access to quality education at all levels, including vocational and entrepreneurial training programs. Need to offer training programs that develop essential entrepreneurial skills such as business planning, financial management, marketing, and leadership. Under financial inclusion, there should be access to financial services, including microloans, credit, and venture capital, with a focus on

women entrepreneurs. Promote financial literacy among women to help them manage their finances effectively. There should be supportive policies and regulations to promote gender equality in entrepreneurship, including equal access to resources, property rights, and legal protection. Streamline business registration processes to make it easier for women to start and run businesses. There is a need to establish a mentorship program where successful women entrepreneurs guide and support aspiring women entrepreneurs. Organize events, conferences, and workshops that provide

opportunities for women to network with potential partners, investors, and customers. Lastly, there should be access to markets that provide avenues for women entrepreneurs to access local, national, and international markets for their products and services. Offer support for women-led businesses to explore export opportunities and expand their reach. Also need to set up incubation centers and accelerators specifically tailored to the needs of women entrepreneurs, offering resources, mentorship, and funding. Create innovation hubs that focus on sectors where women-led startups can excel, such as technology, healthcare, and sustainable agriculture. Collect data on the participation of women in entrepreneurship, including their challenges and success stories, to inform policy decisions and support programs. Promote research on women entrepreneurship to identify trends, opportunities, and areas for improvement. Awareness and Sensitization: Run campaigns to challenge gender stereotypes and biases and highlight the contributions of women entrepreneurs. Integrate entrepreneurship and gender equality topics into school curricula and community awareness programs. Legal Support: Offer legal support and services to women entrepreneurs, especially in cases of contract disputes, intellectual property rights, and business registration. Work-Life Balance: Encourage family-friendly workplace policies, including

flexible hours and parental leave, to help women balance their entrepreneurial pursuits with family responsibilities. Government and NGO Collaboration: Foster collaboration between government agencies, non-governmental organizations (NGOs), and private enterprises to create a comprehensive support ecosystem. Evaluation and Impact Assessment: Continuously assess the effectiveness of the ecosystem in supporting women entrepreneurs and make data-driven improvements. Creating an ecosystem that supports women entrepreneurs involves a coordinated effort from government, private sector organizations, civil society, and educational institutions. Such an ecosystem not only empowers women economically but also contributes to gender equality, innovation, and economic growth in the community and the nation as a whole.

4. Financial Support Schemes for Entrepreneurial Growth for Women in India

The Government of India (GoI) has launched various schemes and initiatives to foster entrepreneurial growth for women across the country. These schemes aim to empower women entrepreneurs by providing financial assistance, skill development, and support for starting and expanding their businesses (Mathur, 2022; Radhakrishnan, 2023). This section focuses on some of the major schemes provided by the GoI for entrepreneurial growth for women in India. An attempt has

also been made for look out the possible strength and weakness for each scheme.

I. Financial Support Schemes:

MUDRA Yojana (Micro Units Development and Refinance Agency): It consist of subcategories like Shishu, Kishor, and Tarun provide microloans to women entrepreneurs at different stages of business development. MUDRA Yojana aims to provide financial support to micro-enterprises, including those run by women, through loans from financial institutions. It has three categories: Shishu (up to ₹50,000), Kishor (₹50,000 to ₹5 lakh), and Tarun (₹5 lakh to ₹10 lakh). Stand Up India: This scheme promotes entrepreneurship among women and Scheduled Castes/Scheduled Tribes by facilitating loans from banks ranging from ₹10 lakhs to ₹1 crore for greenfield enterprises, wherein at least one woman borrower should be involved in each bank branch.

PM's Employment Generation Programme (PMEGP): It supports women in setting up micro-enterprises by providing subsidies for project costs and employment generation. PMEGP provides financial assistance and subsidies for women entrepreneurs to set up and expand micro-enterprises.

Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE): It provides credit guarantees to financial institutions for loans extended to women-owned micro and small enterprises.

II. Skill Development and Training:

Pradhan Mantri Kaushal Vikas Yojana (PMKVY): It offers skill development and training programs to enhance the employability of women and equip them with entrepreneurial skills.

Udyogini Scheme: It provides training and skill development to women entrepreneurs in non-farm activities.

III. Entrepreneurial Support and Promotion:

Mahila Coir Yojana: It encourages women to participate in coir-based industries by offering financial assistance and training.

Rashtriya Mahila Kosh (RMK): Extends micro-credit facilities to low-income women for income-generating activities. Stree Shakti Package for Women Entrepreneurs: Offers concessional credit to women-led small-scale industries.

IV. Business Incubation and Promotion:

Support to Training and Employment Programme for Women (STEP): It provides entrepreneurship training and support services to women for self-employment. Women Entrepreneurship Platform (WEP): An initiative by NITI Aayog, it offers a platform for networking, mentorship, and access to resources for women entrepreneurs.

V. Export Promotion:

Trade-Related Entrepreneurship Assistance and Development (TREAD) Scheme: Supports women in non-farm

sectors by enhancing their competitiveness in the domestic and international markets.

VI. Technology and Innovation:

Biotechnology Industry Partnership Programme (BIPP): It offers grants to women entrepreneurs and startups working on biotechnology innovations. **Women Scientist Scheme (WOS-C):** It encourages women scientists and technologists to take up research and development activities.

VII. Support for Women in Agriculture:

Rashtriya Mahila Kisan Diwas (National Women Farmers' Day): It recognizes and supports the contribution of women in agriculture.

These schemes and initiatives collectively promote entrepreneurial growth among women in India by providing financial assistance, skill development, training, and a supportive ecosystem. Women entrepreneurs can benefit from these programs to start, expand, or enhance their businesses, contributing to economic empowerment and gender equality in the country.

4.1 Strength and Weakness of Major Schemes

1. MUDRA Yojana (Micro Units Development and Refinance Agency):

Strengths:

Inclusivity: MUDRA Yojana promotes financial inclusion by providing microloans to women entrepreneurs, particularly those in rural and underserved

areas. **Job Creation:** It leads to the creation of small businesses and self-employment opportunities, contributing to job generation.

Weaknesses:

Risk of Over-Indebtedness: In some cases, borrowers may face challenges in repaying loans, leading to over-indebtedness. **Limited Coverage:** Access to MUDRA loans may still be limited in remote or economically disadvantaged regions.

2. Stand Up India:

Strengths:

Focused Approach: The scheme specifically targets women and marginalized communities, ensuring inclusivity. **Job Opportunities:** Encourages entrepreneurship, which in turn creates job opportunities for others.

Weaknesses:

Limited Outreach: The scheme's impact may be constrained due to limited awareness in some regions. **Challenges in Loan Approval:** Some entrepreneurs may face challenges in obtaining loans due to stringent bank criteria.

3. PM's Employment Generation Programme (PMEGP):

Strengths:

Local Employment: Encourages the establishment of small enterprises, which often hire locally, benefiting communities. **Economic Upliftment:** Empowers women through financial assistance, leading to economic upliftment.

Weaknesses:

Loan Disbursement Delays: In some cases, there may be delays in loan disbursement, affecting timely business setup. **Limited Access:** The scheme may not reach all eligible entrepreneurs, especially in remote areas.

4. Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE):

Strengths:

Risk Mitigation: Reduces the risk for banks and financial institutions, encouraging them to provide loans to women entrepreneurs. **Wider Access:** Enhances access to credit for women-owned micro and small enterprises.

Weaknesses: **Limited Loan Amounts:** The loan amount may be limited, restricting the potential for business expansion. **Lack of Awareness:** Some entrepreneurs may not be aware of the scheme's benefits.

5. Pradhan Mantri Kaushal Vikas Yojana (PMKVY):

Strengths:

Skill Enhancement: Enhances employability and entrepreneurial skills among women. **Diverse Training Programs:** Offers a range of training programs catering to various industries.

Weaknesses:

Challenges in Placement: Not all trained individuals may find immediate employment or entrepreneurship opportunities. **Quality of Training:** The

quality of training may vary across different centers.

6. Udyogini Scheme:

Strengths: **Focused on Non-Farm Activities:** Supports skill development and entrepreneurship in non-farm sectors. **Economic Empowerment:** Empowers women economically by enabling them to start and manage businesses.

Weaknesses:

Awareness and Reach: The scheme's reach and awareness may be limited in certain regions. **Scaling Challenges:** Some women may face challenges in scaling their non-farm businesses.

These strengths and weaknesses provide insights into the effectiveness and potential areas for improvement of each scheme. Addressing weaknesses while building on strengths can help enhance the impact of these initiatives in promoting women's entrepreneurship and economic empowerment.

5. The Case of Two Rural Women Entrepreneurs from Balasore District, Odisha

India's socio-economic landscape has witnessed a remarkable transformation over the years, particularly in the realm of entrepreneurship. A noteworthy aspect of this transformation has been the growing participation of women in the entrepreneurial sphere. This case study delves into the experiences of women

entrepreneurs in rural India who have benefited from government initiatives aimed at promoting their economic empowerment and gender equality.

India's rural areas have traditionally been marked by gender disparities and limited economic opportunities for women. However, with the introduction of various government schemes, women in rural India are breaking barriers and carving out a niche for themselves in diverse sectors. Several government initiatives have played a pivotal role in this transformation:

In the village of Ganjia, Khantapada of Balasore district, located in the heart of rural area of Eastern India, Rukmini, a determined woman in her early forties, had always aspired to start her own tailoring business. However, financial constraints held her back. MUDRA Yojana changed her life. She secured a Shishu loan of ₹50,000, which enabled her to purchase a sewing machine, fabric, and other essentials. Today, Rukmini runs a successful tailoring business, employing two local women. She proudly contributes to her family's income and is a source of inspiration for other women in her village.

Similarly, from the village of Bahanaga, of Balasore district a young woman with dreams of entrepreneurship, decided to open an organic honey processing unit. With the support of PMEGP, she secured a loan to set up her venture. Chadraprabha's honey is now sought after in nearby towns, and she employs local women to help with processing. Chadraprabha's success is not only a testament to her hard work but also

to the opportunities PMEGP offers to rural women.

Women like Rukmini and Chandraprabha have not only achieved financial independence but have also created jobs for others in their communities. This has a ripple effect, leading to economic growth at the grassroots level. These schemes have challenged traditional gender norms in rural India. Women who were once confined to domestic roles are now thriving as entrepreneurs, setting an example for future generations. The economic empowerment of women through entrepreneurship contributes to poverty reduction in rural areas, improving the overall standard of living.

Conclusion

Government of India has introduced a commendable array of schemes and initiatives to foster entrepreneurial growth among women. These programs are designed to empower women economically, create job opportunities, and promote gender equality across various sectors of the economy. The strengths of these schemes lie in their inclusivity, as they specifically target women entrepreneurs and marginalized communities. They facilitate access to financial resources, provide skill development opportunities, and offer support for starting and expanding businesses. This, in turn, contributes to job creation, poverty reduction, and economic growth. However, these schemes also have their weaknesses, including challenges related to awareness, limited coverage in

remote areas, and potential delays in loan disbursement. Ensuring that these initiatives reach their intended beneficiaries effectively remains a crucial aspect of their success. Despite these challenges, these schemes represent a significant step towards levelling the playing field for women in entrepreneurship. With continuous efforts to address weaknesses and improve implementation, these initiatives have the potential to transform the entrepreneurial landscape for women in India, creating a more inclusive and economically empowered society. As women entrepreneurs continue to thrive, their contributions to the nation's economic growth and innovation are poised to become increasingly substantial.

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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

Relative Risk Return Study of IT Companies in Indian Stock Market

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Abstract

In a highly volatile stock market, investment decision is a crucial matter for every investor. They have to analyze and take the right decision for their investment. As a very high risk is involved in the investment in the stock market, investors always want a high return from the investment. The stock market is very much essential for the economic growth of the country as required by SDG 8 which is for decent work and economic growth. Investors have to consider many factors while taking investment decisions. The two most important factors out of all are risk and return. So, the main objective of this paper is to find out the risk and return of nine IT companies listed in the Indian Stock Market. This analysis will be helpful for investors who want to invest in IT companies. In this study, the daily closing values of nine IT companies are taken into consideration for the analysis. Data is collected from the BSE website from April 1, 2013, to 31st March 2023 which is for 10 years. For this research descriptive analysis, t-tests, and correlation methods are used. Analyzing

these factors collectively provides insights into the risk-return profiles of the nine IT companies, aiding investors in making informed investment decisions.

Keywords: Risk, Return, Stock Market, IT companies, Correlation, t-test

Introduction

The stock market shows the performance and growth of an economy. The business world is very competitive and volatile. The most important factors that investors look at while investing are return and risk. Return can be expected-return and actual-return. What investors expect to get from their investment may not be equal to the actual return (Patjoshi and Nandini 2020). The stock market is very important for the economic growth of the country as required by SDG 8. The difference between the actual return and the expected return is the risk. The risk and return of any company should be calculated before investment. Return from the investment in the stock market is not fixed and is very volatile. Volatility gives the magnitude of ups and downs in the stock market and when the price swings are bigger and greater, the volatility of the market is greater (Ashford & Schmidt, 2021). So, investment in the stock market is very risky for investors. To get the expected return investors must do fundamental and technical analysis. But the investors can't do all the analysis. Financial analysts and researchers do a lot of study on the stock market. And investors can use those data while investing in the stock market. Investors can be risk-averse or risk-taker. But most of the investors want more

returns with low risk. The risk can be controllable or uncontrollable. Investors can make the right decision by considering both risks. When investors take more risk, they want a risk premium in the form of more return. They can earn more return only when they do proper analysis for their investment.

Covid-19 caused very high fluctuations in the stock market. Because of the outbreak of the pandemic, the stock market has been getting more volatile since January 2020. Because of COVID-19, financial volatility increased a lot in India (Zhang *et al.*, 2021). Factors like economic conditions, issues in companies, and market uncertainty is affecting the stock market volatility (Hartwell, 2018). So also, Onan *et al.* (2014) analyzed that positive and negative announcements of the companies have a major role in stock market volatility.

1.1 Stock market volatility: Volatility of the stock market increases and decreases according to the information flow to the investors (Mamtha. D, Sakthi Srinivasan. K 2016). Understanding market volatility is very important for all investors. After so much research work also understanding the structural aspect of market sentiment is difficult (H & Rishad 2020). The stock market passed through different shock waves from February 2020 due to Covid-

19. The financial volatility increased a lot due to the pandemic (Albulescu 2021). Volatility can be measured through standard deviation. The higher the standard deviation, the variation of the portfolio from the average return is more. So, the risk is also higher (Ashford & Schmidt, 2021).

1.2. Literature review:

Patjoshi and Nandini (2020) have taken stock market returns from 2000 to 2018, applied GARCH Model and found the correlation coefficient among the returns of days of the week is statistically significant. Their study was to find out the risk-return analysis on the stock market by taking Sensex and steel sector companies in India. They have also taken the returns of the stock market from 2010 January to 2019 December and found, that when Sensex is giving an average positive return, all the sample companies are giving negative returns. Also, the risk of investing in Sensex is less than that of sample companies. Nandini (2013) did her analysis in the Indian stock market and found that the day-of-the-week effect exists for the Indian stock market. Fard *et al.*, (2014) have done their analysis on the performance of the market by using A-Y Model. They have analyzed the risk and return of different portfolios. They could not find any such reliable performance between the risk and return. Shanmugasundram and Benedict (2013) have taken the different sectoral indices and Nifty for their study. They have taken

the closing values of 5 indices from Nifty for 8 years (2004 to 2012). t-test and ANOVA are used for the research. Again, Lakshmi (2013) tried to find the volatility of the Indian stock market. They have used the Autoregressive Conditional Heteroskedasticity (ARCH) model for the analysis. They have taken 11 different sectoral indices for 5 years from 2008 to 2012. They found that the volatility of the realty sector is very high whereas the volatility of the banking sector is the lowest. Similarly, Setiawan & Oktariza (2013) have done their analysis for Syariah stocks. They have taken a risk and returned for the study. They have used descriptive analysis and beta analysis for the study. Nandini *et al.*, (2012) have done their analysis to understand volatility and month-of-the-year effect. They have used the GARCH (1,1) model for the analysis. Vikkraman and Varadharajan (2009), found that the stock market returns can be increased through proper risk-return analysis. Mamtha & Srinivasan (2016) have studied through a literature review that different factors like information flow, the volume of trading, economic factors, and the behavior of investors are the most important factors of stock market volatility. H & Rishad (2020) have tried to find the sentiment of investors in changing stock market volatility. They have used the GARCH and Granger model to understand the sentiment index contribution to stock market volatility. They found that irrational sentiments increase market

volatility. The findings are very useful both for retail investors and portfolio managers.

Zhang *et al.*, (2021) tried to find the stock market volatility in China and other developed countries due to the covid -19 pandemic. They used the TGARCH model for the analysis. They have taken the stock market returns for the period of 5th January 2015 to 4th April 2020. They found that the stocks of developed countries have strong relationships with the stock market of China. Albulescu (2021) found that the Covid 19 pandemic has a big effect on the US stock market. It's a challenge for the risk management activity. Due to the presence of stock market price bubbles, financial volatility cannot be ignored.

1.3 Statement of the problem: The Indian stock market is very much volatile. It is very difficult for investors to make the right decision. They make their own decision or they get help from the financial advisor. Anyone investing in the stock market must understand the volatility of the stock market. However it is very difficult for the investors to do all the analysis by themselves. So, the research done by the researchers will be very much helpful for the investors.

1.4. Objectives:

(a) To analyze the risk and return of investors from the Sensex and sample IT Companies in Indian stock market.

(b) To find if there is any significance difference between the return of Sensex and sample IT Companies in Indian stock market.

H0: There is no significant difference between the return of Sensex and sample IT Companies in Indian stock market.

2. Research framework and data collection

The study will focus on the risk and return analysis of the Indian IT sector and Sensex. The risk and return are calculated by taking daily closing values of Sensex and nine IT companies. Ten years data, which is from April 1, 2013 to 31st March, 2023 is taken for the research. Historical data is collected from the BSE website. Descriptive analysis, correlation calculation, and t-test have been done for the analysis and for testing the hypothesis. In this study Sensex and different sample IT companies listed in Indian stock market have taken into consideration to find risk and return of the investors. The sample IT companies have been considered for the study are Google, Cognizant, IBM, INTEL, Accenture, WIPRO, Infosys, TCS and Microsoft.

3. Data analysis, findings and discussion

3.1 Analysis of Sensex and different IT Companies: Table-1 shows the descriptive analysis of daily market return of Sensex and IT companies from April 2013 to March 2023. Mean shows the average return while Standard deviation (S.D) gives the picture of risk from the investment.

Table-1 Descriptive Statistics of the Daily Returns of Sensex and IT Companies

MAXIMUM	MINIMUM	SKEWNESS	KURTOSIS	S. D	MEAN	PARTICULARS
8.9749	-13.1526	-0.9215	15.9847	1.0874	0.0514	SENSEX
16.0745	-11.1002	0.5056	8.2844	1.7507	0.0779	GOOGLE
16.0745	-11.1002	0.5056	8.2844	1.8112	0.0615	COG
14.9610	-17.1798	-0.2007	12.7334	1.9808	0.0278	IBM
19.5213	-18.0415	-0.2006	11.7335	1.9808	0.0278	INTEL
12.8573	-10.2967	0.1136	7.5958	1.5401	0.0622	ACCENTURE
16.7778	-8.9412	0.4960	7.9189	1.6235	0.0505	WIPRO
12.4646	-12.1097	-0.0858	6.6165	1.7451	0.0643	INFOSYS
11.4451	-12.4418	0.8209	12.5181	2.1121	0.5332	TCS
14.2169	-14.7391	0.0125	8.3978	1.7273	0.1005	MICROSOFT

Source: Calculated in Excel by Author

Table 1 represents the average return for each company's stock. For instance, Tata Consultancy Services has the highest average return (0.5332) among all the IT companies. Standard Deviation measures

the dispersion or variability of the returns. Higher values indicate higher variability. TCS has the highest standard deviation (2.1121) compared to others, suggesting highly variable returns. TCS shows the

highest return with the highest risk. Kurtosis measures the 'peakedness' of the distribution. Positive kurtosis indicates a relatively peaked distribution, while negative kurtosis indicates a flatter distribution. Here, Tata Consultancy Services and IBM have notably high kurtosis values, indicating more extreme returns compared to a normal distribution. Skewness indicates the asymmetry of the distribution. A positive skewness value means the distribution is skewed towards the right (tail on the right), while negative skewness means the tail is on the left. TCS

has significantly positive skewness, suggesting a right-skewed distribution of returns. Minimum and Maximum show the range of returns observed for each company. Here INTEL has the widest range between the minimum and maximum returns, indicating high variability.

3.2 *Correlation of Returns between Sensex and Different IT Companies:*

Table 2 gives the picture of the correlation of returns between Sensex and sample IT Companies for 10 years (2013 – 2023)

Table-2 Sensex and Different IT Companies Returns' Correlation

Index & Company	SENSEX
SENSEX	1
GOOGLE	-0.0566
COGNIZANT	0.0183
IBM	-0.0166
INTEL	-0.0330
ACCENTURE	0.0996
WIPRO	0.0911
INFOSYS	-0.0119
TCS	0.0145
MICROSOFT	0.0262

Source: Calculated by Authors

It is found from Table-2 that the mean return of Sensex is positively correlated

with cognizant, Accenture, Wipro, TCS and Microsoft. Sensex is highly correlated

with Accenture than other IT companies. Google, IBM, INTEL and INFOSYS are negatively correlated with Sensex. There is a highest negative correlation of Sensex

with IBM. And there is a highest positive correlation of Accenture is with Sensex.

3.3 Analysis t-Test: Paired of Sensex and Google

Table - 3: t-Test value of Sensex and Google

	<i>Sensex</i>	<i>Google</i>
Mean	0.0514	0.0779
Variance	1.0874	1.7507
Observations	2456	2456
Pearson Correlation	-0.0566	
df	2455	
t Stat	-0.6229	
P(T<=t) one-tail	0.2667	

Calculated in Excel by Author

Table 3 shows the results of Sensex and Google from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of Google is more than that of Sensex. So, the average return from the stocks of Google is more than that of Sensex. The performance of Google is better than Sensex. The variance of Google is more than the variance of Sensex. It shows that the risk is also more

for Google than the Sensex. Correlation value -0.0566 shows that Sensex and Google are negatively correlated. The p-value ($0.2667 > .05$) shows that the relationship between Sensex and Google is not significant at the 5% level. So H_0 is accepted.

3.4 Analysis t-Test: Paired, Sensex and Cognizant

Table - 4: t-Test value of Sensex and Cognizant

	<i>Sensex</i>	<i>Cognizant</i>
Mean	0.0514	0.0615
Variance	1.0874	1.8112

Observations	2456	2456
Pearson Correlation	0.0183	
df	2455	
t Stat	-2.9661	
P(T<=t) one-tail	0.4563	

Source: Calculated in Excel by Author

Table 4 depicts the result of Sensex and cognizant from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of Cognizant is more than that of Sensex. So, the average return from the stocks of Cognizant is more than that of Sensex. The performance of Cognizant is better than Sensex. The variance of Cognizant is more than the variance of Sensex. It shows that

the risk is also more for Cognizant than the Sensex. Correlation value 0.0183 shows that Sensex and Cognizant are positively correlated. The p-value ($0.4563 > .05$) shows that the relationship between Sensex and Cognizant is not significant at the 5% level. So H_0 is accepted.

3.5 Analysis t-Test: Paired of Sensex and IBM

Table - 5: t-Test value of Sensex and IBM

	<i>Sensex</i>	<i>IBM</i>
Mean	0.0514	0.0278
Variance	1.0874	1.9808
Observations	2456	2456
Pearson Correlation	-0.0166	
df	2455	
t Stat	0.2246	
P(T<=t) one-tail	0.4111	

Source: Calculated in Excel by Author

Table 5 gives the result of Sensex and IBM from 2013 to 2023. The analysis is done by using a t-test. It is found from the

analysis, that the mean return of Sensex is more than that of IBM. So, the average return from the stocks of IBM is less than

that of Sensex. The performance of Sensex is better than IBM. The variance of IBM is more than the variance of Sensex. It shows that the risk is also more for IBM than the Sensex. Correlation value -0.0166 shows

that Sensex and IBM are negatively correlated . The p-value ($0.4111 > .05$) shows that the relationship between Sensex and IBM is not significant at the 5% level. So H_0 is accepted.

3.6 Analysis t-Test: Paired of Sensex and Intel

Table - 6: t-Test value of Sensex and Intel

	<i>Sensex</i>	<i>Intel</i>
Mean	0.0514	0.0278
Variance	1.0874	1.9808
Observations	2456	2456
Pearson Correlation	-0.0330	
df	2455	
t Stat	0.4461	
P(T<=t) one-tail	0.3277	

Source: Calculated in Excel by Author

Table 6 shows the result of Sensex and Intel from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of sensex is more than that of Intel So, the average return from the stocks of Intel is less than that of Sensex. The performance of Sensex is better than SIntel. The variance of Intel

is more than the variance of Sensex. It shows that the risk is also more for Intel than the Sensex. Correlation value -0.0330 shows that Sensex and Intel are negatively correlated . The p-value ($0.3277 > .05$) shows that the relationship between Sensex and Intel is not significant at the 5% level. So H_0 is accepted.

3.7 Analysis t-Test: Paired of Sensex and Accenture

Table - 7: t-Test value of Sensex and Accenture

	<i>Sensex</i>	<i>Accenture</i>
Mean	0.0514	0.0622
Variance	1.0874	1.5401
Observations	2456	2456

Pearson Correlation	0.0996	
df	2455	
t Stat	-0.3166	
P(T<=t) one-tail	0.3758	

Source: Calculated in Excel by Author

Table 7 depicts the result of Sensex and Accenture from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of Accenture is more than that of Sensex. So, the average return from the stocks of Accenture is more than that of Sensex. The performance of Accenture is better than Sensex. The variance of Accenture is more than the variance of Sensex. It shows that

the risk is also more for Accenture than the Sensex. Correlation value 0.0996 shows that Sensex and Accenture are positively correlated. The p-value ($0.3758 > .05$) shows that the relationship between Sensex and Accenture is not significant at the 5% level. So H_0 is accepted.

3.8 Analysis t-Test: Paired of Sensex and Wipro

Table - 8: t-Test value of Sensex and Wipro

	<i>Sensex</i>	<i>Wipro</i>
Mean	0.0514	0.0505
Variance	1.0874	1.6235
Observations	2456	2456
Pearson Correlation	0.0911	
df	2455	
t Stat	0.0192	
P(T<=t) one-tail	0.4923	

Source: Calculated in Excel by Author

Table 8 shows the result of Sensex and Wipro from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of sensex is

more than that of Wipro. So, the average return from the stocks of Wipro is less than that of Sensex. The performance of sensex is better than Wipro. The variance of

Wipro is more than the variance of Sensex. It shows that the risk is also more for Wipro than the Sensex. Correlation value 0.0911 shows that Sensex and Wipro are positively correlated. The p-value (0.4923 > .05) shows that the relationship between

Sensex and Google is not significant at the 5% level. So H0 is accepted.

3.9 Analysis t-Test: Paired of Sensex and Infosys

Table - 3: t-Test value of Sensex and Infosys

	<i>Sensex</i>	<i>Infosys</i>
Mean	0.0514	0.0643
Variance	1.0874	1.7451
Observations	2456	2456
Pearson Correlation	-0.0119	
df	2455	
t Stat	-0.3159	
P(T<=t) one-tail	0.3760	

Source: Calculated in Excel by Author

Table 9 gives the result of Sensex and Infosys from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of Infosys is more than that of Sensex. So, the average return from the stocks of Infosys is more than that of Sensex. The performance of Infosys is better than Sensex. The variance of Infosys is more than the variance of Sensex. It shows that the risk is also more

for Infosys than the Sensex. Correlation value -0.0119 shows that Sensex and infoys are negatively correlated. The p-value (0.3760 > .05) shows that the relationship between Sensex and Infosys is not significant at the 5% level. So H0 is accepted.

3. 10 Analysis t-Test: Paired of Sensex and TCS

Table - 10: t-Test value of Sensex and TCS

	<i>Sensex</i>	<i>TCS</i>
Mean	0.0514	0.5332
Variance	1.0874	2.1121

Observations	2456	2456
Pearson Correlation	0.0145	
df	2455	
t Stat	-0.9581	
P(T<=t) one-tail	0.1690	

Source: Calculated in Excel by Author

Table 10 shows the result of Sensex and TCS from 2013 to 2023. The analysis is done by using a t-test. It is found from the analysis, that the mean return of TCS is more than that of Sensex. So, the average return from the stocks of TCS is more than that of Sensex. The performance of TCS is better than Sensex. The variance of TCS is more than the variance of Sensex. It shows that the risk is also more for TCS than the

Sensex. Correlation value 0.0145 shows that Sensex and TCS are positively correlated. The p-value ($0.1690 > .05$) shows that the relationship between Sensex and TCS is not significant at the 5% level. So H_0 is accepted.

3. 11 Analysis t-Test: Paired of Sensex and Microsoft

Table - 11: t-Test value of Sensex and Microsoft

	<i>Sensex</i>	<i>Microsoft</i>
Mean	0.0514	0.1005
Variance	1.0874	1.7273
Observations	2456	2456
Pearson Correlation	0.0262	
df	2455	
t Stat	-1.2215	
P(T<=t) one-tail	0.1109	

Source: Calculated in Excel by Author

Table 11 shows the result of Sensex and Microsoft from 2013 to 2023. The analysis is done by using a t-test. It is found from

the analysis, that the mean of Microsoft is more than that of Sensex. So, the average return from the stocks of Microsoft is more

than that of Sensex. The performance of Microsoft is better than Sensex. The variance of Microsoft is more than the variance of Sensex. It shows that the risk is also more for Microsoft than the Sensex. Correlation value 0.0262 shows that Sensex and Microsoft are positively correlated. The p-value ($0.1109 > .05$) shows that the relationship between Sensex and Google is not significant at the 5% level. So H_0 is accepted.

3.12 Investor implications

- i. It will help investors to understand the stock market more clearly.
- ii. It will help in understanding the risk and return of stock market, particularly in IT sector.
- iii. It will help the investors to take a right decision for their investment.
- iv. Investors can reduce the risk and can increase the return by using the analysis.

4. Conclusions

The average daily returns of Google, Accenture, Infosys, TCS and Microsoft are more than that of Sensex . But Sensex is giving more return than Cognizant, IBM, INTEL and Wipro. The standard deviation is the lowest (1.0874) for Sensex and is also less than all the sample IT companies. The standard deviation of TCS is the highest (2.1121). Among the IT Companies , Accenture is having the lowest (1.5401) standard deviation. Low standard deviation gives less risk and high standard deviation gives high risk. So, the

investors should invest according to their risk-taking capacity. mean return of Sensex is positively correlated with cognizant, Accenture, Wipro, TCS and Microsoft. Sensex is highly correlated with Accenture than other IT companies. Google, IBM, INTEL and INFOSYS are negatively correlated with Sensex. There is a highest negative correlation of Sensex with IBM. And there is a highest positive correlation of Accenture is with Sensex. The p-value for all the sample IT companies is more than 0.05. It shows that the relationship between Sensex and all the sample IT companies is not significant at the 5% level.

4.1 Limitations of the study

- i. The result can be different for the different time periods and different sample IT companies.
- ii. Only one index and 9 IT companies are taken for the study due to the constraint of time and resources
- iii. As the risk-taking capacity of the investors is different, it may not be useful for all types of investors.

4.2 Scope for future research

- i. Future research can be done by taking a greater number of IT companies and long time period which will be more useful for investors.
- ii. Advance methods like GARCH, ARCH, and machine learning can be used for the research to forecast and understand the market.

- iii. Future research can be done by taking more industries and more indices into consideration.

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<https://doi.org/10.1080/1331677X.2021.1936112>

The Future of Legal Research in India: Leveraging Artificial Intelligence and Machine Learning to Enhance Legal Analysis and Decision-Making

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI) and Machine Learning (ML) technologies presents a unique opportunity to address the significant challenges facing India's legal system, including large case backlogs, judicial delays, and a shortage of legal professionals. This paper examines how AI and ML can enhance legal research, decision-making, and judicial efficiency in India. AI and ML can automate routine legal tasks such as document analysis, case law retrieval, and legal research, enabling legal professionals to process vast amounts of data more efficiently. These technologies assist judges in evaluating evidence, analyzing precedents, and predicting case outcomes, reducing administrative burdens and allowing for more complex legal analysis. Predictive analytics, a key application of AI, can forecast case outcomes, aiding judges in making informed and unbiased decisions. AI also promotes transparency by identifying trends and biases in judicial decisions. However, ethical concerns, particularly around algorithmic bias, must be addressed to ensure fairness, accountability, and transparency in AI-driven decisions. Establishing clear ethical guidelines and regulatory frameworks is crucial to the responsible

use of AI in the legal domain. Additionally, improving digital infrastructure across India, particularly in rural areas, is necessary to ensure equitable access to AI tools in the judiciary. In conclusion, AI and ML hold immense potential to revolutionize India's legal system by improving efficiency, reducing case backlogs, and supporting fairer, more transparent decision-making. With responsible adoption, these technologies can play a transformative role in shaping the future of legal practice in India.

Keywords: Artificial Intelligence (AI); Machine Learning (ML); Judicial Efficiency; Predictive Analytics

INTRODUCTION

The integration of Artificial Intelligence (AI) into various sectors has revolutionized traditional operations, and the legal profession is no exception. Historically, technological advancements like computers transformed manual paperwork into efficient digital processes, becoming indispensable across professions. Today, AI is poised to further reshape the legal landscape, offering tools that enhance efficiency, accuracy, and accessibility in legal services. In the legal sector, AI assists in automating routine tasks such as document review, legal research, and case management. This automation allows legal professionals to focus on more strategic activities, including client counselling, court preparations, and negotiation. The COVID-19 pandemic accelerated the adoption of AI, as the need for remote operations and efficient case handling became paramount. The judiciary, traditionally rooted in conventional methodologies, embraced AI to maintain continuity and efficiency during these challenging times.

The Hon'ble Supreme Court of India has been proactive in integrating AI into its processes. Notably, AI language technology has been adopted for translating judicial documents, facilitating legal research, and automating various procedures. Since February 2023, AI has been deployed to transcribe oral arguments, particularly in Constitution Bench matters, enhancing the accuracy and accessibility of court records. To oversee and expedite the translation of important judgments into vernacular languages, a committee headed by a Supreme Court judge has been constituted. This initiative ensures that legal information is accessible to a broader audience, promoting inclusivity in the justice delivery system. Despite these advancements, the integration of AI into the legal profession raises concerns about employment impacts, ethical considerations, and the potential for bias in AI systems. While AI can handle tasks like data analysis and pattern recognition, nuanced activities such as courtroom advocacy, ethical decision-making, and client counselling remain beyond its current capabilities. These aspects of legal

practice require human judgment, empathy, and ethical considerations that AI cannot replicate.

In terms of regulation, India currently does not have specific codified laws directly governing AI. However, various frameworks are being formulated to guide AI regulation. For instance, the National Strategy for Artificial Intelligence, released by NITI Aayog in 2018, emphasizes the need for responsible AI, highlighting ethical conduct and privacy considerations. Additionally, the draft Digital India Act 2023 is expected to regulate high-risk AI systems and delineate specific "no-go" areas for companies employing AI and machine learning in consumer-facing applications. The judiciary has also taken steps to explore AI applications.² An Artificial Intelligence Committee, constituted by the Supreme Court, has identified areas where AI can be beneficial, including the translation of judicial documents, legal research assistance, and process automation. The COVID-19 pandemic underscored the necessity for technological adaptation within the legal system. The adoption of AI facilitated remote court proceedings, virtual hearings, and efficient case management, ensuring that the justice delivery system remained

functional during times of restricted physical interactions.³

The legal profession must navigate the integration of AI thoughtfully, balancing technological innovation with ethical considerations. Continuous evaluation of AI's impact on legal employment, rigorous assessment of tasks suitable for AI, and the development of comprehensive legal frameworks are essential steps. By doing so, the legal sector can harness AI's potential to enhance efficiency and accessibility while upholding the core values of justice and equity. In conclusion, AI's emergence presents both opportunities and challenges for the legal profession. Embracing AI can lead to more efficient legal processes and broader access to justice. However, it is imperative to implement AI responsibly, ensuring that it complements rather than replaces the human elements essential to the practice of law. As the legal sector evolves in the post-COVID-19 era, a balanced approach to AI integration will be crucial in shaping the future of legal practice.

THE CURRENT STATE OF ARTIFICIAL INTELLIGENCE IN LAW

The legal market is one of the largest in the world and is valued at approximately \$1 trillion worldwide. At the same time, 6it remains non-digitalised. For better or for

² Umamaheswari, S., & Valarmathi, A., Role of Artificial Intelligence in the Banking Sector, 10(4S) Journal of Survey in Fisheries Sciences 2841, 2849 (2023).

³ Rospigliosi, P. A., Artificial Intelligence in Teaching and Learning: What Questions Should We Ask of ChatGPT?, 31(1) Interactive Learning Environments 1, 3 (2023).

worse, the legal profession is cultured, notoriously slow to adopt new technologies, and lawyers still rely on solutions developed over the years. This could change in the next few years.⁴ AI has the potential to change how Legal Professionals work and how a Layman sees the law in India. This process is ongoing. One of the most significant impacts that AI can have in the field of law is legal research. The Indian legal system is dynamic in nature, and lawyers can use smart skills to gain unique insight into the law in seconds. AI can match the cost of legal research while maintaining the same level of quality. It can provide useful tools to help lawyers better advise their clients.

Artificial intelligence (AI) is rapidly transforming the legal landscape. AI is being used to automate tasks, improve efficiency, and make better decisions. However, the use of AI in the legal system also raises a number of legal and ethical concerns. Nowadays with the involvement of modern technologies, most of industries become more efficient and effective. But in the Legal field, there is not that much

involvement with modern technologies. They still need to start using age-old technologies and file-handling systems to do progress. So, there is a huge demand in law that Law must acquaint with modern technologies. In this case, they can easily apply AI technologies to make the efficiency of their progress⁵.

Moreover, The Supreme Court of India has repeatedly relied on it as an integral part of democracy, and has also found that this freedom includes the right to know⁶. Freedom of expression is profoundly impacted by AI, given the increasing reliance on these systems for moderation of content online, and increasing use of AI applications in everyday life, from smart assistants to auto correct technology on mobile devices.⁷

Under the supervision of the AI Committee, an Artificial Intelligence Tool, SUVAS (Supreme Court VidhikAnuvaad Software) for translating Judicial domain English documents in vernacular languages and vice versa has been developed. AI based Legal Research Assistance Tool, SUPACE (Supreme

⁴ Benvenuti, M., Cangelosi, A., Weinberger, A., Mazzoni, E., Benassi, M., Barbaresi, M., & Orsoni, M., Artificial Intelligence and Human Behavioral Development: A Perspective on New Skills and Competences Acquisition for the Educational Context, 148 Computers in Human Behavior 107903 (2023).

⁵ Abdulwahid, A. H., Pattnaik, M., Palav, M. R., Babu, S. T., Manoharan, G., & Selvi, G. P., Library Management System Using Artificial Intelligence, Proceedings of the 2023 Eighth

International Conference on Science, Technology, Engineering, and Mathematics (ICONSTEM) 1, 7 (Apr. 2023).

⁶ Shreya Singhal v. Union of India. AIR 2015 SC 1523

⁷ Vidushi Marda, 2018 Artificial intelligence policy in India: a framework for engaging the limits of data-driven decision-making Phil. Trans. R. Soc. A. 3762018008720180087 <http://doi.org/10.1098/rsta.2018.0087>

Court Portal for Assistance in Court Efficiency) has been developed by Artificial Intelligence Committee for such purpose.

A Detailed Project Report (DPR) has been approved by the e-Committee of Supreme Court of India for e-Courts Project Phase III that includes components incorporating AI and Blockchain technology that would be developed and procured from the best available technology in the market following the due process of procurement as stipulated by the government.

As informed by the Supreme Court of India, Hon'ble Chief Justice of India Dhananjaya Yeshwant Chandrachud, has constituted the AI Assisted Legal Translation Advisory Committee, headed by Hon'ble Mr. Justice Abhay S. Oka, Judge, Supreme Court of India, for translation of e-SCR Judgments into vernacular languages by using AI Tool. A similar Committee has been constituted in all the High Courts, headed by the Judges of the respective High Courts. As of now, the Supreme Court is collaborating with the High Courts in translation of e-SCR Judgments into 16 vernacular languages.

MACHINE LEARNING – AN INFORMAL INTRODUCTION & ITS LEGAL APPLICATIONS

Machine learning (ML) is a field of computer science that enables programs to learn from data rather than relying on

explicitly defined rules. Unlike traditional programming, ML models derive parameters from data and can adapt to new information, making them effective for complex tasks like image recognition. ML is valuable because it identifies patterns and relationships in data, allowing solutions that would be difficult to achieve with classical programming methods.

In the legal domain, ML is used in various applications, particularly in risk assessment and predictive justice. One of the most notable examples is *COMPAS*, a system used in the U.S. to assess the likelihood of recidivism, which has been widely debated due to concerns about bias and transparency. Other systems, such as *OASys in the UK* and *ProKid 12-SI in the Netherlands*⁸, also use ML for risk profiling, though they receive less public scrutiny.

Predictive justice, which uses ML to assist or automate judicial decisions, is a growing area of discussion. While ML could increase efficiency and resource savings in legal decision-making, concerns about fairness and dehumanization remain. Countries have taken different stances, with China embracing ML for judicial decisions, while France banned private companies from developing such models. A key limitation of ML in law is its retrospective nature—it learns from past data and requires continuous updates,

⁸ Tan, P., Chen, X., Zhang, H., Wei, Q., & Luo, K., Artificial Intelligence Aids in Development

of Nanomedicines for Cancer Management, 89 Seminars in Cancer Biology 61, 75 (2023).

preventing full automation of judicial processes.⁹

HOW AI IS TRANSFORMING LAW FIRMS AND THE LEGAL SECTOR

According to Meng Jianzhu, former Head of Legal and Political Affairs at the Chinese Communist Party, Artificial Intelligence (AI) has the potential to enhance accuracy, predictability, and efficiency in the legal sector with a level of precision and speed beyond human capability. Law relies heavily on two key principles: *predictability* and *precedent*. AI can significantly improve these processes by providing high-quality analytical data while also streamlining various legal tasks, particularly the tedious process of reviewing and managing legal documents. This allows lawyers to dedicate more time to crucial activities such as advising clients, preparing for court appearances, and negotiating deals.

Technological advancements have long influenced the legal profession, from the introduction of the internet and email to the development of electronic legal databases. However, the growing impact of machine learning (ML) is now raising concerns about whether AI might eventually replace lawyers altogether. This section explores the ways in which AI is reshaping the legal

industry and the extent of its effect on legal employment.

Initially, AI was developed to understand human intelligence by constructing artificial agents, leading to various methods for integrating intelligence into information systems. Some AI techniques focus on *knowledge-oriented intelligence*, which involves *representation, reasoning, knowledge processing, symbolic machine learning, and natural language processing (NLP)*. These techniques are linked to conscious human intelligence. In contrast, *data-oriented intelligence*, including *adaptive control, neural networks, statistical NLP, and machine learning*, mirrors subconscious cognitive functions.¹⁰

KEY LEGAL CONCEPTS AND AI'S ROLE

(A) PRECEDENT

In legal systems, precedent refers to judicial decisions that serve as a reference for resolving future cases with similar facts or legal issues. A core principle of the Dutch legal system, for example, is *legal certainty*¹¹, ensuring that government actions remain predictable. However, judges are not always bound by the literal wording of laws. In some instances,

⁹ Ventura, J. (2020). The Rise of Legal Tech Startups: AI and Innovation in Law. *Journal of Business Law & Innovation*, 5(1), 89-102.

¹⁰ Barsha, S., & Munshi, S. A., Implementing Artificial Intelligence in Library Services: A Review of Current Prospects and Challenges of

Developing Countries, 41(1) *Library Hi Tech News* 7, 10 (2023).

¹¹ Wong, F., de la Fuente-Nunez, C., & Collins, J. J., Leveraging Artificial Intelligence in the Fight Against Infectious Diseases, 381(6654) *Science* 164, 170 (2023).

lawmakers intentionally leave room for interpretation or permit judges to override statutory provisions to ensure fair and reasonable outcomes. AI tools can assist in analyzing legal precedents, helping judges and lawyers make more informed decisions.

(B) PREDICTION

AI has been employed to predict judicial outcomes with remarkable accuracy. For example, researchers in the *United Kingdom* used *natural language processing (NLP)* and AI to analyze cases heard by the *European Court of Human Rights (ECHR)*. Their model achieved *79% accuracy* in predicting whether a case would result in a human rights violation.¹²

While these predictive techniques are proving effective, the goal is not to replace judges but to provide valuable insights that enhance decision-making.¹³

LIMITATIONS OF AI IN THE LEGAL SYSTEM

Despite AI's growing role in justice delivery, it remains classified as “*narrow*” or “*weak*” AI because it lacks self-awareness and independent reasoning. AI tools can assist in various legal functions, but they do not possess the ability to fully replace human judgment, ethics, and discretion. Nonetheless, AI continues to revolutionize the legal landscape, improving efficiency while reshaping the role of legal professionals.

Legal Application	Description	Application System
Document Drafting	Drafting contracts, form filling using chatbots.	LegalZoom; LISA
Contract Review & Management	Identify issues/ risks; Provide standard clauses when drafting	COIN; Kira Systems; LawGeeks; Leverton; KM Standards
Document Managment	Storing & easy retrieval, auto template creation & scanning docs using OCR	Docubot by 1 Law
E-Discovery/ Document Review	Search for necessary (other) facts from internet for	EVA

¹² Cheng, K., Li, Z., He, Y., Guo, Q., Lu, Y., Gu, S., & Wu, H., Potential Use of Artificial Intelligence in Infectious Disease: Take ChatGPT as an Example, 51(6) *Annals of Biomedical Engineering* 1130, 1135 (2023).

¹³ Yanamala, A. K. Y., Data-Driven and Artificial Intelligence (AI) Approach for Modelling and Analyzing Healthcare Security Practice: A Systematic Review, 14(1) *Revista de Inteligencia Artificial en Medicina* 54, 83 (2023).

	analysis & decision. Use Keywords: Predictive Coding	
Due Diligence	Review background information and prior cases. Highlight and classify essential clauses.	Kira Systems
Legal Research	Find arguments and reasoning reported in the past for assessing similar arguments	Ross Intelligence; Fast Case; Thomson Reuters; Westlaw
Smart Contract	Provides an easy way to reference and trigger an Ethereum based smart contract to manage contractual promises.	Open Law

Table 1: Application of Artificial Intelligence in Legal Sector

LEGAL ISSUES IN THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE

The rapid advancement of artificial intelligence (AI) presents significant challenges within the legal framework, particularly in areas such as liability, bias, employment law, and contractual obligations. The legal system, traditionally designed to govern human conduct, must

now evolve to address the complexities introduced by AI, which operates autonomously in many circumstances. The current legal landscape lacks comprehensive regulatory mechanisms that can adequately address the nuanced issues posed by AI. The following analysis examines the critical legal concerns associated with AI implementation and their implications for legal jurisprudence.¹⁴

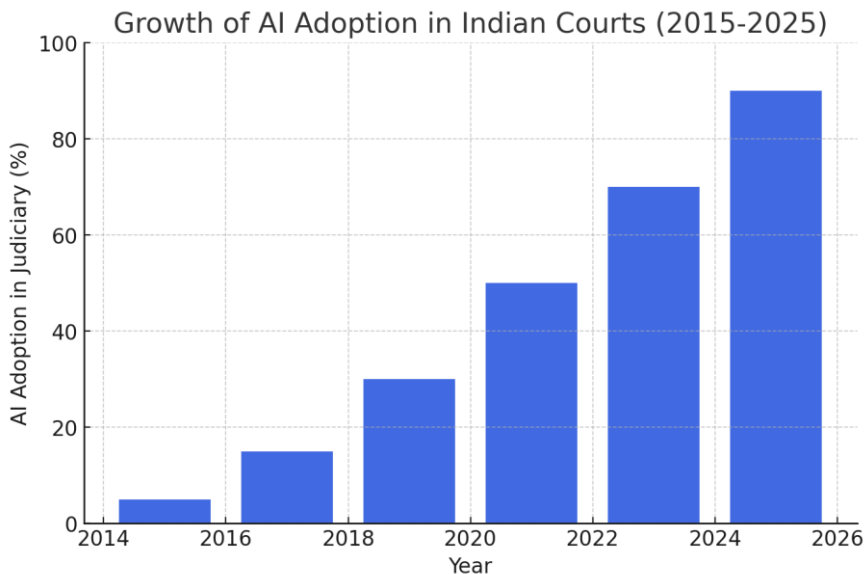
Year	AI Adoption in Courts (%)	AI Legal Startups	Government AI Initiatives	Pending Cases (Millions)
2015.0	10.0	2.0	1.0	3.2
2017.0	20.0	5.0	3.0	3.5
2019.0	35.0	12.0	6.0	3.8
2021.0	50.0	25.0	10.0	3.6
2023.0	70.0	40.0	18.0	3.1
2025.0	85.0	60.0	30.0	2.5

¹⁴ Autor, D. H. (2015). Why are there still so many jobs? The history and future of

workplace automation. *Journal of Economic Perspectives*, 29(3), 3-30.

This table presents key data points on AI adoption in India's legal system, highlighting trends in AI implementation in courts, legal start-ups, government initiatives, and the impact on case

pendency over the years (2015–2025). The data reflects AI's growing role in improving judicial efficiency and legal research.



This bar chart represents the growth of AI adoption in Indian Courts from 2015 to 2025, showing a significant increase in AI-powered legal tools and digitalization.

PACE OF LEGAL ADAPTATION

The legal system has historically struggled to keep pace with technological advancements, and AI is no exception. Since the Industrial Revolution, technological innovation has progressed at an unprecedented rate, outstripping the ability of the law to regulate emerging issues effectively. In many instances, legal professionals are confronted with novel

cases involving AI without any guiding precedents, requiring courts to engage in complex judicial reasoning to determine appropriate legal outcomes. This disparity between the rate of AI development and legal adaptation raises concerns about the effectiveness of the existing legal framework in addressing AI-related disputes.

LIABILITY CONCERNS IN AI IMPLEMENTATION

AI systems, particularly those with autonomous decision-making capabilities, introduce complex liability issues. The

traditional legal framework for liability is premised on the assumption that legal responsibility is attributable to identifiable human actors. However, in cases where AI systems cause harm, determining liability becomes significantly more challenging.

(A) CIVIL LIABILITY

As AI increasingly interacts with the physical world, incidents involving AI-related harm will become more prevalent. In traditional tort law, liability is generally assigned based on the foreseeability of harm. However, AI systems can behave unpredictably, challenging the traditional legal notion that liability should be assigned to a party that could have reasonably foreseen the resulting harm¹⁵. Courts may struggle with whether to impose liability on developers, manufacturers, or users, leading to inconsistent legal interpretations and uncertainty in AI litigation.

(B) PRODUCT LIABILITY

The role of product liability law in AI-related cases is evolving. Under existing legal frameworks, manufacturers are generally held liable for defects in products that cause harm. However, AI systems are not static; they learn and evolve over time, raising questions about whether liability

should be assigned to the original developer, the user, or even the AI system itself¹⁶. The dynamic nature of AI necessitates a reconsideration of product liability principles to ensure that affected parties have adequate legal remedies.

(C) CRIMINAL LIABILITY

Criminal law traditionally requires the presence of *mens rea*, or a guilty mind, to establish culpability. AI systems lack subjective intent, creating difficulties in attributing criminal responsibility for AI-induced harm. Legal scholars have debated whether AI should be considered a legal entity capable of bearing criminal liability or whether responsibility should instead be assigned to human actors involved in AI development and deployment¹⁷. This unresolved issue underscores the need for legislative intervention to define the legal status of AI in criminal jurisprudence.

BIAS AND DISCRIMINATION IN AI DECISION-MAKING

AI systems frequently rely on large datasets to make decisions. However, these datasets may contain biases that can lead to discriminatory outcomes. Studies have demonstrated that AI algorithms can reflect and perpetuate societal biases, particularly in areas such as hiring, law

¹⁵ Calo, R. (2015). Robotics and the lessons of cyberlaw. *California Law Review*, 103(3), 513-563.

¹⁶ Villasenor, J. (2019). Product liability law and autonomous vehicles: Principles for adapting legal doctrine. Brookings Institution Report.

¹⁷ Belfiore, J., & Gebru, T. (2018). Gender shades: Intersectional accuracy disparities in commercial gender classification. Conference on Fairness, Accountability, and Transparency, 77-91.

enforcement, and lending decisions. The legal system must develop regulatory frameworks to ensure that AI-driven decision-making adheres to principles of fairness and non-discrimination.

Moreover, AI's reliance on image recognition and data processing can exacerbate biases in unexpected ways. For example, AI systems used in autonomous vehicles have been shown to perform less accurately in detecting individuals with darker skin tones, raising concerns about the disparate impact of AI on marginalized communities. Addressing such biases is crucial to maintaining public trust in AI technologies and ensuring compliance with anti-discrimination laws.¹⁸

EMPLOYMENT LAW AND AI-DRIVEN WORKFORCE AUTOMATION

The proliferation of AI in the workplace has significant implications for employment law. Automation driven by AI has led to the displacement of workers across various industries, raising questions about the adequacy of existing labour protections. While AI offers efficiency gains, it also creates legal uncertainties regarding employee rights and the obligations of employers.

(A) EMPLOYMENT RIGHTS AND AI

One of the fundamental concerns is whether AI itself can be considered a legal entity with employment rights. While AI cannot claim benefits such as severance pay or workplace protections, its deployment affects human workers who may face job displacement. Legal frameworks must evolve to balance the economic benefits of AI-driven automation with the protection of human labor rights.

(B) EMPLOYER LIABILITY FOR AI DECISIONS

AI-driven human resource management systems increasingly influence hiring and termination decisions. However, AI-based employment decisions may be subject to legal challenges if they result in discriminatory outcomes or violate existing labour laws. Employers must ensure that AI systems used in the workplace comply with equal employment opportunity laws and are subject to human oversight¹⁹.

AI IN CONTRACT LAW AND SMART CONTRACTS

The implementation of AI in contract formation and enforcement presents novel legal challenges. Smart contracts, which are self-executing contracts with terms embedded in code, have gained popularity due to their efficiency and automation

¹⁸ Werbach, K., & Cornell, N. (2017). Contracts ex machina. *Duke Law Journal*, 67(2), 313-382.

¹⁹ Bodie, M. T., Cherry, M. A., McCormick, M. L., & Tang, J. (2021). The law and policy of people analytics. *Florida Law Review*, 73(5), 1231-1279.

capabilities. However, their legal recognition remains a contentious issue.

(A) LEGAL RECOGNITION OF AI IN CONTRACTS

Under traditional contract law, only legal persons—either natural or juridical—can enter into binding agreements. AI lacks legal personality, raising questions about the enforceability of AI-generated contracts²⁰. Jurisdictions worldwide must clarify whether AI can be recognized as a contracting party or whether AI-executed contracts must be validated by human oversight.

(B) DISPUTE RESOLUTION IN AI CONTRACTS

Smart contracts, once executed, are difficult to modify, raising concerns about legal recourse in cases of errors or unforeseen circumstances. Traditional contract law allows for judicial intervention in cases of mistake, duress, or unconscionably, but smart contracts operate autonomously without such mechanisms. The legal system must address whether courts have the authority to intervene in AI-driven contract disputes and establish protocols for resolving such issues²¹.

²⁰ Belfiore, R. (2020). Artificial intelligence and criminal liability: Legal challenges and perspectives. *Journal of Law and Technology*, 12(1), 45-67.

²¹ Bolukbasi, T., Chang, K. W., Zou, J. Y., Saligrama, V., & Kalai, A. T. (2016). Man is to computer programmer as woman is to

AI's rapid integration into the legal landscape necessitates a re-evaluation of existing legal principles to ensure they remain effective in addressing AI-related challenges. The determination of liability, regulation of bias, protection of employment rights, and adaptation of contract law to AI-driven transactions require urgent legislative attention.²² As AI continues to evolve, legal scholars, policymakers, and practitioners must work collaboratively to develop a robust regulatory framework that ensures accountability, fairness, and justice in AI applications. Addressing these legal challenges proactively will not only safeguard individual rights but also foster public confidence in AI technologies as they become increasingly embedded in society.

Deployment Of Artificial Intelligence In The Indian Legal Sector: An Analytical Perspective

The integration of Artificial Intelligence (AI) into the Indian legal sector presents numerous advantages, enhancing efficiency, reducing costs, and improving access to justice. Given the increasing reliance on technology in various domains,

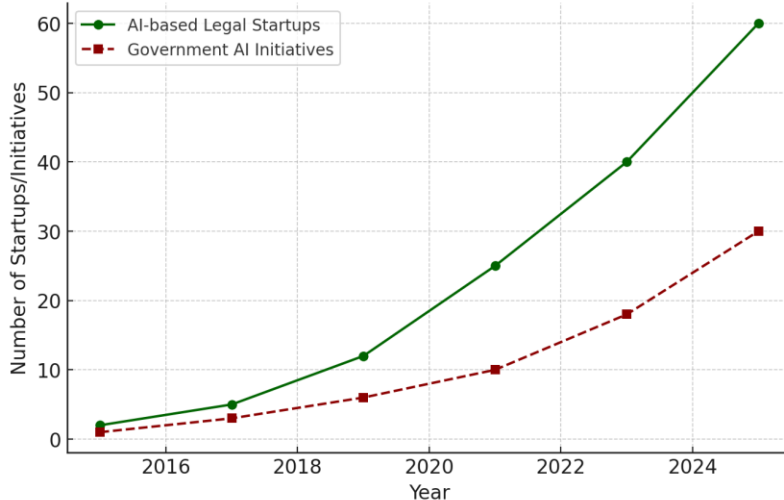
homemaker? Debiasing word embeddings. *Advances in Neural Information Processing Systems*, 29, 4349-4357.

²² Goodman, B., & Flaxman, S. (2017). European Union regulations on algorithmic decision-making. *AI Magazine*, 38(3), 50-57.

the legal profession in India stands to benefit significantly from AI-driven innovations. The following analysis discusses the key benefits of AI

deployment in the Indian legal framework, supported by relevant jurisprudential and regulatory considerations.

Increase in AI-powered Legal Startups & Government AI Initiatives (2015-2025)



This line graph illustrates the rise in AI-powered legal startups and government AI initiatives in India from 2015 to 2025, highlighting the increasing role of AI in the legal system.

(A) ENHANCED EFFICIENCY

The Indian judicial system is burdened with an extensive backlog of cases, often resulting in delays in delivering justice²³. AI can automate time-consuming tasks such as document review, legal research, and due diligence, allowing legal professionals to focus on substantive and

analytical work. AI-powered case management systems can assist judges, lawyers, and court administrators in streamlining workflows, improving decision-making, and expediting judicial processes²⁴.

(B) COST REDUCTION

AI facilitates automation of labour-intensive tasks, reducing dependency on human resources and lowering operational costs. Legal practitioners and firms in India, particularly those catering to middle-income and lower-income clients,

²³ Law Commission of India. (2017). Report on Delay and Arrears in Trial Courts. Government of India.

²⁴ Susskind, R. (2020). Online Courts and the Future of Justice. Oxford University Press.

can benefit from AI's cost-efficiency by optimizing workflows and reducing billing hours without compromising service quality²⁵. This is particularly crucial in a country where access to affordable legal representation remains a challenge.

(C) IMPROVED LEGAL RESEARCH

AI-driven legal research tools, such as natural language processing and machine learning algorithms, can analyze vast legal databases in seconds, identifying relevant case laws, statutes, and precedents with unparalleled accuracy. Indian lawyers can leverage these tools to strengthen legal arguments and ensure better case preparation. AI-powered research platforms have already demonstrated their utility in jurisdictions such as the United States and the European Union, and similar advancements are being explored in India.

(D) DOCUMENT REVIEW AND ANALYSIS

Contracts and legal documents often contain intricate provisions requiring meticulous scrutiny. AI-driven contract analysis tools can identify key clauses, detect anomalies, and assess risks in legal agreements with greater precision and efficiency than traditional manual

reviews²⁶. In India, AI-assisted document review can prove particularly beneficial in corporate law, arbitration, and litigation, where voluminous paperwork is a norm.

(E) PREDICTIVE ANALYSIS

AI algorithms can assess historical case data to predict case outcomes and identify judicial trends. This capability aids legal professionals in formulating strategic litigation approaches and advising clients on potential case trajectories²⁷. While predictive justice models are still in their nascent stage in India, jurisdictions such as the United States and the United Kingdom have already adopted AI-based analytical tools for case outcome forecasting.

(F) ACCESSIBILITY TO LEGAL SERVICES

AI can bridge the justice gap by providing virtual legal assistance to individuals in remote and under-served areas of India. AI-powered chat-bots and legal advisory platforms can offer preliminary legal guidance, ensuring access to justice for marginalized communities²⁸. Such AI-driven services can complement legal aid mechanisms under the Legal Services Authorities Act, 1987, thus promoting inclusivity in the justice system.

²⁵ Katsh, E., & Rabinovich-Einy, O. (2017). *Digital Justice: Technology and the Internet of Disputes*. Oxford University Press.

²⁶ McGinnis, J. O., & Pearce, R. G. (2014). *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*. *Fordham Law Review*, 82(6), 3041-3066.

²⁷ Ashley, K. D. (2017). *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*. Cambridge University Press.

²⁸ Kulk, S. E. (2018). *Machine Learning and the Law: Translating Black Box Decisions*. *Harvard Journal of Law & Technology*, 21(3), 423-450.

(G) COMPLIANCE AND DUE DILIGENCE

Regulatory compliance is a critical aspect of corporate governance, financial transactions, and business law. AI can automate regulatory compliance monitoring by analyzing statutory and case law developments, thereby ensuring adherence to evolving legal standards²⁹. In India, AI-driven compliance solutions can streamline due diligence procedures for mergers and acquisitions, reducing the risk of regulatory infractions.

(H) DATA SECURITY AND PRIVACY

Given the increasing concerns regarding data breaches and cyber threats, AI can enhance data protection and encryption measures within the legal sector. AI-driven cyber-security protocols can safeguard confidential legal information, aligning with the Personal Data Protection Bill, 2019, and other relevant regulations³⁰. Law firms and judicial institutions can thus benefit from AI-enhanced digital security frameworks.

(I) IMPROVED JUDICIAL DECISION-MAKING

AI can support judicial officers by providing data-driven insights and

identifying legal precedents relevant to complex cases. While judicial discretion remains paramount, AI tools can assist judges in achieving consistency and objectivity in legal reasoning³¹. AI-powered analytics can also help in detecting biases and disparities in judicial rulings, contributing to fairer adjudication.

(J). ENHANCED CLIENT SERVICES

AI-powered legal assistants can facilitate seamless communication between law firms and clients, offering instant responses to routine legal queries and automating client management processes. This technology-driven approach enhances client satisfaction, improves engagement, and optimizes case handling³². AI-enabled legal service platforms can further democratize access to legal information and consultation.

(K). FOSTERING LEGAL TECH STARTUPS

The integration of AI into the legal sector fosters innovation, encouraging the emergence of legal tech startups in India. Startups leveraging AI for legal research, contract automation, and compliance monitoring are gaining traction, contributing to job creation and economic

²⁹ Calo, R. (2018). Artificial Intelligence Policy: A Primer and Roadmap. *University of California Law Review*, 51(1), 399-419.

³⁰ Singh, P. (2020). Data Privacy and Cybersecurity Laws in India: An Overview. *Indian Journal of Law and Technology*, 16(2), 112-138.

³¹ Boden, M. A. (2017). *Artificial Intelligence: A Very Short Introduction*. Oxford University Press.

³² Hildebrandt, M. (2016). *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology*. Edward Elgar Publishing.

growth³³. The Indian government's Digital India initiative further provides a conducive environment for legal tech innovations.

(L). TRAINING AND SKILL DEVELOPMENT

The advent of AI in the legal profession necessitates upskilling among legal practitioners. Continuous learning in AI ethics, legal analytics, and technology-driven dispute resolution mechanisms is imperative for law students, lawyers, and judges³⁴. Indian law schools and judicial academies must integrate AI and legal technology courses into their curriculum to equip future legal professionals with relevant technological competencies.

The deployment of AI in the Indian legal sector offers transformative benefits, addressing inefficiencies and enhancing access to justice. However, ethical considerations, regulatory frameworks, and judicial oversight are crucial to ensuring responsible AI implementation. While AI serves as a powerful tool in augmenting legal services, human judgment, ethical reasoning, and judicial discretion remain indispensable. The Indian legal system must embrace AI cautiously, balancing technological advancements with fundamental legal

principles to ensure a just, equitable, and efficient legal framework.

Artificial Intelligence and the Irreplaceable Role of Lawyers in the Indian Legal System

The advent of Artificial Intelligence (AI) in various industries, including the legal sector, has sparked discussions on whether AI can replace human lawyers. While AI has proven to be a valuable tool in automating legal research, document review, and predictive analytics, it lacks the essential human attributes of judgment, creativity, and ethical reasoning. The Indian legal system, rooted in principles of justice, equity, and good conscience, necessitates human intervention, interpretation, and discretion, which AI cannot replicate.

JUDICIAL INTERPRETATION AND HUMAN JUDGMENT

Legal reasoning and judicial interpretation are fundamental aspects of the legal profession that AI cannot perform autonomously. The Indian Supreme Court has consistently emphasized the importance of judicial discretion in decision-making. For instance, in *Kesavananda Bharati v. State of Kerala*³⁵, the Supreme Court held that the Constitution's basic structure cannot be

³³ Hildebrandt, M. (2016). *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology*. Edward Elgar Publishing.

³⁴ Balkin, J. M. (2019). The Three Laws of Robotics in the Age of Big Data. *Harvard Law Review*, 36(1), 1-27.

³⁵ *Kesavananda Bharati v. State of Kerala*, 4 SCC 225 (India 1973).

altered by legislative amendments. This principle underscores the necessity of human judgment in interpreting and applying the law, which AI, bound by pre-programmed algorithms, cannot replicate.

Similarly, the landmark case of *Maneka Gandhi v. Union of India*,³⁶ expanded the interpretation of Article 21 of the Indian Constitution, affirming that the right to life and personal liberty must be read expansively. AI lacks the capability to engage in such nuanced interpretations, as it functions within predefined logical frameworks and cannot adapt to evolving socio-legal perspectives.

LEGAL ETHICS AND MORAL REASONING

The practice of law is not merely a technical exercise but one rooted in ethical considerations and moral reasoning. The Bar Council of India Rules prescribe professional ethics that lawyers must adhere to, including duties towards clients, courts, and society. AI, devoid of ethical consciousness, cannot make moral judgments or ensure compliance with professional obligations. For example, client confidentiality and attorney-client privilege are fundamental aspects of legal practice that require a human lawyer's discretion and ethical responsibility, which AI cannot guarantee.

THE EVOLVING NATURE OF LAW

The law is dynamic and continuously evolves in response to social, economic, and political changes. AI systems rely on historical data and precedent-based learning, which limits their ability to adapt to novel legal issues. The Indian judiciary frequently engages in progressive jurisprudence, as evidenced in *Navtej Singh Johar v. Union of India*³⁷, where the Supreme Court decriminalized homosexuality by reading down Section 377 of the Indian Penal Code. This decision was based on evolving constitutional morality, a concept that AI cannot comprehend or apply.

LIMITATIONS OF AI IN LEGAL REPRESENTATION AND ADVOCACY

AI can assist in legal research and document drafting, but it cannot provide courtroom advocacy, cross-examine witnesses, or present persuasive arguments. The adversarial nature of the Indian legal system requires skilled advocates who can strategize, negotiate, and argue cases dynamically, something AI cannot perform. In *State of Maharashtra v. Praful B. Desai*³⁸, the Supreme Court recognized the use of technology in judicial proceedings but did not suggest that technology could replace human lawyers. The role of a lawyer

³⁶ *Maneka Gandhi v. Union of India*, 1 SCC 248 (India 1978).

³⁷ *Navtej Singh Johar v. Union of India*, 10 SCC 1 (India 2018).

³⁸ *State of Maharashtra v. Praful B. Desai*, 4 SCC 601 (India 2003).

extends beyond legal knowledge to advocacy, negotiation, and emotional intelligence, which AI lacks.

AI AS AN ASSISTIVE TOOL, NOT A REPLACEMENT

AI should be viewed as an assistive tool rather than a replacement for human lawyers. AI can enhance efficiency by automating repetitive tasks, improving legal research, and providing data-driven insights. However, it cannot substitute for human expertise, reasoning, and ethical considerations. The Supreme Court of India has emphasized that technology should aid rather than replace legal professionals³⁹.

FUTURE TRENDS OF ARTIFICIAL INTELLIGENCE IN INDIAN JUDICIAL SYSTEM

The incorporation of Artificial Intelligence (AI) in the Indian judicial system has already begun to transform legal processes, and future developments are poised to revolutionize judicial efficiency further. AI is expected to streamline case management, expedite judgments, and enhance legal research.

1. AI-POWERED PREDICTIVE ANALYTICS

Future AI systems will likely be capable of assessing vast legal databases to predict case outcomes. Courts can utilize such

tools to determine trends in judicial decision-making, thus improving efficiency in case disposal.⁴⁰

2. VIRTUAL COURTROOMS AND AUTOMATION

AI will facilitate the expansion of virtual courts, where proceedings will be conducted seamlessly through digital platforms. Automation in documentation, evidence recording, and transcription will further enhance judicial workflow.

3. AI- ENHANCED LEGAL RESEARCH

AI-powered tools will refine legal research methodologies, making case law, statutes, and precedents more accessible. This will reduce research time for legal professionals and aid judges in rendering well-informed decisions.

4. AI IN DISPUTE RESOLUTION AND ADR MECHANISMS

AI-driven mediation and arbitration platforms will play a significant role in alternative dispute resolution (ADR). By analyzing legal arguments and past judgments, AI can offer possible settlement solutions, reducing the burden on courts.

5. ETHICAL AI & JUDICIAL OVERSIGHT

As AI becomes more involved in judicial processes, ethical concerns will require

³⁹ Anvar P.V. v. P.K. Basheer, 10 SCC 473 (India 2014).

⁴⁰ Malik, S. (2021). Artificial Intelligence in Indian Judiciary: Challenges and

Opportunities. Indian Law Journal, 28(3), 345-361.

robust regulatory frameworks. Future developments will likely focus on transparency, accountability, and unbiased AI models.

PROVIDING ACCESS AND AWARENESS TO LAW PROFESSIONALS IN INDIA REGARDING MACHINE LEARNING

Machine learning (ML) is transforming the legal profession by improving legal research, case prediction, contract analysis, and judicial decision-making. To ensure law professionals in India gain access and awareness of ML⁴¹, the following steps can be taken:

EDUCATION AND TRAINING PROGRAMS

(1) WORKSHOPS & WEBINARS: Conduct regular online and offline sessions on ML applications in law.

(2) SPECIALIZED COURSES: Encourage Law Schools and Bar Associations to introduce ML-focused legal courses.

(3) CERTIFICATIONS: Offer programs from platforms like Coursera, Udacity, or NALSAR's tech-law courses.

ONLINE RESOURCES & RESEARCH PLATFORMS

(1) LEGAL AI TOOLS: Introduce lawyers to ML-powered tools like CaseMine, Ross Intelligence, SCC Online, Manupatra, WestLaw, and AIROnline.

(2) LEGAL RESEARCH PAPERS: Provide access to journals discussing AI in law, tools like Manupatra, WestLaw, Jstor, Hein Online and LexisNexis.

(3) OPEN DATA SOURCES: Promote the use of ML datasets for legal analytics (e.g., Indian Supreme Court Judgments).

PRACTICAL IMPLEMENTATION & LEGAL TECH ADOPTION

(1) CASE PREDICTION MODELS: Train lawyers on ML-based judgment prediction.

(2) CONTRACT ANALYSIS AUTOMATION: Teach how ML can detect loopholes in contracts.

(3) REGULATORY COMPLIANCE TOOLS: Help firms integrate ML for risk assessment and compliance checks.

COLLABORATION WITH TECH EXPERTS

(1) LEGAL-TECH HACKATHONS: Organize events where lawyers and developers collaborate.

(2) BAR COUNCIL & AI EXPERTS PARTNERSHIP: Foster discussions on ethical AI use in legal practice.

(3) INTERNSHIPS WITH LEGAL TECH FIRMS: Provide hands-on exposure to ML applications.

APPLICATION OF MACHINE LEARNING IN INDIAN JUDICIAL SYSTEM

⁴¹ Sharma, A. (2022). Machine Learning in Legal Analytics: Transforming Indian Courts.

International Journal of Law & Technology, 15(2), 112-130.

Machine Learning (ML), a subset of AI, is playing an increasing role in judicial functions by providing advanced analytics and decision-support tools. Its ability to recognize patterns in large datasets makes it invaluable for legal proceedings.

(A) CASE LAW AND PRECEDENT ANALYSIS: ML algorithms can analyze historical judgments to identify key legal principles and suggest precedents relevant to ongoing cases.

(B) SENTENCING AND BAIL RECOMMENDATIONS: ML models can assess sentencing trends and bail decisions, providing judicial officers with comparative insights, though human discretion remains paramount.

(C) DOCUMENT CLASSIFICATION AND AUTOMATION: Courts and legal practitioners can employ ML to classify legal documents, filter relevant case laws, and automate contract analysis, saving considerable time and effort⁴².

(D) FRAUD DETECTION AND RISK ASSESSMENT: ML models can analyze litigation patterns to identify fraudulent claims and high-risk cases, assisting in judicial integrity and efficiency.

(E) NATURAL LANGUAGE PROCESSING (NLP) FOR LEGAL TEXT ANALYSIS: NLP-based ML tools can process judgments, extract essential

legal insights, and summarize voluminous case records, aiding legal professionals.

CONCLUSION

The integration of Artificial Intelligence (AI) and Machine Learning (ML) into legal research marks a paradigm shift in India's legal landscape, redefining the contours of legal analysis, judicial decision-making, and overall jurisprudential efficacy. As the nation embraces digital transformation, leveraging AI-driven technologies offers an unprecedented opportunity to enhance the efficiency, accuracy, and accessibility of legal research while upholding the sacrosanct principles of justice, fairness, and the rule of law.

The evolution of AI in legal research is not merely a technological augmentation but a fundamental reengineering of how legal professionals engage with statutes, precedents, and judicial reasoning. AI-powered tools, such as Natural Language Processing (NLP)-based legal databases, predictive analytics, and automated contract review mechanisms, are progressively dismantling the barriers of inefficiency and opacity that have long plagued traditional legal research methodologies. These advancements empower legal practitioners, judicial officers, and academicians to navigate complex legal frameworks with precision,

⁴² Verma, P. (2023). AI and Predictive Justice: The Future of Indian Legal System. *Journal of Judicial Reforms*, 10(1), 78-95.

thereby fostering a more informed and equitable legal system.

One of the most profound implications of AI-driven legal research is its ability to mitigate judicial delays—a persistent challenge in the Indian judiciary. By facilitating data-driven case law analysis and offering predictive insights into judicial outcomes, AI has the potential to expedite the adjudicatory process while ensuring that legal precedents are applied consistently. Moreover, AI's capacity to analyze vast volumes of legal texts in real time reduces the cognitive load on legal professionals, enabling them to focus on strategic decision-making rather than exhaustive manual research.

However, the deployment of AI in legal research necessitates a cautious and balanced approach. While AI enhances efficiency, it must not supplant the fundamental role of judicial discretion, human reasoning, and ethical considerations that underpin the administration of justice. AI-driven legal tools must be designed with robust accountability mechanisms to ensure that biases embedded within machine-learning algorithms do not compromise judicial neutrality or lead to discriminatory outcomes. Judicial oversight and regulatory frameworks are imperative to prevent over-reliance on AI-generated recommendations and to maintain the sanctity of judicial independence.

Furthermore, the democratization of legal research through AI must be pursued with an unwavering commitment to inclusivity. Legal technology should not become the exclusive domain of well-resourced law firms and elite institutions; instead, it should be harnessed to bridge the accessibility gap in legal services. Legal aid organizations, pro bono practitioners, and law students should be equipped with AI-powered research tools to enhance their ability to serve marginalized communities and ensure that justice remains within reach of all, irrespective of socio-economic status.

In the wake of AI's growing footprint in legal research, data privacy and cybersecurity assume paramount importance. Given the sensitivity of legal information and the confidentiality requirements governing attorney-client privilege, stringent data protection regulations must be instituted to safeguard legal datasets from unauthorized access and misuse. Legislative frameworks, such as the Digital Personal Data Protection Act, 2023, must be dynamically integrated with AI governance policies to uphold the integrity and confidentiality of legal research systems.

The future of legal research in India hinges upon a symbiotic relationship between technology and legal scholarship. While AI offers computational prowess, human intuition, critical thinking, and ethical judgment remain irreplaceable. A holistic

approach that integrates AI into legal education, judicial training, and policy formulation is essential to harness the full potential of this technological revolution. Law schools must incorporate AI and ML training into their curricula to prepare the next generation of legal professionals for a future where legal research is inseparable from technological fluency.

In summation, the convergence of AI and legal research in India presents a transformative opportunity to elevate the judiciary's efficiency, enhance legal predictability, and fortify access to justice. However, this transformation must be guided by a principled and ethically sound framework that ensures AI serves as an enabler rather than a substitute for human legal expertise. The path forward lies in fostering a regulatory ecosystem that encourages innovation while safeguarding the foundational tenets of justice and due process. As India strides into the digital era, the judicious application of AI in legal research will serve as a catalyst for a more resilient, equitable, and progressive legal system, wherein technology and law coexist in harmony to uphold the noble ideals of justice, fairness, and the rule of law.

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Patent Laws in Technological Innovations

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Abstract

Technological innovation is accelerating at an unprecedented pace, presenting significant challenges and opportunities for Patent law. This abstract explores the evolving landscape of patent protection, examining key trends and considerations that will shape the future of patent laws in the context of technological innovation. The traditional function of patent-incentivizing invention- must adapt to the complexities of emerging technologies like artificial intelligence, biotechnology, and software, while simultaneously addressing concerns about access competition, and societal impact. This abstract argues that the future of patent law hinges on striking a delicate balance between fostering innovation and promoting broader access to technological advancements. It examines the increasing importance of international harmonization efforts to streamline patent procedures and standards in a globalized world. Furthermore, it discusses the crucial need for improved patent quality and efficiency, leveraging data analytics and AI to enhance patent examination processes and reduce backlogs. The abstract also explores the growing concerns surrounding patent abuse, including the activities of patent trolls, and the necessity for effective mechanisms to mitigate these issues. Beyond these practical considerations, the abstract delves into the broader societal implications of patent law. It considers the role of patents in promoting open innovation models and the need for adopting patent systems to accommodate collaborative research and development. Finally, it emphasizes the importance of incorporating societal values into patent policy, particularly in areas such as essential medicines and environmentally impactful technologies, ensuring that patent protection serves the greater public good. By addressing these multifaceted challenges, the

future of patent law can effectively foster technological innovation while safeguarding access, competition and societal well-being. After all, the tapestry of innovation and technology has been woven together to create a complex and a rich whole. To make the technologies efficient, faster and better, innovation has played a vital role by putting life into technologies throughout the history by making them efficient, faster and better. Intrinsically, technology is about innovation. The word “Innovation” means the process that involves progress or creation of new thoughts and implementation of those ideas into a product, process or service. Thus, putting an intention into action is what called as innovation but that intention must be the lifeblood of progress.

Keywords: Technological Innovation, Patent Law, Artificial Intelligence, Access and Competition, International Harmonization.

Technology and Innovation:

A transitional tapestry Introduction

Every time the word “Technology” appears, we inferred the images of few gadgets for instance smart phones, futuristic robots or complex algorithms. But the word “Technology” is far more meaningful and it refers to the application of knowledge and tools to extend human capabilities in solving an issue. Technology has been a driving force behind human progress since centuries from the invention of necessities to the invention and expansion of internet by shaping the society from every inch. Because, major changes have been brought by the societies within the societies with the help of technology and its advancements. With the help of digital revolution, society has changed its form of communication, work culture etc. by building a strong relationship between the innovation and technology.

Innovation has become an oxygen box for the existence and acceptance of technology, without any hint of innovation, no technology is considered as a reality. Thus, innovation is not a matter of luck but it is a matter of hard work, it's about taking that idea, nurturing it, developing it, and ultimately implementing it in a way that creates value. It's a process that involves creativity, problem-solving, and a willingness to challenge the status quo. Innovation demands for a supportive environment, for being an oxygen to the technology. An environment that encourages creativity and experimentation by taking risks, an organization that fosters the custom of innovation is where the innovation can breathe through technology.

The process through which the tapestry is woven by blending innovation into technology can be complex and challenging. Navigating this complex landscape requires a nuanced understanding of technology's potential and its limitations. We need to foster

innovation while also considering the ethical and societal implications of new technologies. Education plays a crucial role in equipping individuals with the skills and knowledge to thrive in a technologically driven world. Critical thinking and digital literacy are essential for navigating the vast sea of information and discerning truth from falsehood. In today's rapidly changing world, innovation is more important than ever in the blood of technology.

Envisioning the future, the possibilities of technology and innovation seem endless. From personalized medicine to sustainable energy solutions, technology holds the key to addressing some of the world's most pressing challenges, while there are countless areas where the impact of innovation has been marked from artificial intelligence to the field of biotechnology. However, it is crucial that we approach technological development with a sense of responsibility, ensuring that it serves humanity and contributes to a more equitable and sustainable future. So that the fruits of the tapestry can be shared by all and must be benefited to all.

To make the world more sustainable and equitable, the tapestry of technology and innovation must be woven together to serve the purpose of creating a brighter future with the threads of creativity, human endeavour and ingenuity. A tapestry which will not only accept the technology but also embraces the innovation, have the

capacity to push the boundaries around the creativity.

Technological innovation: An undeniable innovation of 21st Century

According to Abernathy and Clark “An innovation is the initial market introduction of a new product or process whose design departs radically from past practice. It is derived from advances in science, and its introduction makes existing knowledge in that application obsolete. It creates new markets, supports freshly articulated user needs in the new functions it offers, and in practice demands new channels of distribution and aftermarket support.”

Technological innovation is the process of creating and implementing new technologies, or significantly improving existing ones, to solve problems, meet needs, and create new possibilities. It involves a complex interplay of ideas, research, development, and implementation, often leading to new products, processes, or services.

Evolution of technological innovation can be traced back from the early humans and stone age for instance from the basic need of humans for survival. Because necessity has been considered as the mother of invention and in the early humans and stone age, innovation took place from the use of stone tools for hunting, preparing food etc., discovery and control of fire, development of clothing and shelters to get protection from colder climates. After the

stage of early humans and stone age, technological innovation has witnessed a turning point during the Agricultural revolution, where they invented farming tools such as wheel, plow and irrigation systems to cultivate crops and domestic animals, and for the cooking equipment, they had invented pottery for the first time during 10,000 BCE. While inventions of advanced tools and weapons made of metal led to the Bronze Age and Iron Age and invention of writing system for the maintenance of records or transmission of knowledge, invention of advance mathematics, science, architecture and engineering skills with the contribution of ancient civilizations like Mesopotamia, Egypt, Greece, and Rome etc. led to the innovation in antiquity, marked another future for technological innovations. Innovation took place in the form of three-field system in agriculture, in the form of sources of power through windmill and the watermill and in the form of printing press invented by Johannes Gutenberg, during middle age which is also known as a period of transition for the society. In the beginning of 18th Century, development of modern technology during Industrial revolution such as development of steam engine for the purpose of transportation and manufacturing, mass production of goods, and harnessing of electricity marked another future for technological innovations. An explosion of technological innovation has been seen in the field of electronics and computing, biotechnology,

and renewable energy etc. during the 20th and 21st centuries, known as information age. Technological innovations have been an integral part of human history, shaping our societies, economies, and the way we live. From the earliest stone tools to the latest advancements in artificial intelligence, technology continues to evolve and transform the world around us. Thus, Technological innovation has been driven by the Human needs and curiosities, scientific discoveries, economic incentives, social and cultural factors since centuries to become an undeniable force in the 21st century.

Technological innovation is underpinned in technology, which can be defined as a complex system composed of more than one entity or subsystem of technologies and a relationship that holds between each entity and at least one other entity in the system for achieving specific goals. New technology is driven by inventions of new things and new ways of doing things (originating in advances in basic and applied science) that are transformed into usable innovations in markets to satisfy needs, achieve goals, solve problems of adopters that take advantage of important opportunities, or to cope with consequential problems/environmental threats.

For shaping the 21st Century, an undeniable innovation has been introduced to the society by playing a pivotal role in bringing changes in the necessities and goals of the various facets by supporting

the corporate, industrial, economic and social factors for competitive advantage of firms and nations and improving overall human progress. Being characterized as a troubleshooter, the practices of technological innovations has been introduced as an undeniable innovation in the 21st century concept of society. Revolution has been brought by the innovations happening in the technological field globally on the lifestyle of human beings from commonplace to the groundbreaking. Transformation of communication by inception of internet and mobile devices through the platform of social medias has been a significant impact of technological innovations. By increasing efficiency and productivity, industries have been transformed through technological innovations like automation and artificial intelligence, while in manufacturing and logistics, robots are performing complex tasks and for tasks like data analysis, customer service or medical diagnosis, use of innovations like AI Algorithms has been increasing. Apart from the abovementioned impacts, educational sector has been impacted profoundly by the technological innovations, after introduction of online learning platforms and digital resources to make education more accessible and personalized at the fingertips of education professionals.

Patent: Evolution of an ancient shield to innovations

A patent is a license that confers an exclusive right or title to the owner for a limited or specific period of time to exclude others from making, using, or selling an invention and the violation of these exclusive rights or title of the patent holder is known as patent infringement. In India, the act that govern the patent is Patents Act, 1970. The main motive behind the enactment of the Patent Act is to encourage people to come up with new ideas in their field by awarding them exclusive rights over their inventions.⁴³

The word patent has owed its origin from a Latin word called “Patere”, which means to lay open or to make available for public inspection. The idea of patent lies in the purpose to protect and enjoy an innovation for a certain period of time, for which innovation has been considered as cornerstone of patents. Thoughts that took place and converted into ideas that has capability to brought innovations must be protected from those who have generated an ill intention towards such innovations, for those who have intentions to generate benefits from such innovations. Thus, the concept of patent may mean to grant some exclusive rights to the inventors not only for the benefits of the inventor but also for the benefits of the concerned society.

The concept of patent has been structured many times through centuries, to built the

⁴³ Patent- Types & Laws related to them in India

modern patent concept for the society that lives in 21st century. During ancient times that is around 500 BCE, it has been witnessed that patent was granted as an exclusive right for a year to the luxury item inventors in the city of Sybaris. But according to some historians, these systems were not entertained in a formalized manner as it was in rudimentary forms. Apart from ancient evidence, Guilds was in practice of providing patent for the skills and techniques from being copied by others, in medieval Europe. In 1474, for the first time, patent was given with an exclusive right feature in a legal platform, when The Republic of Venice has enacted law that governs the system of patents. The statute has granted an exclusive right to inventors to use, sell or manage, for a period of 10 years, which marked a significant step towards the protection of intellectual property during the period of Renaissance Italy. After the period of 14th century, the journey of patent was greatly influenced two historical events, one of them is Royal Grants and the other is Statute of Monopolies 1624. The modern concept of patent is relatable to the concept of Letters Patent also known as a practice of Royal Grants, where Letters of Patent was issued by the monarchy of England to grant an exclusive power or right with the purpose to create monopolies in respect of such power or right and the concept of patent was created to enjoy monopolies by the inventors in an exclusive way, though it

was not in the practice of England to provide monopolistic rights in the form of patent to the inventors during 16th Century. While A landmark development occurred with the enactment of the Statute of Monopolies in 1624. This statute limited the Crown's power to grant monopolies, except for "projects of new invention." This laid the foundation for the modern patent system in England, focusing on protecting genuine inventions. The codification and development of patent system took place during 18th and 19th centuries, where many countries including India has enacted certain legislations on the concerned topic. In England, court decisions refined the interpretation of patent laws, establishing key principles such as the requirement for a detailed description of the invention (patent specification). By the late 19th century, many countries had codified their patent laws, including the United States (1790), France (1791), and Germany (1877). These codified laws provided a more structured and formalized framework for granting and enforcing patent rights. In India, the legislation related to patent system was developed during the reign of British Rules, where the Act VI of 1856 was the first legislation in India regarding the patent which was afterward repealed by Act IX of 1857 since it's been enacted without the approval of the British Crown. In 1859, another legislation was introduced for granting 'exclusive privilege'. This legislation is known as Act

XV of 1859. This legislation undergoes some changes of the previous legislation, namely, granting of exclusive privileges to useful inventions only, an extension of priority period from 6 months to 12 months, excluding importers from the definition of investors. In 1872, the Act of 1859 was combined to provide protection relating to designs. The act was renamed "The Patterns and Designs Protection Act" under Act XIII of 1872 which was further amended in 1883. This act was remained in force for 30 years and was again amended in 1888.

The Indian Patent and Design Act, 1911 repealed all the previous acts that have been enacted. The present Patent Act, 1970 came into force in the year 1972, further amending and combining the prevailing law relating to Patents in India. This act was again amended by the Patents (Amendment) Act, 2005, wherein product patent was extended to all or any fields of technology including food, drugs, chemicals, and micro-organisms. This amendment repealed provisions relating to Exclusive Marketing Rights (EMRs) whereas a provision for enabling grant of compulsory license and pre-grant and post-grant opposition has been introduced.⁴⁴

The exclusivity provided by the patent essentially acts as a shield, preventing others from making, using, or selling the patented invention without the inventor's permission. This protection encourages

innovation by giving inventors the confidence to invest time and resources into developing their ideas, knowing that they will have a period of exclusivity to reap the rewards. Patents aren't just for complex scientific breakthroughs. They can cover a wide range of inventions, from new gadgets and software to innovative processes and even certain types of plants. To be patentable, an invention must generally meet certain criteria: it must be novel (new), non-obvious (not something that would be readily apparent to someone skilled in the relevant field), and useful (have a practical application). While patents offer crucial protection, they also play a vital role in fostering innovation. The patent system encourages the disclosure of inventions, making knowledge accessible to the public and inspiring further innovation. The information contained within patents can be a valuable resource for researchers, scientists, and entrepreneurs, sparking new ideas and building upon existing technologies.

Despite the criticisms faced by the patents such as that patents can stifle innovation by creating monopolies and hindering competition while others pointed out to the high cost and complexities of the patent process, which can be a barrier for small inventors, patents remain a cornerstone of the innovation ecosystem. They provide a vital incentive for inventors to create and

⁴⁴ [Patent- Types & Laws related to them in India](#)

share their discoveries, driving technological progress and economic growth. Understanding the power of patents is crucial for anyone involved in the world of innovation, whether they are inventors, entrepreneurs, investors, or simply interested in the future of technology. They are more than just legal documents; they are the shields that protect innovation and fuel progress.

Mask of beauty and complexities behind the shield of innovation in a technological era

As the beauty of patent lies in the features of being granted in an exclusive way, for limited period of time, territorial protection from exploitation of patent, there arise the question of requirements of the patent which revolves around the corner of innovation that Patent laws are built upon several fundamental principles. First and foremost is the requirement of **novelty**. An invention must be new and not already known to the public. This means it cannot have been previously published, used, or disclosed anywhere in the world. Secondly, the invention must involve an **inventive step** or be **non-obvious**. It cannot be a mere modification of existing technology that would be obvious to someone skilled in the relevant art. This principle aims to prevent the patenting of trivial advancements. Thirdly, the invention must be **industrially applicable** or have **utility**. It must be capable of being made or used in some kind of industry.

Patent has been beautified by the purpose it serves like-one, it fosters the development of new and useful technologies by granting an exclusive right to the inventors, without such protection incentive to innovate must have been diminished, secondly is that by granting inventors a period of market exclusivity and allowing them to commercialize their inventions and generate revenue, it promotes protection of investments of the inventors, Thirdly, patent encourages economic stability by leading to new products, services, and industries, which ultimately create jobs and boost the economy, and Fourthly, it helps in advancement of technology. Furthermore, patents contribute to the dissemination of knowledge. In exchange for the exclusive rights granted, inventors are required to publicly disclose the details of their inventions. This disclosure, documented in patent applications, becomes a valuable resource for other researchers, scientists, and entrepreneurs. While the patent holder enjoys a period of exclusivity, the knowledge contained within the patent becomes part of the public domain after the patent expires, fueling further innovation and building upon existing technologies. In this way, patents can be seen as a mechanism for balancing the interests of the inventor with the broader needs of society.

Patents, those seemingly simple documents granting exclusive rights to an invention, are a double-edged sword,

which represents its complexities. They are simultaneously hailed as engines of innovation and criticized as barriers to progress. While their core purpose – to incentivize creativity and protect intellectual property – is laudable, the reality of patents is far more nuanced, encompassing a complex interplay of legal, economic, and social factors. Examining the multifaceted nature of patents reveals a system with both significant benefits and inherent drawbacks.

The primary justification for patents lies in their role as a catalyst for innovation. By granting inventors a temporary monopoly, patents allow them to recoup the substantial investment of time, resources, and expertise required to develop a new technology. This exclusivity, it is argued, encourages research and development, fostering a climate where innovation can flourish. Without the protection afforded by patents, inventors might be hesitant to share their discoveries, fearing that their ideas would be immediately copied and exploited by competitors. The patent system, therefore, acts as a crucial incentive, driving technological advancement and economic growth. This is particularly true in industries with high research and development costs, such as pharmaceuticals, biotechnology, and electronics. However, the patent system is not without its flaws. One major criticism is that patents can create monopolies, hindering competition and potentially

stifling further innovation. This can be particularly problematic in areas like healthcare, where patent protection on essential medicines can limit access and drive-up costs. Another concern is the complexity and cost associated with obtaining and enforcing patents. The patent process can be lengthy, expensive, and require specialized legal expertise. This can create a significant barrier for small inventors and startups, who may lack the resources to navigate the system effectively. Large corporations, on the other hand, often have the resources to amass vast patent portfolios, which they can use to stifle competition and maintain their dominance in the market. This can lead to a situation where the patent system, intended to encourage innovation, actually serves to protect the interests of established players at the expense of smaller, more innovative companies. Furthermore, the definition of what constitutes a patentable invention can be ambiguous, leading to disputes and litigation. The criteria of novelty and non-obviousness can be subjective, and the line between a genuine invention and a minor improvement can be blurred. This can lead to frivolous patent applications and costly legal battles, clogging up the patent system and diverting resources away from genuine innovation.

Squaring up of issues of the patent law evolution around technological innovation

Striking the right balance between protecting intellectual property and fostering a competitive environment is a crucial challenge. Reforming the patent system to address its shortcomings, perhaps through stricter examination criteria, streamlined processes, and greater accessibility for small inventors, is essential to ensuring that patents truly serve their intended purpose: to fuel innovation and benefit society as a whole.

Patents, while designed to foster innovation, face a multitude of challenges in the modern world. These challenges span legal, economic, and ethical dimensions, impacting inventors, businesses, and society as a whole. So, the challenges and complexities faced by the Patents while fostering technological innovation are –

- Process of quality and examination of patent-The issues are as follows
 - a. Patent offices worldwide are overwhelmed with applications, making thorough examination difficult. This can lead to the granting of patents for obvious or trivial inventions, weakening the system.
 - b. Examiners may not have the specialized knowledge to assess complex inventions, particularly in rapidly evolving fields like software and biotechnology.

c. The criteria for "inventive step" or "non-obviousness" can be subjective, leading to inconsistent decisions and uncertainty for applicants.

- Involvement of cost and complexities around patents are high such as involving attorney fees, filing fees, and examination fees etc.
- Patent Regulations are of complex nature: Patent laws are intricate and vary across jurisdictions, requiring specialized knowledge and making it challenging for inventors to navigate the system.
- Patent thickets, where numerous overlapping patents cover different aspects of a technology, can create a minefield for innovators. This can stifle innovation by making it difficult and expensive to bring new products to market.
- Patent trolls, entities that acquire patents primarily to sue others for infringement, can drain resources from legitimate innovators and create a chilling effect on research and development.
- The patentability of software and biotechnology inventions has been a subject of ongoing debate and legal challenges. The line between

patentable innovation and abstract ideas or discoveries can be blurry.

- The fast pace of technological change in these fields can make it difficult for patent laws to keep up, leading to uncertainty and potential for abuse.
- Patent laws must strike a balance between rewarding innovation and promoting competition and public access to knowledge.
- Patents can have significant social implications, particularly in areas like healthcare and environmental technology, requiring careful consideration of their impact on society.

The abovementioned existing challenges demand for a better system of patent in serving the purpose of technological innovation. Thus, addressing the challenges around the patent can be game changer for the technological innovations and they can be addressed by improving Patent Quality, Strengthening examination procedures, providing examiners with better resources and expertise, increasing transparency, Reducing Costs and Complexity, Streamlining the patent process, offering assistance to small inventors, promoting alternative dispute resolution mechanisms, Curbing Abusive Litigation, Implementing measures to deter patent trolls and frivolous lawsuits, Clarifying Patentable Subject Matter,

Providing clearer guidelines for patenting software and biotechnology inventions, Balancing Public Interests, Considering the social impact of patents and ensuring access to essential goods and technologies, Promoting International Cooperation, Harmonizing patent laws and strengthening international enforcement mechanisms.

Patent Laws in Technological Innovations- An insight to the future

The patent system, a cornerstone of modern innovation, finds itself at a critical juncture. Designed to incentivize creativity and protect intellectual property, it now navigates a complex landscape of rapidly evolving technologies, shifting economic realities, and growing societal concerns. The future of patents hinges on its ability to adapt and address these challenges, ensuring it continues to serve its core purpose: fostering progress for the benefit of all. The future of patents is a dynamic and evolving landscape, shaped by technological advancements, economic shifts, and societal needs. Here are some key trends and potential developments that could define the future of patents:

- AI and Automation:
 - AI-Assisted Patent Processes: Artificial intelligence (AI) is poised to revolutionize patent drafting, searching, and examination. AI tools can analyze vast amounts of data to identify

prior art, generate patent applications, and even predict the likelihood of patent grant. This can streamline the patent process and improve efficiency.

- **AI-Generated Inventions:** As AI becomes more sophisticated, the question of patenting AI-generated inventions will become increasingly relevant. Who owns the intellectual property when an AI creates something new?

This will require new legal frameworks and ethical considerations.

- **Blockchain and Decentralization:**
 - **Patent Registries on Blockchain:** Blockchain technology could be used to create secure and transparent patent registries, making it easier to track patent ownership and transactions. This could also help reduce fraud and improve the efficiency of patent administration.
 - **Decentralized Patent Systems:** Decentralized patent systems, potentially based on blockchain, could empower individual inventors and small businesses by making it easier and more affordable to obtain and manage patents.
- **Focus on Quality and Efficiency:**

- **Enhanced Examination:** Patent offices may adopt more rigorous examination procedures, leveraging AI and specialized expertise to ensure that patents are granted only for truly novel and non-obvious inventions.

- **Streamlined Processes:** Efforts to streamline the patent process, reducing costs and delays, will likely continue. This could involve simplifying application procedures, improving communication between applicants and examiners, and promoting alternative dispute resolution mechanisms.

- **Addressing Patent Thickets and Trolls:**
 - **Policy Reforms:** Policy reforms aimed at curbing abusive patent litigation and addressing the problem of patent thickets are likely to be explored. This could involve measures to increase transparency, limit frivolous lawsuits, and promote collaborative approaches to patent management.
- **Global Harmonization and Cooperation:**
 - **International Patent System:** Further efforts towards international harmonization of patent laws and procedures are expected. This could lead to a

more streamlined and efficient global patent system, making it easier for inventors to protect their inventions across borders.

- **Cross-Border Enforcement:** Strengthening international cooperation in patent enforcement will be crucial to combat counterfeiting and protect intellectual property rights in a globalized world.
- **Balancing Innovation and Access:**
 - **Social Impact of Patents:** Greater emphasis will be placed on the social impact of patents, particularly in areas like healthcare and environmental technology. Striking the right balance between protecting intellectual property and ensuring access to essential goods and services will be a key challenge.
 - **Open Innovation Models:** Alternative models of innovation, such as open-source development and collaborative research, may gain prominence, complementing the traditional patent system.
- **Specialized Patent Courts:**
 - **Expertise in Patent Litigation:** The establishment of specialized patent courts with judges possessing technical expertise could improve the efficiency and quality of patent litigation.

- **Patents and Emerging Technologies:**

The rapid development of emerging technologies, such as artificial intelligence, biotechnology, and nanotechnology, will pose new challenges for patent law. Clearer guidelines and legal frameworks will be needed to address the unique issues raised by these technologies.

Thus, the future of patents is likely to be shaped by a combination of technological advancements, policy reforms, and evolving societal needs for a better societal life. The patent system will need to adapt to these changes to effectively promote innovation, protect intellectual property, and serve the broader public good through technological innovations.

Role of the Government in Protecting Technology Innovations

Recognizing the need for the protection of Intellectual Property (IP) as a vital component of innovation and scientific advance and that many of the benefits of inventions will be lost if the resulting IP is not protected, MeitY has made significant strides in recent years in creating a conducive ICT-IPR ecosystem for creation, protection, awareness and commercialization of IP as well as IP Rights. Some of the major initiatives of the division are:

- **Establishment of Centre of Excellence in Intellectual Property (CoE-IP)** – An initiative which was envisioned

with the objective of helping innovators, startups and SMEs to understand the value of intellectual property (IP), offer value added services and ensure adequate protection of the IPRs.

- **Providing IP Facilitation Support to MeitY Societies and Grantee Institutions** – Established for creating state-of-the-art R&D paradigm in the country Innovation and IPR Division has been supporting its, R&D societies and grantee institutions in filing IPRs which includes patents, copyrights, designs and trademarks.
- **Support for International Patent Protection in E&IT (SIP-EIT) – II for Micro, Small and Medium Enterprises and Technology Startup Units** – A scheme by MeitY to provide support to MSMEs and Startups that are trying to secure intellectual property rights on a global level.
- **IPR Awareness through Financial Support to Industry Bodies and Academia** – To enhance innovation, competitiveness and economic growth in India, it is imperative to

harness IP. More specifically, with the phenomenal growth of Indian IT/ITES sector and its need to move up the value chain, it is important to foster innovation and legally protect and exploit IPRs generated in India.

- **Providing Help-Desk services For IPR or Patent Analysis and Management System (PAMS)** – CoE-IP had initiated the Patent Analysis Management System (PAMS) portal for providing a range of value-added intellectual property related services.
- **Creation of IPR Awareness through Digital Media** – To give an in-depth understanding of the various types of IPRs, a user-friendly e-learning multimedia toolkit has been developed by CoE-IP. The prime purpose and focus of the IP Panorama is to create IPR awareness among the targeted stakeholders comprising tech Startups MSMEs, and academia belonging to the ICT domain.⁴⁵

Conclusion

Today, every business in the world is the product of innovation. In an innovative world, evolving in every sector, protecting the rights of people is important especially

⁴⁵ Patents and Technology Innovations in India
(Authors : Nilanshu Shekhar, Akanksha Anand,
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rights involved in intellectual properties. According to the report published by National Association of Software and Services Companies (Nasscom), Technology innovation is gaining pace in India with Indian companies having filed 1,38,000 tech patents in India from 2015 to 2021. Thus, to constitute a stronger and better future for patents around technological innovations, some reformations after addressing the issues in this article is necessary to be taken by the government. In India, even though the Patent Act, 1970 is in force but still have some lacunas after various amendments to deal with digital world that concentrating only on fostering technological innovations. Indian Patent Act can fulfill the needs of protecting technological innovations if the complexities can be resolved through legislations, which will be provided with an environment that will transform the technical knowledge or ideas into valuable products and services for their commercialization, so that they can be connected with technological partners to facilitate early-stage technologies. Overall, the future of patent laws in technological innovations is likely to be one of continued evolution and adaptation. Patent laws will need to keep pace with the rapid pace of technological change, while

also ensuring that they promote innovation and competition.

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Strengthening Alternative Dispute Resolution (ADR) for Easier Access to Justice in India

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Abstract

Access to justice is a basic right as per Article 39A of the Constitution of India, whereby the state is committed to providing equal justice and free legal assistance. Yet, the Indian judicial framework has been infested with delays, arrears, and procedural complexity for years, rendering most individuals inaccessible to justice. As of 2024, more than 50 million cases are pending across Indian courts, with some remaining on the shelf for decades. This crisis calls for a revolution of Alternative Dispute Resolution (ADR) mechanism, which provides quicker, cheaper, and amicable solutions to disputes' has mechanisms like arbitration, mediation, conciliation, and negotiation, which operate outside the conventional court litigation. They are becoming more and more observed internationally for their applications to clear congestion from courts and make justice more accessible. Indian laws like the Arbitration and Conciliation Act, 1996, and the Legal Services Authorities Act, 1987, have provided legal acceptance to ADR. ADR has not been utilized to its potential, though, by way of unawareness, institutional capacity, and problems of enforcement. This research paper discusses the current state of ADR in India, determines the defining challenges, and proposes reforms to strengthen ADR mechanisms for improved access to justice. The study relies on a mix methodology wherein legal

provisions, judicial precedents, and empirical studies are examined to assess the effectiveness of ADR.

Keywords: Alternative Dispute Resolution (ADR), Access to Justice, Arbitration and Mediation, Judicial Reforms, Legal Framework in India

Introduction

Access to justice is not a mere legal procedure but an inbuilt and inalienable right, well rooted in the constitutional ethos of India. Article 39A of the Constitution of India clearly obliges the State to make sure that the legal system tries to secure justice on a basis of equal opportunity, and particularly to give free legal aid so that access to obtaining justice is not refused to any citizen by reasons of economic or other disabilities. This charge, enshrined in the Directive Principles of State Policy, is a reflection of the Indian state's commitment to a fair, equitable, and accessible regime of law.⁴⁶ Yet despite this constitutional assurance, the current Indian judicial system is overburdened, plagued by unacceptable delays, prohibitive costs, and procedural intricacies that significantly interfere with the speedy and equitable administration of justice.

By the end of April 2025, the Supreme Court had 81,801 cases pending. The Court received 4029 cases and resolved 3485 cases in the same month., the Indian

judiciary's crisis has ruthlessly surfaced. Based on available data in the National Judicial Data Grid (NJDG), over 50 million cases are pending to be heard in India's different courts, namely the Supreme Court, High Courts, and lower courts⁴⁷. Most of the cases have been pending for more than ten years and even two or three decades in certain situations. The time taken to dispose of a civil case in India is expected to exceed 15 years. The inefficiency is not only undermining the faith of the public in the justice delivery system but also has socio-economic consequences on the individuals and institutions that are unable to dispose of the cases in time. For economically weaker sections, marginalized and poor, the obstacles created by litigation—ranging from geographical unreachability, legal illiteracy, procedural delay, and prohibitive Ness of legal remedy—render justice inaccessible.

Implementation of ADR mechanisms on a global level has been growing since the later part of the twentieth century.

⁴⁶ Chandrika, M. P. (2016). Access to justice through alternative dispute resolution system-restorative justice. *Asian Journal of Development Matters*, 10(1), 124-134.

⁴⁷ Vora, A. (2025, May 28). April 2025: Pendency increases after steep drop in both institution and disposal. SCO

Developed nations like the United States, United Kingdom, and Singapore have succeeded in adopting ADR in the justice system, and its effects are visible in the form of reduced levels of litigation and increased public satisfaction with the administration of justice. India also took impressive steps in conferring legal sanctity and procedural certainty to ADR through some enactments and judicial pronouncements. The Arbitration and Conciliation Act, 1996, on the lines of the UNCITRAL Model Law on International Commercial Arbitration, was a landmark step through the incorporation of arbitration and conciliation in the ambit of a single legislative framework⁴⁸. Likewise, the Legal Services Authorities Act, 1987 legalized proceedings such as Lok Adalats for various purposes, including speedy and cheap delivery of justice⁴⁹.

Also, recent legislations such as the Mediation Act, 2023 indicate an increasing desire to regulate and simplify the process of mediation. The Act seeks to promote mediation as a best method of dispute resolution through the creation of mediation councils and making mediated

settlements more enforceable. The judiciary also has been focusing on enabling ADR. In *Vidia Drolia v. Durga Trading Corporation*⁵⁰, the Supreme Court of India reinforced the significance of Alternative Dispute Resolution (ADR) mechanisms, particularly arbitration, while also clarifying the scope of judicial intervention in arbitrability disputes. Though the case primarily dealt with the arbitrability of landlord-tenant disputes under the Transfer of Property Act, 1882, it carried forward the judicial philosophy emphasized in *Afcons Infrastructure Ltd. v. Cherian Varkey Construction Co. (P) Ltd.* (2010) 8 SCC 24 and *Salem Advocate Bar Association v. Union of India* (2005) 6 SCC 344, which promoted Section 89 of the CPC, 1908 for encouraging ADR.⁵¹

In spite of these promising advances, ADR in India continues to be woefully underutilized and underdeveloped both on the ground and on the mind. Some challenges prevent the full realization of ADR. These consist of lack of public knowledge and legal literacy regarding ADR mechanisms, inadequate infrastructure, lack of trained and certified

⁴⁸ UNCITRAL Arb. Rules, U.N. Doc. A/RES/68/109 (2013)

⁴⁹ Kumar, A. (2021). *Alternative Dispute Resolution System: Global and National Perspective*. KK Publications.

⁵⁰ AIR ONLINE 2020 SC 929 Author: Sanjiv Khanna

⁵¹ Sharma, R. (2024). *Resolving Corporate Conflicts outside the Courtroom: A Study of ADR Mechanisms and the Companies Act in India*. Available at SSRN 4814779.

mediators and arbitrators, and general resistance by legal professionals and parties to embracing non-litigation-based means of dispute resolution. Enforcement of awards rendered by arbitration and settlements reached through mediation also encounters resistance, detracting from the effectiveness and attractiveness of ADR mechanisms. In commercial disputes in particular, the age-old problem of enforcement under the Arbitration and Conciliation Act is a major issue.

Another major limitation is that ADR has been viewed as a "lesser" or "second-rate" form of justice, applicable only to small cases or compromise-based resolutions. This view discredits the credibility of ADR mechanisms and discourages parties from seeking it in important cases like commercial, matrimonial, or intellectual property matters. Unavailability of institutionalized ADR infrastructure in rural and semi-urban areas again limits access. While Lok Adalats have been found to dispose of huge pendency of disputes, especially motor accident claims and cheque bounce cases, they suffer from inadequacies of voluntariness, justice, and quality in such disposal.

Comparative analysis of ADR systems at global levels recognizes that India must possess more proactive and institution-

alized mainstreaming policy of ADR⁵². Success of Singapore in the Singapore International Mediation Centre (SIMC) and Singapore International Arbitration Centre (SIAC), for instance, is its government's initiative in building ADR-friendly legal framework, building capacity of professionals, and international reputation. Similarly, mediation and arbitration court-annexed in America are included in civil procedure in most jurisdictions, which allows early settlement and economic savings. These examples demonstrate how political will, institutional design, and policy of law can be complemented by ADR systems.⁵³

In an Indian context, ADR consolidation goes beyond institution and legislative reform to legal culture—towards cooperation from adversarial, towards expeditiousness from tardiness, and towards accommodation from exclusivity. Judges, lawyers, academicians, and law students in the legal community must be sensitized and trained in ADR methods. Also, ADR training must be included in law school curriculum, and bar associations must promote mediation and arbitration as a profession. Less important are empirical researches and data collection on the use, success rate, and problems of ADR mechanisms by sectors

⁵² Law Commission of India. (2021). Report on Strengthening ADR Mechanisms in India (Report No. 276). Government of India.

⁵³ Jain, D., Jain, D., & Kackria, S. (2024). ADR in Taxation Disputes: A Comparative Analysis of India and Foreign Jurisdictions. *Jus Corpus LJ*, 5, 356.

and jurisdictions. Policy-making based on evidence can assist in customizing the ADR systems to the specific requirements of Indian litigants, business, and communities.

The current research study attempts to critically analyze the current status of ADR mechanisms in India and determine their efficacy in promoting access to justice. The study further seeks to identify structural and procedural chokepoints that hinder the development of ADR and suggests practical, institutional, and legislative reforms to overcome such hurdles. The paper follows a doctrinal and qualitative research approach, interpreting statutory enactments, judicial dicta, expert comments, policy declarations, and empirical data. Drawing upon such analysis, the paper tries to provide answers to key questions: Why did ADR fail to evolve in India in spite of parliamentary benevolence? What institutional changes need to be introduced to integrate ADR? How can India pick up the best in the world without neglecting local concerns?

The structure of the paper is this. Following this introduction, the second section contains a general review of literature on ADR based on judicial commentaries, research work, and court judgments. The third section explains the methodology of research adopted, such as

sources, method, and constraints. The fourth section contains an examination of the present ADR structure in India, statutory as well as judicial mindset and institutional practices. The fifth section discusses issues regarding ADR implementation and utilization, prior to a sixth section proposing proposals for reform and policy suggestions. The last section concludes the paper by summarizing observations and suggestions for future policy and research-making.

Legal Framework Defining and Governing ADR in India

Alternative Dispute Resolution (ADR) in India has been formalized and systematized more and more by a series of Parliament-enacted acts. These legal frameworks give the institutional and procedural framework for many ADR processes like arbitration, mediation, conciliation, negotiation, and Lok Adalats. Increasing popularity of ADR as a tool of choice in resolving disputes has been articulated by massive legislation and amendments geared towards encouraging out-of-court settlements, reducing the judicial workload, and delivering quick and economical justice. The following section addresses the most impactful legislations which legislatively accept and endorse ADR in India⁵⁴.

⁵⁴ Chandra, T. G. (2017). Alternative Dispute Resolution Mechanism for Ensuring Speedy Justice in India: A Conceptual Analysis and Legislative

Framework. *Asian Journal of Research in Social Sciences and Humanities*, 7(10), 337-352.

The Arbitration and Conciliation Act, 1996 is the Indian law dealing with arbitration and conciliation. Based on the UNCITRAL Model Law on International Commercial Arbitration and the UNCITRAL Arbitration Rules, the Act aims to unify and revise the legislation concerning domestic arbitration, international commercial arbitration, and the enforcement of foreign arbitration awards⁵⁵.

Key Features:

Part I addresses domestic arbitration and international commercial arbitration with its seat in India.

Part II enacts laws to enforce international awards in accordance with the New York and Geneva Conventions.

Part III legislates conciliation, promoting amicable settlement between parties.

Part IV consists of enabling provisions, such as appeals and procedural matters.

Significant Amendments

2015 Amendment: Enhanced neutrality and effectiveness. Some of the salient features were time-bound arbitration (completion within 12 months), limitation on judicial intervention, and coverage of fast-track arbitration.

2019 Amendment: Established the Arbitration Council of India (ACI) for

grading arbitral institutions and arbitrators and added confidentiality and immunity provisions.

2021 Amendment: Seeks to prevent fraudulent arbitration awards by permitting unconditional stay of awards in case of fraud and corruption.

Even after such reforms, enforcement remains the biggest area of concern with delay in award execution and judicial intervention still being a major hindrance. But the Act remains a codified legal regime for ad hoc and institutional arbitration in India.

The Legal Services Authorities Act, 1987

Article 39A of the Constitution was put into effect with the passage of the Legal Services Authorities Act, 1987. Its goals are to prevent the denial of justice due to economic or other impairments and to provide free and competent legal services to the most vulnerable members of society.

Key Features:

- At the taluk, district, state, and federal levels, Lok Adalats are held.
- For public utility services including telegraph, postal, and transportation, there are permanent Lok Adalats (PLAs).
- The authority of Lok Adalat is comparable to that of civil courts;

⁵⁵ Guhe, C. (2022). UNCITRAL Model Law in Indian Legislation: A Descriptive

Analysis. Issue 6 Indian JL & Legal Rsch.,

the decision rendered is regarded as a civil court decree.

The procedure is informal as well as flexible; advocates are not required.

Lok Adalats have been most successful in resolving motor accident claims, bank recovery cases, and cheque bounce cases under Negotiable Instruments Act, 1881, Section 138. They are now a part of India's ADR system, especially for mass resolution of disputes, over the years.

The Commercial Courts Act, 2015 (Amended in 2018)

The Commercial Courts Act, 2015 was enacted for deciding commercial disputes and curtailing pendency thereof. Some of the salient provisions ushered in by way of the 2018 amendment include mandatory pre-institution mediation of cases pending non-urgent interim relief.

Salient Provisions: useful in business disputes involving a specific amount (initially ₹1 crore, later lowered to ₹3 lakh).

Section 12A makes it a prerequisite that no action may be instituted under the Act unless the pre-litigation mediation facility is availed of.

Such Legal Services Authority-run mediation centers have the authority to carry out this exercise.

Institutionalizing mediation as a precursor renders this legislative measure one that urges parties to settle their dispute amicably before recourse is made to the formal court process. Not only does this reduce the burden of commercial courts, but it also renders cost-effective adjudication.

The Mediation Act, 2023

One of the most important legislative developments in recent years is the Mediation Act, 2023, which has come into force in order to have a uniform statutory law on mediation in India. Mediation hitherto was not regulated, and various kinds—court-referred, private, and institutional—functioned without uniformity.⁵⁶

Key Features:

- Provides for mandatory pre-litigation mediation in civil and commercial disputes, even before filing of a suit.
- establishes the Mediation Council of India (MCI) to supervise and control the behavior of mediators and mediation organizations.
- Brings online mediation under regularity, in line with digital justice technology.
- Makes mediated settlement agreements enforceable as decree of

⁵⁶ Vaidya, U., & Chauhan, S. S. (2024). A Study on The Legal Services Authorities ACT, 1987. *International Journal of*

Innovations in Science, Engineering And Management, 51-56.

civil courts, has been given binding effect.

- Imbues courts with the power to refer cases to mediation at any stage of proceedings.
- Barring certain kinds of disputes like criminal cases, tax cases, and cases concerning rights in rem.

This law is a paradigm change, in the sense that it aims to mainstream mediation not as a choice but as a first-approach method of conflict resolution. It brings legal certainty, institutionalizes support, and responds to concerns over enforceability of mediated agreements.

The Code of Civil Procedure, 1908 (CPC), Section 89

Section 89 CPC, which was enacted by the CPC (Amendment) Act, 1999 and went into effect in 2002, is a crucial clause that encourages courts to submit cases to alternative dispute resolution (ADR).

Provision

If it seems to the court that there are certain terms of a settlement, whether acceptable or otherwise, then the court shall draft the terms of settlement and bring it before the parties for their observations. The court may refer the matter for judicial settlement, including through Lok Adalat,

conciliation, or arbitration, following receipt of the feedback.

The India International Arbitration Centre Act, 2019 brings into force provisions for the incorporation and establishment of the India International Arbitration Centre (IIAC) with a vision of making India a domestic and international arbitration center. It makes ADR obligatory in civil cases but has been criticized as procedurally vague in its enforcement. The Supreme Court, in the Salem Advocate Bar Association v. Union of India (2005) case, gave guidelines and instructed framing of rules under Section 89. This ruling was crucial in promoting the ADR culture in Indian courts⁵⁷.

Objectives:

Encourage institutional arbitration through the facilitation of a world-class facility. Conduct arbitral and mediation proceedings in a professional, transparent and efficient manner. Promote the development of arbitration practice and jurisprudence.

The IIAC based in New Delhi is intended to rival international institutions such as the Singapore International Arbitration Centre (SIAC) and London Court of International Arbitration (LCIA). Through providing quality services, competent arbitrators, and modern infrastructure, the

⁵⁷ Kumar, R. S. (2021). Resolving Pending Cases through Alternative Dispute Resolution under Section 89 of

Civil Procedure Code. Available at SSRN 3896028.

Act has envisaged establishing confidence among foreign investors and Indian businessmen alike in the Indian system of arbitration.

ADR is still underutilized in spite of these regulatory initiatives because:

Despite these legislative efforts, ADR is still misused because:

Lack of Cultural Awareness and Resistance

The largest hurdle in the overall popularity of ADR in India is the overall lack of awareness of legal practitioners and even the litigants. It is not widely known that ADR facilities exist or what they offer, and most people, particularly from rural and semi-urban regions, have no idea. The general perception continues to identify justice with the formal court process, where a court of law is headed by a judge, and the process is formal, time-bound, and enforceable by law. ADR, however, is occasionally mistakenly believed to be an informal or secondary procedure lacking legal enforceability.

Furthermore, ADR is even by practicing lawyers perceived in some cases as undermining their professional income, particularly when conflicts are resolved promptly without engaging in protracted litigation. This hesitation on the part of the legal community also negatively impacts

the development of ADR. There is also a deep-seated perception of "winning" a case by way of court orders, as opposed to coming to an acceptable compromise through negotiation or mediation. This is a cultural barrier to ADR because the latter relies on compromise and cooperation rather than adversarial confrontation⁵⁸.

Efforts to incorporate ADR into law school curricula have only recently begun to gain momentum. The effect, however, awaits to be seen. If there is not proper training and mass sensitization of the public in general and legal practitioners, ADR processes might not gain popularity on a large scale.

Enforcement Challenges

While ADR processes ensure expeditious and less confrontational judgments, the efficacy of such mechanisms largely hinges on the facilitation of enforcement of the award—most particularly arbitral awards and mediated settlements. Even though the Arbitration and Conciliation Act of 1996 governs the enforcement of arbitral rulings in India, the legal process is cumbersome and sluggish.

Parties will turn to courts to oppose enforcement of awards on grounds of public policy or procedural impropriety. This is eliminating the *raison d'être* of having opted for arbitration in the first place. Courts, regardless of a series of

⁵⁸ Nussbaum, L. (2016). Trial and Error: Legislating ADR for Medical Malpractice Reform. *Md. L. Rev.*, 76, 247.

Supreme Court judgments highlighting minimum judicial intervention, still have recourse to entertain objections to arbitral awards much too often at the expense of essential delays.

Settlements mediated and compromises conciliated, although currently acknowledged under legislations such as the Mediation Act, 2023, are also beset with the same disadvantages. Although the compromises remain to be enforceable and binding like judgments from courts, realization is subject to cooperation on the part of the parties and efficiency in the judicial process. Without enforcement, the party seeking enforcement has to go back to the courts, which requires a restructuring of efforts and additional expenses⁵⁹.

Furthermore, in contrast to arbitration in which parties are subjected to institutional process and trained and accredited arbitrators, High levels of party good faith and the professionalism of mediators-a significant number of them are crucial to mediated and conciliated accords, yet they lack official training and accreditation. . This results in doubtful quality of agreements and provides further complications in enforcement.

⁵⁹ Ajmera, A., & Rauf, S. (2024). Mediation Act 2023-A Progressive Plunge in the World of Alternative Dispute Resolution. *Jus Corpus LJ*, 5, 63.

Institutional Weaknesses and Infrastructural Deficiencies

India is weak and deficient in strong and world-class ADR institutions that can compete with foreign institutions such as the Singapore International Arbitration Centre, London Court of International Arbitration, or the Hong Kong International Arbitration Centre. They have gained international recognition for their neutral procedures, world-class infrastructure, panel of well-known arbitrators, and robust enforcement⁶⁰.

While India has established institutions such as the India International Arbitration Centre (IIAC) and Mumbai Centre for International Arbitration (MCIA), these are still in their infancy stages of development and face a plethora of challenges in terms of people, money, as well as credibility. The global legal community continues to prefer established international centers for high-value commercial arbitrations, particularly for cross-border disputes. Indian institutions have been failing to attract foreign parties because they are viewed to delay, not be neutral, and raise procedural fairness issues.

⁶⁰ Khan, A. B. (2025). Is Alternate Dispute Resolution (ADR) A Valid Mechanism to Overcome Trust Deficit of Investors in Pakistan. *Law Research Journal*, 3(2), 41-55.

Also, even local ADR forums like Lok Adalats and mediation centers lack trained mediators, infrastructure facilities, and resources. There needs to be regular training, certification of mediators and arbitrators, and effective administrative support in order to deal with the disputes effectively. Without such systemic changes, the credibility and faith in ADR forums will further erode.

Lack of technological infrastructure is also another important weakness. In the era of digitalization, ADR institutions need to have easy online dispute resolution (ODR) facility, particularly in the post-COVID-19 period. Most of the current ADR platforms do not have technology platforms to carry out video conferencing, secure exchange of documents, or artificial intelligence-based case management, which is common in international arbitration hubs.

Lack of Legal and Policy Support

While some statutory changes have taken place in the past, India does not yet possess a national ADR policy. The patchy strategy across the different statutes such as the Arbitration and Conciliation Act, the Legal Services Authorities Act, the CPC, and the new Mediation Act has at times resulted in duplication and inconsistency of procedure. For example, despite Section 89 of the CPC, designed to refer cases to ADR, its implementation has been patchy and uneven across states.

Section 89 CPC referrals to courts are plagued with the overreliance on the

judges' discretion, the majority of whom have no information about the advantages of ADR or prefer to hold onto control of the litigation process. The nation needs a clear and well-defined national ADR policy to make procedures more convenient, facilitate best practices, and induce uniform implementation of ADR processes in the nation.

A second weakness in the practical application of ADR in India is that the scope of its operation is restricted. The majority of dispute types—particularly criminal cases, matrimonial disputes with criminal elements, and those with public interest—are exempted or are not addressed appropriately through ADR platforms. Although the Mediation Act, 2023 has attempted to throw some light on what type of disputes can be referred to mediation, the scope is restricted practically.

There is also uncertainty over government ministries' and public sector enterprises' (PSUs') involvement in alternative dispute resolution (ADR) processes including mediation and arbitration. Bureaucratic reluctance, ambiguity in representation, and accountability issues deter or dissuade government agencies from engaging in ADR.

Judicial Identification of Alternative Dispute Resolution (ADR) in India

The Indian judiciary too has contributed immensely to the emergence of Alternative

Dispute Resolution (ADR) procedures to clear congestions from courts and provide efficient dispensation of justice. The Supreme Court and other High Courts, through pioneering orders, have underlined the relevance of ADR in the judicial process. The roll call of cases, below, has established the ADR landscape in India.

1. Salem Advocate Bar Association v. Union of India⁶¹

The lawsuit concerned whether the CPC revisions made by the Amendment Acts of 1999 and 2002 were constitutional, namely Section 89, which requires courts to submit conflicts to alternative dispute resolution (ADR) procedures.

The Supreme Court ruled that the amendments were constitutionally valid on the ground that there was a need for ADR in trying to provide speedy justice. It appreciated the necessity of formulating guidelines on good usage of Section 89 and directed the formulation of a committee for that intent.

The Court reiterated that access to ADR is not discretionary but mandatory duty in case there are settlement issues.

This judgment opened doors for ADR mainstreaming in the civil justice system,

facilitating a culture of settlement, and decongestion of litigation.

2. Afcons Infrastructure Ltd. v. Cherian Varkey Construction Co.⁶²

Background:

The dispute pertained to contractual issues between Afcons Infrastructure Ltd. and Cherian Varkey Construction Co. and had resulted in litigation and use of Section 89 CPC.

In its interpretation of Section 89, the Supreme Court distinguished between several ADR procedures. It was the understanding that Section 89 arbitration required all parties' agreement to it, whereas mediation and conciliation could be supervised by the court as opposed to their agreement. The Court explained that certain cases, such as family cases, and commercial cases were more suited to ADR than others.

The rule established the use of Section 89 and instructed courts on when and how to refer cases to the various forms of ADR.

3. B.S. Krishnamurthy v. B.S. Nagaraj⁶³

The case was a family feud between brothers, and this brought out the strength of ADR in settling family disputes.

⁶¹ AIR 2005 SUPREME COURT 3353, (2005) 4 BOM CR 839

⁶² (2010) 8 SCC 24 on 26 July, 2010
Author: R.V.Raveendran, Bench: J M Panchal, R V Raveendran

⁶³ (2011) 15 SCC 464

The Supreme Court invited mediation between family disputes with full knowledge that mediation will preserve relationships. It placed the binding nature of the settlement reached prior to Lok Adalats in the Legal Services Authorities Act, 1987, in the limelight. The Court reaffirmed that Lok Adalat awards are final, conclusive, and not subject to appeal. This judgment also encouraged the mediating role of ADR, i.e., mediation and Lok Adalats, for peaceful and early resolution of family and property disputes.

4. *M/s. Emkay Global Financial Services Ltd. v. Girdhar Sondhi*⁶⁴

The matter concerned the level of judicial intervention allowed under the 1996 Arbitration and Conciliation Act, and enforcement of award under an arbitration.

The Supreme Court made it clear that the courts are not required to delve into merits of the case while dealing with applications under Section 34 of the Arbitration Act.

It held judicial review to be limited only to the reasons stipulated under the Act with a view to allowing finality of awards in arbitration.

The Court also felt interference was limited with a view to encouraging effectiveness of arbitration as an ADR.

This holding brought about pace in enforceability of awards and formulated the doctrine of minimum intervention by

the judiciary, thereby breeding confidence in arbitration.

5. *Amazon.com NV Investment Holdings LLC v. Future Retail Ltd.* (2022) 1 SCC 209

The case involved enforcement of an emergency arbitrator award in a cross-border commercial arbitration between Amazon and Future Retail.

The Supreme Court explained the validity and enforceability of emergency arbitrator awards under Indian law.

Recent trends in ADR in India (2023 - 2024)

India experienced a significant broadening of the scope of ADR in 2023 and 2024 with the finality of lightening the burden of traditional courts and operating effective methods of dispute settling. The highlight development is the enactment into force of the Mediation Act, 2023, functioning of the India International Arbitration Centre (IIAC), and encouragement of Online Disagreement Resolution (ODR) by the Supreme Court.

1. The Mediation Act, 2023 Institutionalizing Agreement The Mediation Act, 2023, effective from the 15th of September, 2023, is a milestone in the annals of Indian law by establishing a holistic regime of agreement. The Act aims at bringing about and strengthening agreement, especially institutional

⁶⁴ (2018) 9 SCC 49

agreement, with a view to settling controversies, marketable or not.

Three-league Structure the Act offers the structure of agreement, including, Community Agreement Makes dispute resolution at the community level lead to concord and minimize action.

Court-attached Agreement Delivers agreement to the bar to enable courts to link cases to agreement.

Online Agreement Leverages technology for agreement, making it more accessible and affordable. reasonably Enforceable agreements are made by agreement given the force of a decree, as enforceability and futurity⁶⁵.

Formation of the Mediation Council of India the nonsupervisory organization that administers the agreement process, certifies intercessors, and enforces compliance as provided for. Time-Bound Process Provides 180 days of time limit for the execution of agreement proceedings, which can be extended by another 60 days on mutual consent. As part of initiatives to minimize the number of contentious cases reaching the courts, pre-litigation mediation visions prompt parties to first attempt to agree before proceeding to the courts.

⁶⁵ Gupta, A., Bajpai, A., & Sivaraman, J. (2025). 11 Consumer ADR in India. Consumer Alternative Dispute Resolution in Emerging Economies.

⁶⁶ Shukla, S., Sharma, P., Gupta, P., Pandey, S., Agrawal, R., Rathour, D., ...

2. India International Arbitration Centre Launch: Making India an Arbitration Hub

In order to make India an international arbitration hub, the India International Arbitration Centre was set up in the year 2023. The IIAC aims at developing a strong institutional framework for arbitration for the resolution of domestic and cross-border disputes⁶⁶.

Key Highlights

Regulatory Framework: IIAC functions under the India International Arbitration Centre (Conduct of Arbitration) Regulations, 2023, which lay down regulations for arbitration with a view to increasing efficiency and transparency in the process.

3. Supreme Court's initiative towards Online Dispute Resolution (ODR): To Go Digital

Observing the potential of technology to speed up dispute resolution, India's Supreme Court itself has been an ardent supporter of Online Dispute Resolution (ODR). Although reaffirming its commitment towards adopting e-mediation, especially for commercial disputes, in making resolution quick and affordable in 2023, the Court laid stress on the utilization of e-mediation.

& Sulakhiya, K. (2024). Current scenario and future prospects of adverse drug reactions (ADRs) monitoring and reporting mechanisms in the rural areas of India. *Current Drug Safety*, 19(2), 172-190.

Axiomatic Initiatives:

Empanelment of Arbitrators: In order to enhance the quality and reputation of arbitral hearings, a Chamber of Arbitration has been established for the empanelment of experienced arbitrators. Press Information Bureau.

Government Assistance: The Union Law Ministry has incurred ₹7.5 crore over three years to buy IIAC as part of the government's initiative to encourage institutional arbitration.

Instructions for E-Mediation: The Supreme Court has the facility of utilizing e-mediation websites which conduct virtual sessions of mediation geographically dispersed locations.

Incorporation into Judicial Proceedings: Courts have been directed to incorporate ODR mechanisms so that disputes and pendency could be easily resolved.

Building Capability: Lawyers and mediators are being empowered to employ digital technology, with the window for the application of ODR kept open.

International trends are being watched to create space for the use of ODR with India taking the lead in embracing technology in the judicial system.

Why Alternative Dispute Resolution (ADR) is Important to India's Justice System

The Indian judicial system is struggling with a monolithic pendency of cases, with

more than 4.5 crore pending in the courts. Not only does this lead to delay in justice, but also brings down public faith in the judicial system. In such a context, Alternative Dispute Resolution (ADR) systems—like mediation, arbitration, conciliation, and Lok Adalats—proven mechanisms for rationalizing the system to make it efficient, cost-cutting, and relationship-saving⁶⁷.

1.The Indian courts are grossly burdened with a grossly excessive number of pending cases.

ADR techniques can alleviate this burden by channeling appropriate cases out of conventional litigation. To illustrate, Lok Adalat's have been known to be effective on this score. During a National Lok Adalat conducted on May 2025, in Noida and Ghaziabad, around 780,000 cases were resolved in a day, most of them at the pre-litigation stage. Not only do these initiatives hasten the resolution of disputes, but they also leave judicial resources free for more complicated cases.

2.Economic Advantage Conventional litigation in India is typically exorbitant, including high court fees, attorney fees, and long processes. Mediation and other ADR mechanisms, however, are considerably less expensive. A Centre for Trade and Investment Law (CTIL) and Federation of Indian Corporate Lawyers

of Indian Judiciary. Issue 1 Indian JL & Legal Rsch., 5, 1.

⁶⁷ Maggo, N. (2023). Role of Alternative Dispute Resolution in Reducing Burden

(FICL) report states that mediation entails much smaller charges than litigation. In reducing expenses, ADR becomes an alternative, particularly for small and medium-sized enterprises and citizens looking for quick and affordable settlements.

3. **Faster Adjudications at a Faster Pace** Speed is the key issue in dispute resolution. Whereas Indian court cases would take years to be concluded, ADR procedures enable adjudications much faster in duration. Taking mediation as a case in point, it takes between three and six months on an average, relief for the affected parties in due time. Such efficiency, thus, is not only a boon to the disputing parties, but also optimizes the running of the justice system better by checking case arrears⁶⁸.

4. **Saving Relationships** In contrast to confrontational legal hearings with a predisposition to enlarge disagreements, ADR establishes cooperation and empathy as higher priorities than dispute. Mediation, for instance, creates a culture of collaboration in which parties strive towards agreed solutions. This is especially helpful for family and business disagreements where relationships should be maintained. As a marker to this is a National Lok Adalat in Nagpur where mediation united 25 couples at the brink of divorce. Convincing cases like this

illustrate ADR's not only potential for ending disputes but also repairing relationships.

5. **Institutional Support and Sanction under Law** Indian legislation is slowly adopting ADR processes. The Mediation Act of 2023 legalizes mediation by providing a statutory foundation and also making agreements to mediate enforceable under law. Additionally, Section 89 of the Code of Civil Procedure gives power to the courts to refer cases to ADR techniques, mainstreaming them in the judicial process. Legislative encouragement through these measures generates that ADR is not merely an alternative but a component of the Indian mechanism to resolve disputes.

6. **Enhanced Access to Justice** ADR processes better access to justice by ensuring flexible, informal, and accessible modes of resolution. They are particularly beneficial to marginalized communities and individuals who may find the traditional litigation system difficult or unapproachable. For providing alternative channels for dispute resolution, ADR towards a more inclusive justice system helps where the diverse needs of India's heterogeneous population are met.

Challenges for the Implementation of Alternative Dispute Resolution in India

Alternative Dispute Resolution processes such as mediation, arbitration, and

⁶⁸ Sharma, A., & Sahu, M. (2014). *Alternative Dispute Resolution: A New Judicial Mechanism of Modern Era*.

conciliation have lines of promise for easing the overburdened judiciary of India. But with all the promise that they have, implementation of ADR in India is confronted by a cluster of structural and functional challenges that impede its overall acceptability and performance⁶⁹.

1. Resistance by Lawyers and Litigants

A key obstacle here is the hesitation of legal professionals and parties to adopt such alternative means. A joint 2023 survey of the Federation of Indian Corporate Lawyers and the Centre for Trade and Investment Law indicated that just 25% of lawyers routinely advise on ADR measures to their clients. Several reasons underpin this hesitation:

Lack of Awareness: Most legal professionals and clients are not adequately educated about the advantages and mechanisms of ADR, therefore ending up with the traditional litigation⁷⁰.

Financial Incentives:

The traditional litigation is often time-consuming processes, which being inherent, involve higher legal charges. This financial factor may deter some

attorneys from marketing faster ADR services.

Perceived Efficacy: Court rulings are generally thought to be reasonable and practicable than ADR awards, which make clients prefer conventional court procedures.

2. Lack of Trained Mediators

The efficiency of ADR, especially mediation, is highly dependent upon how many trained and certified mediators are available. India is not currently suffering from a widespread shortage in this area. India has around 19,158 mediators ranging from judicial officials to lawyers and other professionals as per the statistics of the Mediation Act of 2023. That number is relatively lower compared to the likes of the United States, with more than 50,000 certified mediators. This lack points to the necessity for, **Comprehensive Training Programs:** Having standardized modules of training in order to prepare mediators with all the skills and expertise necessary. **Certification Procedures:** Establishing strong certification procedures to ascertain credibility and quality of mediators⁷¹.

Mechanisms for Informal Economies.
Law Research Journal, 3(1), 97-111.

⁷¹ Baug, B. (2024). Assessing the Future of Mediation: The Impact of the Mediation Act, 2023 on Dispute Resolution in India. Issue 5 Int'l JL Mgmt. & Human., 7, 905

⁶⁹ Bhowmik, P. (2024). A Socio-Legal Study of Challenges in Resolving Disputes through ADR and Future of Alternative Dispute Resolution in Contemporary World with Special Reference to India. Issue 2 Int'l JL Mgmt. & Human., 7, 102.

⁷⁰ Khan, A. B. (2025). The Role of ADR in Transforming Dispute Resolution

Objective of the Research

1. Discover the Effectiveness of ADR Mechanisms in India

The research will measure to what extent ADR processes—arbitration, mediation, conciliation, and Lok Adalats—have curbed the judicial burden. It will also evaluate the efficacy, cost-effectiveness, and access of the processes in the resolution of disputes. The research will consider parameters like time taken on determination of a case, level of satisfaction on the part of parties, and the enforceability of ADR awards.

2. Judicial Trends and Legislative Reforms

The study will examine the increasing role of the courts in enforcing ADR. It will discuss landmark judgments that have shaped the landscape of ADR and examine the manner in which the courts have understood and enacted legislations concerning ADR. To determine their effects on the viability and acceptance of alternative dispute resolution (ADR) in India, the study will look at legislative attempts such the Mediation Act of 2023 and modifications to the Arbitration and Conciliation Act of 1996.

3. Benchmark India's ADR System against International Best Practices

In comparison with other countries with robust systems of resolving disputes, e.g., Singapore and the United Kingdom, the study will compare India's ADR systems with a view to pinpointing areas of improvement. Through comparative

assessment, international best practices in institutional support, training of mediators, enforcement of ADR awards, and application of technology in dispute resolution systems will be identified.

4. Provide Policy Suggestions to Strengthen ADR

The conclusion will provide useful policy suggestions on how ADR may be strengthened and rendered efficient and legitimate in India. They may include proposals for enhanced public awareness, enhancing mediator training programs etc.

Methodology

This study followed mixed methods methodology to assess the effectiveness and outreach of alternative dispute resolution (ADR) in India. It combines doctrinal research, empirical research, and comparative legal analysis. Doctrinal research includes critical analysis of important laws such as the 1996 Arbitration and Arbitration Act, the 1987 Law on the Authorities of Legal Services, the 2023 Mediation Act and Article 89 of the Civil Procedure Code. Classical Court rulings and reports of the Legal Commission have also been studied in research to analyse the legal framework and the judicial mindset towards the ADR. The empirical study is carried out through surveys and interviews with mediators, arbitrators, lawyers and plaintiffs in order to understand their daily experience and views on ADR. It provides an

understanding of whether ADR mechanisms are effective, accessible and vulnerable to challenges. Effective ADR models in the US, UK, and Singapore are reflected in comparison study. It observed the well-established institutional framework, the training process of mediators, and the use of technology in conflict resolution in these countries. The mixed approach combines legal theory with practical lessons and world best practices to form policy proposals, integrating India's ADR and providing a balanced and panoramic assessment of ADR.

Conclusion

One of the most basic pillars of any democratic country, access to justice is still being plagued by inordinate delays, procedural delays and exorbitant litigations' costs in the formal Indian court system. So much so that clustering alternative dispute resolution mechanisms (ADRs) provides timely and badly required remedies for surmounting these systemic shortcomings. These ADR techniques like arbitration, mediation, mediation and negotiations are a flexible, affordable and speedy solution as a substitute to the conventional courts. This study emphasized the significant legislative and judicial developments India has undertaken toward promoting ADR, such as provisions under the Arbitration and Settlement Act, the Legal Services Authority Act and the new Mediation Act 2023. The landmark Supreme Court

verdict also gave a boost to the justification and requirement of the ADR in order to lower the waiting time of the judiciary. But for all of these, implementation of ADR is being hampered by a lack of awareness, poor training, weak institutional infrastructure and non-compliance. Learning from international benchmarks in Singapore, United Kingdom and the United States of America, India can further enhance its ADR ecosystem. The policy proposals are to build stronger institutional capacities, to invest in mediator training, to build strong enforcement mechanisms and use technology for online dispute resolution. ADR is not a tool in addition, but an indispensable part of India's judiciary. Its potential needs to be completely reaped by involving the lawyers, policymakers, the judiciary, and the people. Strengthening the ADR not only places justice within reach, but also results in a more sensitivity, inclusive and efficient legal system.

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Outsourcing of Data and Breach of Privacy under Digital Data Protection Act, 2023

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Abstract

Right to privacy under art 21 of the Indian constitution speaks about the right to life and personal liberty, which has received formal recognition in the case retd. Justice K.S. Puttaswamy v UOI. Major technology giants and social media platforms work on an international level by creating and using data from Indian citizens. This unauthorized use of data creates a grey zone in international law between two countries which has not been addressed in the said act. The digital divide and absence of an international regulatory framework poses a threat to the privacy of data proprietor. The issue of jurisdiction in matters relating to unlawful data trading in cross border is also a matter of concern. The absence of multi-lateral treaties in this regard is also to be discussed.

The goal of the proposed Digital Personal Data Protection Rules is to defend citizens' rights to have their personal information protected. In keeping with India's pledge to provide a strong framework for safeguarding digital personal data, these regulations aim to operationalize the Digital Personal Data Protection Act, 2023 (DPDP Act). In line with the DPDP Act, they aim to uphold the rights of citizens while striking the ideal balance between innovation and regulation, ensuring that everyone may profit from India's expanding

innovation ecosystem and digital economy. They also deal with particular issues including unauthorized commercial data use, digital damages, and breaches of personal data.

Keywords: Right to Privacy, Digital Personal Data Protection Act (DPDP) 2023, Cross-Border Data Jurisdiction, Unauthorized Data Use, International Regulatory Framework

Introduction

There has been a paradigm shift in the way the world revolves. Most of our daily routine revolves around the way we show our life on social media. But it does not preclude us from stressing on the protection of certain data from reaching the public domain or being unauthorizedly used by the “Data privacy presents a confused array of rhetoric and principle. The rhetoric often conflates a wide range of interests and values. Privacy does not neatly fit a single conceptual model”.¹ A very large fragment of us stays in the electronic databases. But the contention that stems out of it is that how much do we control the way it is used. This is where the issue of privacy starts. It begins with the way data is generated, how is it preserved and the way it is transferred for the purposes of electronic operations.

The Indian concomitants of privacy are of very recent origin. In the decisions of the Supreme Court in the case of *M.P. Sharma v. Satish Chandra*, the Supreme Court negated the contentions to draw right to privacy, counterpart to the American 4th Amendment rights, into the Indian Constitutional regime.¹ It also held that the state’s power of search and seizure has a very strong jurisprudential cover based on the idea of the protection of social security.¹ Further in the case of *Kharak Singh v. State of Punjab*, the Apex Court

further held that privacy invasion is not violation of any right under Article 21 of the Indian Constitution¹. But all the debate came to a halt in the case of *Retd. Justice K.S. Puttuswamy v. Union of India*¹. In the case, the Apex Court overruled the *M.P. Sharma and Kharak Singh* judgment. It was of the view that privacy is a basic prerequisite for exercising liberty and freedom. Privacy thus constitutes basic, irreducible condition necessary for the exercise of ‘personal liberty’ and freedoms guaranteed by the Constitution. It was held to be a major premise of part III of the Indian Constitution.¹ In many of the following decisions, Supreme Court has held that right to privacy is a fragment of Part III of the Indian Constitution. In the judgment, the Apex Court tried to warn the impending value of privacy in an information driven society.¹ Three requirements have been established by the Honourable Supreme Court for the State to interfere with fundamental rights. Although the State may step in to defend justifiable state interests, (a) a legislation must exist to support a privacy invasion, as required specifically by Article 21 of the Constitution, (b) the structure and content of the law that imposes the restriction must be within the reasonableness range specified in Article 14, and (c) the methods used by the legislature must be commensurate with the goals and

requirements that the law seeks to satisfy.¹ Therefore, any future legislation that aims to infringe on an individual's right to privacy must pass the proportionality test.

The governing legislation on data protection in India is the Digital data protection Act, 2023. The Act deals with the processing of digital data in such a manner that the right of the individuals to protect their data and the need to process the data for lawful purpose can be governed.¹ The Act being fairly novel in its inception, needs to be discussed in the context of the privacy violations that it seeks to redress. Privacy should be one of the primary concerns of any data protection legislation. The task is to study the interplay of privacy and information in the context of a global information-based society. In the aforementioned judgment, court had commented on the interplay of privacy and informational safeguards in the national context. But most of the information that we used in the way of our dealing in the digital world, involves a cross-border data transfer. The third-party apps that use our data have a global reach which require them to send and receive data in the international sphere. The broad issue for consideration is the issue of privacy violations in cases of data outsourcing under the novel data protection regime.

Literature Review

Data confidentiality, secure query execution, private access, data integrity, and access control enforcement are some of the major issues relating to the

outsourcing of data and the privacy issues related therein.¹ It is important to acknowledge the key issues relating to privacy preservation and ensuring execution of encrypted data. There is a conscious argument to reexamine data protection as a separate right from privacy and offers a theoretical framework for proving its inherent worth. The essay by Dr. Tzanou presents a strong argument for reconsidering the legal standing of data protection, contending that it should be seen as a basic right in its own right rather than as a subset of privacy. She identifies the gaps in present legal interpretations and offers a strong framework for bolstering data protection in the EU legal order by critically evaluating current theories and case law. Her study makes a substantial contribution to the current discussion about the best ways to safeguard people's data rights in a society that is becoming more digitally connected.¹ In light of digital surveillance, Nyst and Falchetta's paper examines the development of privacy as a basic human right. It details how privacy is becoming more widely acknowledged in international human rights frameworks, especially in the wake of Edward Snowden's disclosures on widespread surveillance activities. The paper emphasizes how crucial civil society organizations are in establishing privacy standards. Through litigation, especially before the European Court of Human Rights and the Court of Justice of the European Union, advocacy groups have played a crucial role in promoting more robust legal protections and contesting

mass monitoring. The legal challenge against governmental surveillance is one of the article's main themes. The writers look at instances like *Schrems v. Data Protection Commissioner* and *Digital Rights Ireland v. Ireland*, which have resulted in important decisions restricting the keeping of large amounts of data. They contend that a large number of national legislations still deviate from international human rights norms, leading to continuous legal disputes.¹ The author talks about the government regulations and the international civil society. But it does not seek to provide any kind of culpability on the private corporations working on the precepts of this data. Further the approach of the author is more of a consumer driven approach and it does not focus on the laches on national security when the data is exchanged between countries by the aforementioned social media giants. Because it enables businesses to access skilled labor across borders, improve efficiency, and minimize costs, offshoring has become a crucial part of global corporate operations. Madhukar, Shivali, and Saini's (2010) paper "Offshoring of Services – An Indian Perspective" offers a thorough analysis of offshore trends, obstacles, and opportunities in India. The paper "Offshoring of Services – An Indian Perspective" offers insightful information about the origins, advantages, difficulties, and prospects of India's offshoring sector.¹ There are still a number of study gaps, nevertheless, especially in the areas of comparative global studies, policy implications, and the impact of developing

technologies. To provide a more comprehensive and current understanding of India's involvement in the global offshore scene, future research should concentrate on these topics.

Meaning and Nature of Data Outsourcing

Data outsourcing is the practice of consumers and businesses providing their data, particularly potentially sensitive data, to servers or organizations outside of their control, who subsequently turn into in charge of the data's distribution, administration, and storage.¹ The controller might also keep the information they gather on a third-party cloud platform. As a result, the data controller is no longer in charge of data management.¹ If the data was sent to an external server by a person or another organization, the controller assigns the data to a different business, which is now in charge of data management. The term "data processor" refers to this third-party business.¹ Both the data subject and the collector have no control over the external servers where the outsourced data is kept. Because of processor manipulation, data stored on them could be vulnerable to hacking and leaks.¹ This is troubling since the controller, who was initially given custody of the data, has no authority over the server that houses it. The third-party processor that oversees and controls that server is its property.

Another important type of private wrong arises from unlawful data disclosures. On

several accounts, disclosures have revealed sensitive government information and were also crucial to public policy debate, of which a significant amount of disclosed information is destructive to individuals and companies alike, and often has little, if any, public value. Freedom of expression and privacy are directly at odds when significant disclosures are made to the public and unsettling private intrusions occur. Private information that harms innocent people and businesses is frequently made public when significant information is made public.¹ The harm inflicted on innocent people that is public disclosures emphasize the necessity of striking a balance between people's right to privacy and free speech. A business general counsel sees data breaches as a whirlwind of legal problems. Trademark law, privacy law, insurance law, tort law, negligence, contract law, securities law, violations of foreign data security laws, labour law, violations of federal agency data security, criminal law, shareholder liability, attorney-client privilege, and board liability are some examples of the issues that may arise. It is hard to foresee the precise set of legal problems that will surface following a specific breach, and this list is not all-inclusive¹.

Apart from the organisation level of issues that arise from the data privacy violations, there are certain other forms of sociological level contentions that arise in the same account. In addition to personal harm, "public" or "societal" harm is a

second category of privacy wrong. Data privacy, according to academics, is a social ideal and a necessary component of democracy.¹ The parameters of personal information protection are of significant interest to society at large. Protected areas that go against a strictly proprietary, choice paradigm of data privacy is necessary for individual autonomy.

The other important fragment of the data privacy scheme is the public harm arises from offensive and socially corrosive practices. The very specific example of this could be about the allegations on Meta, which is the parent company of Facebook and Instagram, has been called down for civil rights violations. Facebook's parent company Meta has come under fire from civil society organizations for allegedly "whitewashing" a long-awaited assessment on its impact on human rights in India. The paper was released on Thursday in an extremely condensed form. In August 2020, TIME first revealed that Facebook had commissioned the human rights impact assessment (HRIA) to ascertain its involvement in the internet propagation of hate speech. Rights organizations have been waiting for the report for almost two years, as they have long expressed concern that Facebook is causing civil freedoms in India to deteriorate and minorities to face threats.¹

Further there have been allegation that sometimes data leaks and inefficiency in storing sensitive information have resulted in the violation of certain intellectual

property-based rights and trade secret laws. Individuals' personal information as well as non-personal information like trade secrets, operational data, and commercially sensitive information may be involved in such occurrences. They hurt people by disclosing their personal information, which frequently leads to identity or financial fraud and may jeopardize national and economic security. Additionally, they can seriously disrupt corporate operations or harm a company's reputation, which is more difficult to repair in a setting where customer trust is constantly eroding. These have called a significant loss in the goodwill of the companies. Whenever, there is a leak of data, the competitors have a sweet chance of getting hold of private trade secrets of companies. It is common to hear about cyber security events and breaches of personal data that have a negative effect on thousands of people and businesses. According to a recent survey, there were 59 instances of access sales, 39 ransomware attacks, 107 data leaks, and 388 data breaches.¹

Data Management regulations under Digital Data Protection Act, 2023

The Digital Data Protection Act, 2023 deals with the protection of digital data in India and provides for remedies in cases of privacy violations. The persons in connection of the Act that hold personal data are called as data fiduciary. Data fiduciary is defined as “any person who alone or in conjunction with other persons

determines the purpose and means of processing of personal data”¹. Further significant data fiduciary has also been defined under the Act.¹ There have been numerous allegations that the data fiduciaries used the data for illegitimate uses and for uses not consented by the “data principal”¹. Misuse of personal information is one of the most significant violations that occur in this regard. This cognizable injury occurs when data is gathered for one reason and then handled differently, failing to uphold the initial expectation.¹ But frequently, this invasion of privacy is overshadowed by the rhetoric around irritation and annoyance. The abuse of personal data that results in the unsolicited solicitation is the fundamental privacy violation. The non-participatory role of the individual in the handling of personal data leads to this misuse. Such an issue arises when participation is solicited under false pretences or when a person is not given the chance to object to the processing of their personal information. Furthermore, data manipulation that goes beyond a person's reasonable expectations is misuse.¹ These all forms of data leaks and privacy violations have to be tackled by the legislations and the judicial precedents that arise in this regard. It is very important to closely look into the statutory and judicial legal framework on the redressal of these violations.

At the very outset, Digital Data Protection Act, talks about the applicability to of the Act to “processing of digital personal data

outside the territory of India, if such processing is in connection with any activity related to offering of goods or services to Data Principals within the territory of India”¹. Section 4 talks about the grounds for the processing of personal data. It says that the data can be processed only for lawful purpose and with the consent of the data principal. It further goes on to say that lawful purpose means any purpose not expressly forbidden by law.¹ It proceeds with the requirement of the notice to the effect that the “request made to a Data Principal under section 6 for consent shall be accompanied or preceded by a notice given by the Data Fiduciary to the Data Principal, informing the data principal about the personal data and the purpose for which the same is proposed to be processed, the manner in which she may exercise her rights and the manner in which the Data Principal may make a complaint to the Board, in such manner and as may be prescribed”¹ Further the Data fiduciary is obligated to give the notice to the data principal either in English or in any of the 8 languages mentioned in the 8th Schedule of the Indian Constitution.¹ The consent of the data principal is given sufficient amount of importance by the provisions of the Act. It provides that consent given by the data principal shall be free, specific, informed, unconditional and unambiguous with a clear affirmation action. It further says that an agreement shall be made for the processing of the personal data for the

purpose specified and the limitation of the collection of the personal data for that purpose only.¹ But such consent is not irrevocable and can be withdrawn at any time without any technical bars. But the Act further goes on to say that the “consequences of the withdrawal shall be borne by the Data Principal, and such withdrawal shall not affect the legality of processing of the personal data based on consent before its withdrawal”¹ furthermore, the withdrawing of the consent shall cause the data fiduciary to stop processing the data without reasonable time.

All the aforementioned provisions suffer from some anomalies. Nevertheless, there is no denying that the data gathered has facilitated our lives and contributed to the development of our country. With the aid of all the relevant data that is kept on file on our devices and all of the documents that are nearly connected to one another, the information is at our fingertips. However, it is also undeniable that data mining has encountered problems with self-posts on social media and WhatsApp status updates, among other applications, and that these data extractions—such as address, account details via KYC, phone number, workplace, etc.—have put the individuals to whom they belong at risk.¹

The definition of the data fiduciary as is mentioned in the Act should be wide enough to cover third parties whom the data fiduciaries generally give the power to deal and process the personal data. Most of

the third parties escape culpability in case of data leaks while taking the defence of third party to the agreement. In law, only the parties to the agreement are bound by it, without making any implication to any third parties. In the case of major data breaches, the third-party data processing companies can take the plea that the data principal has an agreement with the data fiduciary and not the third-party companies and hence cannot implead them in the cases on privacy breach.¹ It is frequently maintained that India ought to switch from the current "consent based" data protection paradigm to a "rights based" one. When the user gives their consent, the data controller can use, process, and share the data with any third parties under the consent-based model.¹ When giving their approval, few people are aware of the true repercussions of the careless data sharing. On the other side, the "rights based" model gives consumers more control over their data while requiring the data controller to make sure those rights are upheld. As a result, users have more control over their personal information. If prior consent from the information provider has been obtained, or if the disclosure is permitted in the contract between the recipient and the information provider, the body corporate receiving the information may disclose sensitive personal data or information to any third party when fulfilling a legal responsibility requires the disclosure.¹ However, in cases where the information is shared with

government agencies required by law to obtain information, including sensitive personal data or information for identity verification, or for the purposes of prevention, detection, investigation, including cyber incidents, prosecution, and punishment of offenses, no such consent from the information provider is necessary. There is an imperative requirement to make such third-party access important to be reduces so as to prevent data misuse.

The other significant flaw that remains in this regard is the definition of the phrase "lawful purpose" as used under the provisions of the Act. While some other nations have chosen to include a list of objectives that may be considered "lawful" in their data protection laws in order to lessen the possibility of ambiguity, the phrase "lawful purpose" is still ambiguous.¹ An Act's ease of compliance increases with its level of depth and clarity. It seems that the Act may have grown overly simplistic in its attempt to facilitate company operations while maintaining some level of protection, and as a result, it may prove to be detrimental.

The Digital Personal Data Protection Bill of 2022 established a new idea called "deemed consent." This clause essentially implied that a person's silence or inaction may be interpreted as agreement in certain situations. The deemed consent process has been reframed in Section 7 of the Digital Personal Data Protection Bill (2023) to "certain legitimate uses," which

includes using personal data for the stated purpose, for the State and any of its instrumentalities, and for any of the legitimate uses listed in Section 17. According to section 7 of the DPDP, unless the data principal has expressly objected to the use of the personal data, companies or data fiduciaries may be able to process the data principal's personal data for the purpose for which the data principal voluntarily gave it to the data fiduciary. For instance, All information shared by an employee and all information gathered and processed in connection with his or her immediate employment may be covered by legitimate use if we interpret the provision in the context described above and use the example of a new job. This is because the data is processed for the specific purpose for which the Data Principal voluntarily gave the Data Fiduciary his or her personal information. The Data Principal's approval is not necessary for the company to process the data unless it plans to do so for any other reason than the Data Principal's employment. Since the idea of "certain legitimate use" is still relatively new and unproven, it will be interesting to observe how companies really understand and implement it. While some businesses might be more willing to utilize personal data more widely, others might adopt a more cautious position and solely rely on its permissible usage in extremely specific situations. The courts may also have to decide what "certain legitimate use" means in particular situations, which could help to

further define its parameters and how it applies to businesses. But this suffers from various abnormalities that may arise in its application. The definition and the usage of consent may be very free, clear and unambiguous. The consent must not be informed or might be unclear as to its usage. According to the DPDP Bill, organizations who use such consent must be able to demonstrate that it was for "certain legitimate use. People may not be aware that they have given their consent in the first place when it is for legitimate use as defined by the Bill, which makes it challenging for them to exercise their right to withdraw consent. According to the Bill, such consent might not be sufficient for sensitive personal data or children's data, and noncompliance could result in regulatory investigation or legal action. If such consent is questioned, it could be interpreted that the organization has not treated the privacy of data principals seriously, which could harm its reputation.

Regulatory Framework in Data Outsourcing

According to international law's rules of jurisdiction, a state's jurisdiction ends at its borders unless expressly allowed by bilateral or multilateral agreements.¹ However, there are several situations in which the exercise of extraterritorial jurisdiction is permitted by international law.¹ It is simple for personal information belonging to a state's citizens to be processed online across several jurisdictions. This obviously results in a

scenario where a decision made in one state affects or has an influence on another. Processing of data originating from Indian individuals must fall within the purview of extraterritorial jurisdiction.¹

A client's private and sensitive information assets are frequently transferred across international borders as part of outsourcing agreements. Hospitals, accounting organizations, and insurance companies are entering into contracts with businesses that have facilities abroad. These outsourcers offer services like tax preparation, insurance and medical claim processing, and transcription of doctor's dictation pertaining to every step of the healthcare process, from surgery to patient visits. Most of the time, this data contains private information such as social security numbers, medical records, payroll and benefit information, bank records, and purchase history.¹

In a global economy, offshore outsourcing is still a viable strategic choice.¹ Data security is still the "main deterrent preventing companies (from using) offshore outsourcing. Data sent overseas is only safeguarded to the extent that the provisions of the Contracts stipulate how a cause of action may be enforced and recognized, as permitted by the destination nation. This is challenging because data protection regulations are often unequal outside of the European Union. Therefore, a U.S. corporation's capacity to enforce any data protection clauses in the outsourcing contract is essentially its only

option for protecting the personal data it sends to a credit card processing provider in a nation with laxer data protection regulations. In order to reduce their own liability for the outsourcing supplier's conduct, risk-averse businesses are therefore motivated to create insufficient data protection contractual assurances or to omit them completely. It can be difficult to enforce data protection clauses in a foreign sovereign state, even for businesses that are compelled by national legislation to include them in their outsourcing contracts. Bilateral data transfer agreements may help to lessen the enforcement problem, but they cannot be implemented without increasing trade barriers because businesses cannot hire more cost-effective outsourcing providers located in non-participant nations. Globally, there are numerous data protection laws that range from "very strong" to nonexistent. The main issue with offshore outsourcing is when data is moved from a business (or office) that operates in a nation with robust data protection laws. To put it another way, how can one make sure that data protection is not compromised throughout the transfer process when data is moving across borders to a jurisdiction with lax data protection regulations? Technically, data sent overseas may be governed by the laws of the country where it originated, but for jurisdictional and sovereignty concerns, there is no assurance that the data will be protected in the destination country unless

local laws specifically provide for it. The response will change based on whether an intergovernmental standard binds the countries of origin and destination, as well as whether the country of origin has national data protection laws that make businesses that use offshore outsourcing answerable to the public for breaches involving data moved overseas.

Conclusion

There are two methods to guarantee sufficiently robust data protection on both ends of the offshore transaction in the current global regulatory environment: (1) through a contract between the outsourcing company and the outsourced provider; and (2) through bi-lateral agreements on data protection between the outsourced provider's and the outsourcing company's nations. It is currently recommended that businesses looking to outsource "[g]et strong contractual assurances" from the outsourcing provider on data privacy. The outsourcing contract data protection clauses have to outline the business's "control over and access to the data; the use of suitable data security measures; limitations on the use, transport, processing, and sharing of data; a commitment to make modifications as needed by evolving privacy regulations; the right to a facility audit; and numerous other related subjects. The contract must also include a strong enforcement mechanism that makes the BPO provider accountable for fulfilling their end of the bargain. In a country with weak data protection laws (or weak enforcement

thereof), it may be necessary for the contract to lay out data protection procedures for the BPO provider. Bilateral cross-border data transfer agreements, like to the U.S.-EU Safe-Harbor agreement, are another way to guarantee robust data protection on both sides of the offshore outsourcing contract. But unless all of these agreements are made, Instead of adopting standardized data protection procedures, this strategy creates a complex network of bilateral treaties with the European Union, meaning that all bi-lateral cross-border data transfer agreements are EU Safe Harbor agreements. Businesses that want to outsource must encourage lawmakers to arrange bilateral agreements between their nation and the outsourcing providers.

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Centurion
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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

Legal Frameworks for Climate Change Mitigation in India

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ABSTRACT:

Climate change represents a profound and long-term shift in Earth's average temperature and weather patterns, posing an existential threat to humanity and the delicate balance of our environment. This urgent crisis demands immediate and cohesive global action. It stands as one of the most critical challenges of our time, necessitating a relentless commitment to reducing greenhouse gas emissions. Legal frameworks are essential in steering and enforcing our efforts to combat climate change. These frameworks encompass international agreements, national legislation, and regional regulations, collectively guiding our path forward. Among these, the United Nations Framework Convention on Climate Change (UNFCCC) serves as a pivotal foundation for global initiatives aimed at mitigating climate change. According to Article 2 of the UNFCCC, the goal is to stabilize greenhouse gas concentrations in the atmosphere at levels that allow ecosystems to adapt naturally to climate change, ensuring that food production remains secure while facilitating

sustainable economic growth. National frameworks play a crucial role in regulating air pollution and fostering sustainable practices, exemplified by the Clean Air Act in the United States—a comprehensive federal law addressing not only air quality but also greenhouse gas emissions. Similarly, Germany's Renewable Energy Act stands out as a vital legislation that champions the development of renewable energy sources, paving the way for a sustainable future. India has emerged as a formidable force in shaping both international and national legal frameworks aimed at mitigating climate change. A pivotal player in the negotiations that led to the historic Paris Agreement in 2015, India has made a significant commitment to reduce its greenhouse gas emission intensity by 33-35% by the year 2030, garnering international recognition for its ambitious goals. Moreover, India has enacted a series of impactful laws and policies to combat climate change, including the Energy Conservation Act of 2001 and the National Green Tribunal Act of 2010, demonstrating a steadfast dedication to environmental preservation and sustainable development. Different initiatives and programs, such as the International Solar Alliance (ISA) launched in 2015 in India, reflect a global commitment to promoting solar energy and reducing reliance on fossil fuels. Additionally, India has established the National Clean Energy and Environment Policy (NCEEP), which is designed to foster clean energy adoption, significantly cut greenhouse gas emissions, and safeguard our environment. India's robust dedication to combating climate change is evident through its active engagement in international negotiations, the formulation of comprehensive national policies and laws, and the implementation of innovative initiatives aimed at decreasing greenhouse gas emissions while advancing sustainable development. A critical analysis of international, national, and regional frameworks reveals both strengths and weaknesses, pinpointing crucial intersections and gaps among various legal structures. The findings underscore the urgent need for enhanced climate governance, which includes enforcing more stringent emission reductions, increasing transparency and accountability, and establishing more effective mechanisms for climate change mitigation. The growing urgency for stronger and more effective legal measures will continue to intensify in the face of this global challenge.

Keywords: Climate Change, Greenhouse Gas Emission, Legal Frameworks, Sustainable Development, Renewable Energy, Transparency, Accountability

INTRODUCTION:

The climate represents a long-term pattern of weather that characterizes a specific region, shaped over decades. While weather can shift dramatically from hour to

hour and day to day, a region's climate emerges from sustained trends tracked over at least 30 years. This climate is pivotal in shaping our environment, ecosystems, and human societies. It dictates the distribution of flora and fauna,

the availability of vital water resources, and the frequency and intensity of natural disasters such as hurricanes, droughts, and floods. As climate change unfolds, even minor shifts can have profound effects on fundamental resources like food and water. From shifting weather patterns jeopardizing food production to rising sea levels escalating the risk of catastrophic flooding, the ramifications of climate change are both global in scope and unprecedented in scale. Without immediate and decisive action, our ability to adapt to these impacts in the future will become increasingly challenging and costly. Contemplating climate change can indeed feel overwhelming. For decades, we have acknowledged its causes, witnessing its devastating effects on our communities and ecosystems firsthand. Yet, there is a silver lining: we now possess a clear understanding of the measures necessary to combat climate change, and we are witnessing tangible, meaningful progress in this fight. Each day brings groundbreaking advancements in clean energy, electric vehicle technology, and energy efficiency. Countries such as Canada, China, the U.S., and India are collaborating at an unprecedented level to address what is arguably the most critical issue of our time. To this end, we are developing robust legal frameworks aimed at mitigating climate change's impact. These frameworks are designed to establish clear standards and guidelines, provide incentives and disincentives,

ensure transparency and accountability, and promote climate resilience and adaptation. India's legal landscape concerning climate change mitigation is a dynamic and complex structure, incorporating international commitments, national laws, and state-level regulations. This framework is significantly influenced by the country's constitutional provisions, judicial decisions, and institutional arrangements. A dedicated climate law would embody the principle of *Ubi jus, ibi remedium* (Where there is a wrong, there is a remedy) to effectively address the risks associated with climate change. By establishing specific climate legislation, we can streamline processes, bridge existing gaps, and provide a definitive framework for legal remedies that address climate-related grievances effectively.

CONSTITUTIONAL PROVISIONS FOR CLIMATE CHANGE MITIGATION

The law plays a crucial role in guiding human behaviour and ensuring our society functions harmoniously. It's important to recognize that the term 'Environment' wasn't originally included in the Indian Constitution. This absence highlighted the need to incorporate specific provisions within our supreme law to safeguard our environment. By doing so, we can better protect our precious natural resources from exploitation and ensure a healthier, more sustainable world for future generations.

PREAMBLE

Key Provisions in the Preamble for Climate change mitigation:

1. "Justice, social, economic and political": This clause reflects a strong commitment to achieving environmental justice and advocating for sustainable development practices that benefit all members of society.
2. "Liberty of thought, expression, belief, faith and worship": This provision encompasses the right to a healthy environment and supports individuals' freedom to voice concerns and advocate for environmental issues.
3. "Equality of status and of opportunity": This phrase underscores the importance of providing equitable access to environmental resources, ensuring that everyone has the opportunity to contribute to and benefit from sustainable development efforts.
4. "Promote the common good": This emphasizes the necessity of prioritizing the health of our environment and the sustainable management of natural resources for the well-being of both current and future generations.

Judicial Interpretation:

The Supreme Court of India has embraced the Preamble as a guiding framework for climate change mitigation. It underscores the importance of finding a harmonious balance between economic growth and environmental preservation, as demonstrated in landmark cases like *M.C. Mehta v. Union of India* (1987). This

approach highlights the proactive role of the judiciary in fostering a sustainable future.

D.P.S.P AND FUNDAMENTAL DUTIES

The environmental policies of the Government of India reflect a deep commitment to nurturing and preserving our precious natural heritage. Enshrined in the Directive Principles of State Policy, Article 48(a) beautifully expresses the state's aspiration to protect and enhance the environment, as well as to cherish and safeguard the forests and wildlife that grace our land. Furthermore, Article 51-A touches upon the heartfelt duty we each share as citizens of India—to honor and improve our natural surroundings, including the forests, lakes, rivers, and the diverse wildlife that calls our country home. This call to action reminds us that we all have a role to play in fostering compassion and care for the living beings that share our world. Article 51(A)(g) reinforces this fundamental duty, urging every citizen to take an active part in the stewardship of our environment, embodying empathy towards all creatures and recognizing the vital interconnection of life. Together, we can strive to cultivate a more harmonious relationship with our environment, ensuring its beauty and vitality for generations to come.

FUNDAMENTAL RIGHTS

Article 21 unequivocally affirms the fundamental right to life and personal liberty, while Article 14 embodies the principle that every individual is entitled to

equality before the law and equal protection under it. These pivotal articles serve as vital foundations for the right to a clean environment and protection against the detrimental impacts of climate change, underscoring our collective responsibility to safeguard both our present and future.

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

The United Nations Framework Convention on Climate Change (UNFCCC) aims to stabilize greenhouse gas concentrations to prevent dangerous climate interference. Key provisions relevant to India include:

Commitments:

1. Stabilization of greenhouse gas concentrations.
2. Submission of national communications detailing emissions and mitigation strategies.
3. Encouragement to implement mitigation and adaptation measures.

Principles:

1. Common but Differentiated Responsibilities, where developed countries lead in emission reductions.
2. Precautionary Principle to prevent environmental harm.
3. Emphasis on Sustainable Development and integrating climate considerations into national plans.

Mechanisms:

1. Clean Development Mechanism (CDM) for investment in emissions-reducing projects.
2. International Emissions Trading for trading carbon credits.
3. Green Climate Fund to support developing countries in emissions reduction and adaptation.

KYOTO PROTOCOL

The Kyoto Protocol represents a significant international endeavor aimed at mitigating greenhouse gas emissions, with specific provisions tailored to enhance climate change resilience in India. While the treaty establishes binding emission reduction targets for developed nations, it acknowledges India's status as a non-Annex I country, allowing for voluntary participation in emission reduction initiatives and the opportunity to earn carbon credits through the Clean Development Mechanism (CDM). This mechanism facilitates investments from developed countries into projects within India that contribute to emissions reductions, while Joint Implementation provides a similar framework for cooperation among developed nations. The Protocol also promotes international emissions trading as a means to support countries in achieving their environmental goals. In hosting CDM projects, India is committed to meeting established eligibility standards and demonstrating tangible benefits for sustainable development. To uphold these commitments, India submits national

communications that outline greenhouse gas emissions and mitigation strategies to the UNFCCC Secretariat. Furthermore, CDM projects are subject to rigorous verification to ensure compliance with the requisite criteria. Governance of the CDM is entrusted to the CDM Executive Board, alongside the establishment of a Designated National Authority in India, which plays a crucial role in overseeing the adherence of projects to the eligibility requirements.

THE PARIS AGREEMENT

The Paris Agreement is a crucial international treaty aimed at limiting global warming to well below 2°C, aspiring to keep temperature increases to 1.5°C. For India, the agreement emphasizes several key provisions related to climate change mitigation. One of the central elements is the submission of Nationally Determined Contributions (NDCs), which detail India's plans to reduce greenhouse gas emissions and adapt to climate impacts. These contributions must include specific data on emissions, mitigation strategies, and adaptation measures. Additionally, the Paris Agreement mandates a global stocktake every five years to assess collective progress, while encouraging India to develop long-term strategies for reducing emissions. The treaty also highlights the importance of climate finance, with developed nations pledging to mobilize \$100 billion annually for developing countries, and promotes the

transfer of climate-friendly technologies to assist in mitigation and adaptation efforts. To ensure accountability, a transparency framework has been established, requiring India to submit periodic reports on its NDC implementation and compliance. India has committed to reducing its greenhouse gas emissions intensity by 33-35% relative to 2005 levels by 2030, increasing the share of non-fossil fuel energy sources to 40% by the same year, and establishing an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through afforestation and reforestation initiatives.

BALI ACTION PLAN

The Bali Action Plan (BAP), adopted at COP 13 of the UNFCCC in 2007, outlines key provisions for climate change mitigation relevant to India. It encourages India, as a developing nation, to undertake Nationally Appropriate Mitigation Actions (NAMAs) to reduce greenhouse gas emissions and develop mitigation strategies that incorporate clean technologies and sustainable land use practices. The plan calls for technology transfer from developed countries to support India's efforts, as well as the development of indigenous climate-friendly technologies with external assistance. Financial support and investment from developed nations are also emphasized to bolster these mitigation efforts. Additionally, the BAP highlights the importance of capacity building, urging developed countries to assist India in enhancing its capabilities to implement

mitigation actions. It establishes a long-term goal of stabilizing greenhouse gas concentrations to prevent harmful climate interference and underscores the necessity for global cooperation in tackling climate change, fostering collaboration between developed and developing countries.

COPENHAGEN ACCORD

The Copenhagen Accord, established during the 15th Conference of the Parties (COP 15) in 2009, includes key provisions aimed at climate change mitigation in India. As a non-Annex I country, India is encouraged to undertake Nationally Appropriate Mitigation Actions (NAMAs) to reduce greenhouse gas emissions, supported by developed countries. While developed nations are urged to commit to economy-wide emission reduction targets, India is also motivated to enhance its mitigation efforts. The Accord highlights the commitment of developed countries to mobilize \$100 billion annually in climate finance for developing nations by 2020, alongside the encouragement to transfer climate-friendly technologies. In terms of transparency, India is invited to submit biennial reports on its mitigation actions, which will undergo international consultation and analysis. The Accord also establishes an International Consultation and Analysis (ICA) process to review the efforts of developing countries like India. Additionally, it promotes initiatives such as reducing emissions from deforestation and forest degradation (REDD+) and developing climate-resilient agricultural

practices to enhance food security and decrease greenhouse gas emissions.

DURBAN PLATFORM FOR ENHANCED ACTION (DPEA)

The Durban Platform for Enhanced Action (DPEA), established at COP 17 in 2011, outlines key provisions for climate change mitigation in India. It encourages India, as a developing country, to undertake Nationally Appropriate Mitigation Actions (NAMAs) to reduce greenhouse gas emissions with support from developed nations. While developed countries are urged to commit to economy-wide emission reduction targets, India is encouraged to enhance its own mitigation efforts. The DPEA emphasizes the importance of climate finance, with developed countries committing to mobilize \$100 billion annually for developing nations by 2020, and promoting technology transfer to support mitigation initiatives. To ensure transparency and accountability, India is encouraged to submit biennial reports on its mitigation actions, which will undergo international consultation and analysis. Additionally, the DPEA addresses loss and damage associated with climate change impacts and establishes an Adaptation Committee to promote adaptation efforts in developing countries. Overall, the DPEA implies that India should increase its ambition in emission reductions, gain access to climate finance, and benefit from technology transfer to enhance its climate change mitigation efforts.

ROLE OF INDIA IN CLIMATE CHANGE MITIGATION IN ITS TERRITORIES

NATIONAL ACTION PLAN ON CLIMATE CHANGE (NAPCC) LAUNCHED IN 2008

The National Action Plan on Climate Change (NAPCC) is India's comprehensive strategy to tackle climate change, comprising eight key missions aimed at various aspects of environmental sustainability. Among these, the National Solar Mission targets the development and utilization of solar energy, aiming for 100 GW of solar power by 2022. The National Mission for Enhanced Energy Efficiency (NMEEE) focuses on reducing energy consumption in industrial sectors by 5-10% by 2015. Other missions include the National Mission on Sustainable Habitat, which emphasizes sustainable urban development, and the National Water Mission, aimed at promoting water conservation. The NAPCC also seeks to protect the vulnerable Himalayan ecosystem through the National Mission for Sustaining the Himalayan Ecosystem and promotes sustainable forest management via the National Mission for a Green India. Furthermore, the National Mission on Strategic Knowledge for Climate Change encourages research in climate change mitigation and adaptation. With objectives to reduce greenhouse gas emissions intensity by 20-25% by 2020, promote sustainable development, and enhance energy security, the NAPCC lays

out strategies to advance renewable energy, improve energy efficiency in various sectors, support sustainable agricultural practices, and conserve water resources.

INTENDED NATIONALLY DETERMINED CONTRIBUTION (INDCs) 2015

In 2015, India presented its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC), highlighting its climate change mitigation efforts. The nation aims for a 33-35% reduction in greenhouse gas emission intensity by 2030, based on 2005 levels, and strives to achieve 40% of its electricity capacity from non-fossil fuels. Additionally, India plans to create a carbon sink of 2.5-3 billion tonnes of CO₂ equivalent through afforestation and reforestation. The strategy encompasses promoting renewable energy, energy efficiency, and sustainable practices across various sectors, including energy, industry, transportation, and agriculture. To enhance resilience, India is focused on developing adaptation plans and improving disaster risk management capabilities. Recognizing the need for substantial climate finance and technology transfer, India commits to establishing a national registry for tracking emissions and reporting progress on its mitigation efforts.

NATIONAL CLEAN ENERGY AND ENVIRONMENT POLICY (NCEEP)

India's National Clean Energy and Environment Policy (NCEEP) aims to promote clean energy and mitigate climate change impacts through several key initiatives. The policy sets ambitious renewable energy targets, including achieving 40% of installed electricity capacity from non-fossil fuels by 2030, with specific goals of 100 GW of solar power and 60 GW of wind power by 2022. NCEEP also focuses on energy efficiency, targeting a 30-35% reduction in energy intensity by 2030, while promoting energy-efficient building codes and appliance standards. In the transportation sector, the policy seeks to boost electric vehicle adoption, aiming for 30% of new vehicle sales to be electric by 2030, alongside developing fuel efficiency standards. Additionally, NCEEP introduces a carbon tax to create financial incentives for reducing greenhouse gas emissions and emphasizes the importance of research and development in clean energy technologies, including carbon capture and storage. Finally, the policy underscores the significance of international cooperation in climate change negotiations and technology transfer to enhance the development and deployment of clean energy solutions.

RENEWABLE ENERGY INITIATIVES

India is actively promoting renewable energy through various initiatives:

1. Solar Energy: The National Solar Mission and the Rooftop Solar Phase-II program aim to enhance solar energy capacity, targeting 40,000 MW by 2022.
2. Wind Energy: The Wind Energy Development Program provides incentives for wind power, exemplified by the Brahmanvel Wind Farm in Maharashtra with a capacity of 528 MW.
3. Other Initiatives: Efforts include the National Policy on Biofuels for transportation and the Puga Geothermal Energy Project in Ladakh for geothermal energy.
4. Green Energy Corridors: Development plans for improved grid infrastructure to better integrate renewable energy.

ENERGY EFFICIENCY AND CONSERVATION

India is making significant strides in energy efficiency to combat climate change through a variety of innovative provisions across multiple sectors. Let's explore some of the key initiatives making a difference:

Building Sector

1. Energy Conservation Building Code (ECBC): This groundbreaking code sets energy efficiency standards for new buildings, ensuring they are designed with sustainability in mind.
2. Bureau of Energy Efficiency (BEE) Star Labeling Program: A unique initiative that rates buildings based on their energy efficiency, encouraging developers to aim higher and more sustainably.

Industry Sector

1. Perform, Achieve and Trade (PAT): This market-based mechanism incentivizes industries to enhance their energy efficiency, allowing them to trade credits for their achievements.

2. Mandatory Energy Audits: Large industries are now required to undergo energy audits, driving accountability and improvements in energy usage.

Transportation Sector

1. Fuel Efficiency Standards: These regulations set ambitious targets for vehicle fuel efficiency, helping to reduce emissions and dependence on fossil fuels.

2. Electric Vehicle (EV) Incentives: With various incentives in place, the government is pushing for a widespread shift to electric vehicles, supporting a cleaner, greener transportation future.

Appliances and Equipment

1. BEE Star Labeling Program: Just like in the building sector, this program rates appliances based on their energy efficiency, guiding consumers towards smarter choices.

2. Minimum Energy Performance Standards (MEPS): These standards ensure that appliances meet a basic level of energy efficiency, promoting smarter energy consumption.

Lighting

1. LED Lighting Initiative: This campaign promotes LED lighting, which consumes significantly less power and lasts longer than traditional bulbs.

2. Street Lighting National Programme (SLNP): A game-changer in urban lighting, replacing conventional streetlights with efficient LED systems to enhance sustainability and cut costs.

Agriculture Sector

1. Energy-Efficient Pump Sets: Farmers are encouraged to adopt energy-efficient pump sets that help conserve energy while boosting productivity.

2. Solar-Powered Irrigation Systems: This initiative promotes the use of solar power for irrigation, showcasing a perfect blend of agriculture and renewable energy.

Policy and Regulatory Framework

1. Energy Conservation Act, 2001: This crucial framework lays the groundwork for promoting energy efficiency across all sectors in the country.

2. National Energy Policy: A forward-thinking strategy aimed at enhancing energy efficiency and minimizing greenhouse gas emissions.

These comprehensive efforts collectively aim to significantly reduce energy consumption and greenhouse gas emissions while fostering sustainable development in India. Together, they represent a robust commitment to a greener, more efficient future for the nation.

SUSTAINABLE AGRICULTURE AND FORESTRY

India has taken heartfelt steps towards fostering sustainable agriculture and forestry practices to combat the challenges of climate change:

Sustainable Agriculture

1. National Mission for Sustainable Agriculture (NMSA): This initiative seeks to cultivate not just better farming methods, but also healthier soil and a kinder environment by reducing greenhouse gas emissions.

2. Soil Health Card Scheme: Understanding the importance of healthy soil, this program provides farmers with soil health cards, encouraging them to test their soil and apply balanced fertilization for better yields.

3. Organic Farming: With a focus on nurturing the earth, India promotes organic farming through efforts like the National Programme for Organic Production (NPOP), allowing farmers to embrace sustainable practices that honor nature.

4. Agroforestry: This initiative supports farmers in integrating trees into their farmland, enhancing both the land's productivity and ecological health.

5. Crop Insurance: To protect farmers from the uncertainty caused by climate change, this program provides vital crop insurance, offering peace of mind in the face of potential crop failures.

Sustainable Forestry

1. National Forest Policy (1988): This compassionate policy aims to carefully conserve and manage forests while also supporting the livelihoods of those who depend on them.

2. National Afforestation Programme (NAP): With a focus on healing our planet, this program commits to increasing forest cover through thoughtful afforestation and reforestation practices.

3. Compensatory Afforestation Fund Management and Planning Authority (CAMPA): This entity is dedicated to managing funds that help with compensatory afforestation and the conservation of our precious forests.

4. Sustainable Forest Management (SFM): Through the promotion of sustainable practices, this initiative ensures our forests are managed thoughtfully for both current and future generations.

5. Forest Rights Act (2006): This significant act recognizes and protects the rights of forest-dwelling communities, affirming their connection to the land they have cherished for generations.

Climate-Smart Agriculture

1. National Initiative on Climate Resilient Agriculture (NICRA): Recognizing the need for resilience in our agricultural practices, this initiative works to develop and share farming methods that can withstand the impacts of climate change.

2. Climate-Smart Agriculture (CSA) Programme: By promoting climate-smart practices, this program encourages farmers to enhance their productivity while building resilience against climate challenges.

3. Agricultural Insurance: Providing a safety net for farmers, this insurance helps

shield them from the harsh realities of climate-related disruptions to their crops.

REDD+ and Forest Conservation

1. REDD+ India: This initiative is dedicated to reducing greenhouse gas emissions stemming from deforestation and forest degradation, reflecting a commitment to a healthier planet.
2. Forest Conservation Act (1980): This act plays a crucial role in regulating the thoughtful conservation and management of our forests.
3. National REDD+ Strategy: This strategy outlines a compassionate approach to reducing emissions from deforestation and forest degradation, bringing hope for a greener future.

Through these initiatives, India is not only promoting sustainable agriculture and forestry practices but also demonstrating a deep commitment to reducing greenhouse gas emissions and enhancing resilience in the face of climate change. Together, these efforts aim to protect our planet and support the communities that rely on it.

CLIMATE RESILIENT INFRASTRUCTURE

Climate-resilient infrastructure plays a pivotal role in advancing climate change mitigation efforts in India. To effectively address this challenge, it is essential for India to establish a Climate-Proof Infrastructure Index (CPII). This index would serve to identify both chronic and acute risks, map critical vulnerabilities,

and outline strategies to safeguard its existing and planned infrastructure.

Key Strategies for Climate-Resilient Infrastructure:

1. Enhance access to climate information: Regular updates to climate risk information are vital for facilitating informed resilience planning in infrastructure development.
2. Embrace innovative financial mechanisms: Encouraging investment in climate-resilient infrastructure can be achieved through creative financing tools, such as climate risk insurance and resilience bonds.
3. Foster sustainable infrastructure planning: It is important to promote integrative planning practices that incorporate climate risk considerations into infrastructure development initiatives.
4. Establish climate-resilient infrastructure standards: Developing infrastructure standards that reflect specific climate risks and hazards is crucial for enhancing resilience.
5. Promote green infrastructure investment: Supporting nature-based solutions, such as green roofs, urban forests, and wetlands can significantly contribute to climate resilience.

India's Initiatives:

1. The Indian government has initiated efforts such as the National Clean Energy and Environment Policy, which aims to promote clean energy solutions and reduce greenhouse gas emissions.
2. The Coalition for Disaster Resilient Infrastructure (CDRI) is dedicated to advancing disaster-resilient infrastructure across India.
3. The World Bank is actively supporting India's initiatives to develop climate-resilient infrastructure, including a substantial \$3 billion lending operation aimed at fostering the growth of the green hydrogen sector.

IMPORTANT CASE LAWS

Here's a compelling overview of significant case laws pivotal to climate change mitigation in India:

Supreme Court Landmark Decisions

1. **M.K. Ranjitsinh and others v. Union of India (2018)** - This landmark ruling established a constitutional right for citizens to be "free from the adverse impacts of climate change," signaling a profound commitment to environmental justice.
2. **Subhash Kumar v. State of Bihar (1991)** - The court firmly affirmed that the

right to a healthy environment is an integral component of Article 21 of the Constitution, underscoring the fundamental nature of environmental protection.

3. **Vellore Citizens' Welfare Forum v. Union of India (1996)** - This case set a powerful precedent by instituting the "polluter pays" principle, reinforcing that safeguarding the environment is not just a duty but a fundamental responsibility under Article 51-A(g) of the Constitution.

National Green Tribunal (NGT) Rulings

1. **Gaurav Bansal v. UOI (2016)** - The tribunal clarified its extensive jurisdiction to enforce the National Action Plan on Climate Change (NAPCC), empowering it to take decisive action in mitigating climate threats.
2. **Vimal Bhai v. State of Uttarakhand (2017)** - This decisive ruling mandated the closure of polluting industries in the Ganga River basin, reflecting a robust stance on protecting vital ecosystems.
3. **Paryavaran Suraksha Samiti v. Union of India (2018)** - The tribunal directed the government to formulate a strategic plan to phase out fossil fuels, marking a critical shift towards renewable energy.

High Court Decisions

1. **Mumbai Metropolitan Region Heritage Conservation Society V. State of Maharashtra (2018)** - The court compelled the state government to devise a comprehensive climate change action

plan, demonstrating judicial leadership in proactive environmental governance.

2. Kerala State Biodiversity Board V. State of Kerala (2019) - This ruling called upon the state government to implement measures aimed at biodiversity protection and climate change mitigation, highlighting the urgent need for integrated environmental policies.

3. Social Action for Forest and Environment (SAFE) v. State of Odisha (2020) - The court ordered an immediate halt to coal mining in a protected forest area, emphasizing the judiciary's role in preserving India's ecological heritage.

These rulings showcase the Indian judiciary's escalating engagement with climate change issues, illustrating its unwavering resolve to hold governments and corporations accountable for their environmental responsibilities. The proactive stance taken by these courts signals a transformative shift in the legal landscape, fostering a culture of accountability and sustainability in the face of escalating climate challenges.

CONCLUSION

Climate change stands as a defining challenge of our time, and India finds itself at the forefront of this global crisis. The nation has made commendable strides in establishing robust legal frameworks for climate change mitigation, such as the Environment Protection Act, the National Green Tribunal Act, and the Energy Conservation Act. India's commitments under the Paris Agreement and its Nationally Determined Contributions

(NDCs) reflect a dedication to a sustainable future. While strengths like the National Green Tribunal and a strong push for renewable energy shine through, we must also confront the gaps and challenges that remain. To fortify India's legal frameworks, we can take vital steps that inspire transformation:

1. Amending existing laws to resonate with international commitments and NDCs.
2. Crafting new laws that boldly address challenges like carbon pricing and green finance.
3. Strengthening the enforcement and compliance of current regulations.
4. Cultivating public awareness and education on the importance of climate action.

Looking ahead, future research can illuminate the effectiveness of our mitigation laws, enhance the role of subnational governments, and unveil innovative technologies and strategies. Together, we have the power to rise to this challenge and create a legacy of resilience and sustainability.

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Centurion
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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

Judicial Review: A Comparative Analysis of the United Kingdom and India

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ABSTRACT

This paper examines the evolution, scope, and application of judicial review in the UK and India, tracing the historical development from English common law foundations to contemporary constitutional frameworks. The study employs a comparative legal analysis to explore how two jurisdictions with shared legal heritage have developed divergent approaches to judicial oversight of governmental action.

The research demonstrates that while India inherited its judicial review concepts from English common law, the scope and application of judicial review in both countries differ significantly due to fundamental constitutional distinctions. Parliamentary supremacy in Britain significantly limits the scope of judicial review available to the courts, limiting courts to examining secondary legislation and administrative actions while primary legislation remains largely immune from judicial scrutiny.

Conversely, India's written constitution and doctrine of constitutional supremacy enable broader judicial review powers. The study analyzes how Article 13 of the Indian Constitution empowers courts to review both pre-constitutional and post-constitutional laws, supported by the doctrines of eclipse and severability.

The analysis reveals that both systems apply similar principles in reviewing administrative actions, particularly the Wednesbury unreasonableness standard and natural justice principles. However, India's constitutional framework permits judicial invalidation of legislation that violates fundamental rights, a power unavailable to UK courts except in limited circumstances involving European human rights law.

The paper concludes that India's judicial review system operates with broader scope and stronger constitutional foundation compared to the UK's more constrained approach. While the UK system prioritizes democratic legitimacy through parliamentary sovereignty, India's model emphasizes constitutional supremacy and fundamental rights protection. This comparative analysis illustrates how similar legal principles can evolve differently within distinct constitutional frameworks, reflecting varying approaches to balancing democratic governance with judicial oversight.

The study contributes to comparative constitutional law scholarship by examining how colonial legal transplantation has produced divergent institutional outcomes, highlighting the significance of constitutional design in shaping judicial power and the rule of law.

Keywords: Judicial review, Constitutional supremacy, Fundamental rights, Wednesbury principle, Natural justice

INTRODUCTION

To ensure the separation of powers, judicial review serves as a check and balance. It is this that gives rights enforcement, liberty protection, and sustaining the rule of law principle. Sir Edward Coke, the Chief Justice of England, is credited with origination of the concept of the Rule of Law. A.V. Dicey later refined the idea and outlined its tenets in his book, which includes the supremacy of law.¹ This concept therefore originated in Britain and is given supreme importance in the Indian constitution. India also borrowed the parliamentary form of government from the United Kingdom (UK). With regard to UK, we have the notion of "Parliament Sovereignty," according to which the Court cannot

review a legislative act. It dominates constitutional supremacy. A secondary legislation, however, is subject to judicial review.¹ In India the essence of rule of law lies in judicial review. "Judicial Review of Constitutional Amendments," "Judicial Review of Legislative Actions," and "Judicial Review of Administrative Actions" are the three main categories on which judicial review in India is based.

Lord Diplock summed up the three traditional grounds for judicial review of an administrative action in *CCSU v Minister for Civil Services*¹ as:

a. **Illegality:** requires that the decision-maker possess a correct comprehension of the legal framework governing their decisional authority and act in accordance with those legal parameters.

b. Irrationality: denotes administrative determinations exhibiting such extreme unreasonableness that no sensible person could conceivably have arrived at the decision, given its flagrant contradiction of logical principles or ethical norms.

c. Procedural impropriety: A fair, reasonable, and just method must be followed while making administrative decisions and taking action or else it would lead to procedural impropriety.

These grounds are also applied in Indian cases. In "*Tata Cellular v Union of India*"¹ and *West Bengal Central School Service Commission v Abdul Halim*¹ the courts have observed that:

"Administrative decisions are subject to a circumscribed form of judicial scrutiny. Courts may only intervene in administrative determinations under specific circumstances: where the administrative authority has misinterpreted the legal framework governing its discretionary powers; where the decision exhibits such irrationality as to satisfy the threshold established in *Wednesbury* principles; or where procedural fairness has been compromised during the decision-making process. The established jurisprudence confirms that judicial intervention in administrative decision-making is strictly constrained to these grounds. Furthermore, it is well-established that courts are precluded from substituting their judgment regarding the substantive merits of an administrative

decision; rather, judicial scrutiny is confined to examining whether the procedural framework and decision-making methodology employed by the administrative body was legally sound."¹

JUDICIAL REVIEW IN UNITED KINGDOM

The case of *Dr. Bonham v Cambridge University*¹, which Lord Coke decided in 1610, laid the foundation for judicial review in England. Nonetheless, Chief Justice Holt stated in *City of London v Wood*¹ that "An Act of Parliament can do no wrong, though it may do several things that look pretty odd". The statement reflects the principle of legislative sovereignty, under which judicial institutions possess no jurisdiction to scrutinize the legitimacy of statutes enacted by Parliament

Parliamentary supremacy

Dicey defined supremacy of parliament as "the right to make or unmake any law whatever; and further, that no person or body is recognised by the law of England as having a right to override or set aside the legislation of Parliament".¹

A system based on the legislative supremacy and the parliamentary sovereignty exists in the UK. Judicial review there must be analysed in light of legislative supremacy. "What Parliament doth, no power on earth can undo"; quoted by William Blackstone. This assertion is based on two unspoken assumptions: the first being Parliament is "omnipotent", and

secondly, the successor is omnipotent which means the predecessor cannot bind it. The judiciary may be overridden at any time by Parliament.¹ The issue in *Liversidge v Anderson*¹ case was whether the judiciary can use an objective criterion in order to determine the "reasonableness" of the conclusion of the home secretary. The majority of judges were of the opinion that if anything was done in good faith, the court cannot examine the reasonableness of his beliefs. This idea of "reasonableness of his belief," according to Lord Atkin's dissenting opinion will further obstruct the judicial scrutiny. Lord Atkin stressed on the deadly effect on individual liberty.

Primary and secondary legislations

In the UK, judicial review of legislative Acts is not permitted. There are 2 variations of Parliamentary legislations. One is Primary Legislation, which refers to a legislative Act of Parliament and Parliament's delegation to the Executive with its sufficient legislative guidance is secondary legislation. The Secondary Legislation provides rules, regulations, directives, and acts of Ministries, so, secondary legislations in the UK are administrative in character and are therefore open to judicial review. Judicial Review however, cannot touch primary legislations except in rare instances where such a legislation breaches European Community law. Since the establishment of the ECHR and the Human Rights Act of 1998, primary legislations, in certain cases are subject to judicial review. Secondary

legislation doesn't have any exceptions like the primary ones. Every executive and administrative action, rule, and regulation is subject to judicial examination and may be deemed ultra vires and illegal.¹

"The UK's membership of the European Community has brought with it significant changes to the English legal system and the UK constitution. In the Administrative Court:

- Claimants may challenge actions and omissions by English public authorities, and even provisions of an Act of Parliament, on the ground of breach of Community law.
- Mostly, claims for judicial review may also be on the validity of administrative decisions and legislations made by the institutions of the European Union."¹

In *R v Secretary of State for Transport*¹, it was observed by the Court that "by relying upon the direct effect of Community law, the individual may be able to challenge national measures and can declare them unlawful. Further, it was observed that all national measures can be subject to judicial review on the grounds of incompatibility with Community law, i.e. primary legislation, secondary regulations and administrative decisions."

In *Les Verts v European Parliament*¹, it was held that "the European Union is a community based on the Rule of law, in as much as neither its member states nor its institutions can avoid a review of the

question whether the measures adopted by them are in conformity with the basic constitutional character."

Natural Justice Doctrine in Judicial review

Natural justice comes from Roman law's concept of 'Jus Natural'. It includes a requirement for procedural fairness. The domain of administrative law emphasizes the importance of the natural justice principles. Its principles are uncoded. The doctrine of natural justice, though lacking precise conceptual delineation, has established fundamental principles that courts acknowledge and uphold. Judges, attorneys, and scholars, all define it differently. Definition given in *Vionet v Barrett*¹ by Lord Esher MR, is "the natural sense of what is right and wrong." He changed it in *Hopkins v Smethwick Local Board of Health* as "fundamental justice."

"The principles of natural justice, originated from common law in England are based on two Latin maxims:

1. Nemo Judex in causa sua or Rule against bias (No man shall be a judge in his own cause).
2. Audi Alteram partem or the rule of fair hearing (no one shall be condemned unheard)"

Natural justice is therefore, concerned with procedural impropriety which is a ground for judicial review.

Wednesbury principle

It was in the landmark case of *Associated Provincial Picture House v Wednesbury Corporation*¹, where Wednesbury

principle was established. Wednesbury test is used to determine whether an executive decision is inappropriate and illogical in order to have it examined appropriately. Courts will invalidate administrative determinations solely where they demonstrate Wednesbury unreasonableness, requiring that the impugned decision be so manifestly irrational that no rational individual could regard it as within the bounds of the administrative body's lawful authority.¹ Lord Diplock provided a compelling articulation of Wednesbury unreasonableness, describing it as governing decisions so strikingly at odds with rational thought or accepted ethical standards that no sensible individual, properly addressing the question at hand, could have formulated such a result. This framework operates as a secondary form of judicial scrutiny.¹

The proper interpretation of the Wednesbury standard establishes that an administrative determination constitutes unreasonableness where:

- (i) the decision relies upon considerations that are entirely extraneous or inappropriate to the matter at hand,
- (ii) the decision-maker has failed to account for materially significant factors that ought to have informed the determination, or
- (iii) the outcome demonstrates such manifest irrationality that no

reasonable individual could have formulated such a conclusion.¹

Wednesbury principle finds its relevance in the "irrationality" ground of judicial review.

ENGLISH INFLUENCE AND INDIAN JUDICIAL REVIEW

In *Marbury v Madison*¹, the Supreme Court's authority was found by proclaiming legislation of Congress unconstitutional. Hence in US, judicial review came into life after this case. Before this ruling, the Supreme Court in the US had not used its complete judicial authority under the US Constitution to declare any act of Congress unlawful. The Indian constitution leans more towards United States in this very prospect of judicial review than UK because no UK court can invalidate a statute passed by the UK Parliament.

Judicial review: the express power

The Rule of Law serves as the foundation for judicial review in India. In India, prior to Independence, there was no explicit judicial review provision. Although there were some restrictions on the government's power, there was no specific provision like the one our Indian constitution has since independence. *Emperor v Burrah*¹ was the first case in which the court in India, in 1877, interpreted and created the idea of judicial review. The court ruled that the person who had been wronged had the right to challenge a statute's constitutionality if the power exercised is

beyond the power given by 'Imperial Parliament'. The high court and the governor general council accepted the stance that Indian courts have review authority with some limitations, during this case.

By passing the Government of India Act in 1935, the British Parliament implemented the Federal System in India. Court was established under this Act with the authority to carefully examine any violations of the constitutional provisions governing the division of powers from the moment federalism was implemented in India. Although the constitutional right to review was not expressly granted, the court was impliedly given the authority to interpret constitution and decide whether or not legislative actions were constitutional. Upon the inauguration of the Indian constitution, The Supreme Court succeeded the Federal Court and took over the traditions that it had established. India's constitution provides for a healthy strong system of judicial review, and it is up to the country's judges to act in the best interests of democracy. Before the Indian Republic was founded, India's constitutional scholars framers were of the view that the constitution of a free India needed to include provisions for a supreme court with the authority to review both legislative and executive activities.

The Constitution establishes judicial review for both pre-constitutional and post-constitutional laws in Article 13¹ of

the Constitution. The HC and the Indian SC have the authority of Judicial Review under Articles 226¹ and 32¹ respectively, and can declare a statute unconstitutional if it violates Part III. In India, all actions, administrative, executive and legislative can be judicially reviewed. In fact, judicial review was declared to be part of basic structure in *Minerva Mills v UOI*.¹

Article 13 contains the following doctrines:

Doctrine of Eclipse

The case of a pre-constitutional statute is covered by this doctrine. According to Article 13(1), all Pre-Constitutional laws that are in conflict with Part III become invalid and unconstitutional after the Constitution is enacted. When such statutes were passed, they were totally lawful and in effect. When Article 13 came into being, they lost their legal standing and were eclipsed. The doctrine of eclipse refers to this. The statute is no longer subject to eclipse and is once again enforceable if the constitutional prohibition is lifted.¹

Severability doctrine

The doctrine of severability is based on the phrase "to the extent of contravention" in Article 13 of the Constitution. According to this approach, the court can declare only that violative portion of the challenged provision to be unconstitutional and leave the rest of it alone. If it is possible, other provisions of the law must continue to be applicable. The entire provision is deemed void if the valid and the invalid portions

are intertwined in a way that makes it impossible to separate them.¹

Judicial Review of Administrative Actions

Perhaps the most significant advancement in public law was Judicial Review of Administrative Action, which originated in Britain. The goal of administrative action's judicial review is to safeguard citizens against the abuse of authority. When the legislature gives a court of law or an administrative authority discretion, it also places obligation on them to use that discretion in an ethical, legal, and reasonable manner. Administrative discretion should be exercised carefully and sensibly. So, the judiciary must review the abuse of discretionary power of an administrative authority. The courts must uphold its duty of maintaining checks and balances whenever it discovers any evidence that an administrative action is illegal. In general, courts lack the authority to impede the acts of administrative authorities acting within the scope of their discretion. But this does not imply that the court has no authority to look for instances of abuse of authority. The UK exercises judicial review of an administrative action on three grounds as discussed in Chapter 1 i.e. ---illegality, irrationality, and procedural impropriety. So, these grounds are also applicable in India.

Application of Wednesbury principle

The Indian judicial system is deeply embedded with Wednesbury unreasonableness principle. The House of Lords' ruling in *Wednesbury* continues to

be the focus of judicial review in India, among other things. According to Indian courts, judicial review is "the touchstone and essence of the rule of law," and their jurisprudence has developed around it based on the fundamental ideas developed in this *Wednesbury* case. It has been utilised to supplement important articles of the Constitution, Constitution's significant articles such like Article 14 to the extent as determined in the *E.P. Royappa* case¹ that an administrative authority's arbitrary action is one which is 'irrational and unreasonable'.

Natural Justice

While the Indian Constitution does not explicitly articulate natural justice principles, these concepts are nevertheless regarded as fundamental to the proper administration of justice. As a doctrine rooted in common law tradition, India has adopted the natural justice framework established through English jurisprudence. Justice Bhagwati in *Maneka Gandhi v UOI*¹ favoured the natural justice's definition given by Harman L.J in *Ridge v Baldwin*¹ i.e, "fair play in action".

CONCLUSION

In UK, Parliament may pass laws on any subject, and the Constitution places no restrictions on what laws may be passed. No matter how wrong it may be, no authority can challenge a Parliamentary Act. The UK Parliament has unrestricted power. The concept of legislative supremacy, though substantially

transformed from Dicey's original conception, remains fundamental to the United Kingdom's constitutional structure. Parliamentary enactments are insulated from judicial scrutiny in any forum, demonstrating the primacy of parliamentary authority within the constitutional order. No matter what laws are passed by Parliament, whether they are fair or unfair, they cannot be held accountable to any body. Because of ECHR and Human rights Act, UK has now widened its judicial review. If a legislation is found to be falling short of ECHR norms, it can be declared as incompatible. This is an exception for primary legislations.

When compared with UK, in India, judicial review's scope is wider. The absence of a codified constitution in the United Kingdom significantly limits the extent of judicial review available within its legal system. In India, Article 13 allows for "Judicial Review of Pre-Constitutional as well as Post-Constitutional Laws," whereas the UK does not have a similar option for pre-constitutional legislation. Courts in India developed a number of principles, such as the law of severability and the doctrine of eclipse, but these are inapplicable in UK because legislative acts there cannot be judicially reviewed. Administrative acts are open to court review in both UK and all executive decisions are subject to judicial review to determine whether they are unlawful, unreasonable, or malicious. The idea of

ultra vires is present in both countries, and it allows for the challenge of any administrative acts and any ministerial acts that go beyond their authority. Even though India follows grounds laid down by the English, but India's judicial review is not as limited as theirs. The exception that has been incorporated later is something that India has been following for a long time i.e. safeguarding fundamental rights. The Indian SC has the power to examine decisions made by the legislative, executive, and judicial branches of government. To make sure that any

authority does not misuse its power and that a person is treated justly and fairly is the immediate goal of judicial review. This is the essence of judicial review. The purpose of judicial review is upholding some purported right of one of the litigants and so provide remedy to the party who has been wronged by invalidating an enactment if the court determines that it is unconstitutional under the law. The real objective, however, is more ambitious: no constitution-infringing measure should be upheld by a court of law.

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Centurion Journal of Business, Economics and Social Science

Vol.2 | Issue 1 | June 2025

Judiciary 2.0: Transforming The Future of Justice Through E-Courts and Virtual Hearings

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Abstract

The advent of the digital revolution has profoundly influenced numerous sectors, including the judiciary. The incorporation of digital technologies within the judicial framework denotes a significant evolution in the administration of justice, enhancing accessibility, efficiency, and transparency. The transition from conventional courtrooms to digital platforms has been characterized by the researchers here, as the beginning of the judiciary 2.0 era. The implementation of e-courts and virtual hearings has fundamentally transformed traditional judicial processes by enhancing case management efficiency, curtailing delays, and facilitating remote participation. Nonetheless, such transition introduces several challenges, such as concerns regarding data privacy, digital literacy, the preservation of procedural fairness, and the reformation in legislative frameworks to govern online judicial processes. The development of e-courts and virtual hearings represents not merely outcome

to modern challenges but rather a progression toward more robust and inclusive judicial structure. This research critically analyses the evolution of Judiciary 2.0, assessing its effects on due process, and the autonomy of the judiciary. This study assesses the efficacy of virtual hearings, particularly in the wake of the COVID-19 pandemic, which necessitated a rapid digital transition in court proceedings. It also seeks to examine international best practices and legal advancements, with the objective of offering insights into the future of digital justice and proposes recommendations for the efficient and fair implementation of e-courts and virtual hearings. This study highlights that although Judiciary 2.0 presents significant potential for the modernization of legal systems, its effectiveness depends on a measured strategy that protects due process and fundamental rights while integrating technological innovations. The findings aim to contribute to the ongoing discourse on the future of digital justice and the role of courts within a progressively virtual environment.

Keywords: Cybersecurity, Digital transformation, E-courts, Judicial efficiency, Technological advancements, Virtual hearings

1. Introduction

The right to access justice signifies as a core principle enshrined in the Constitution of India, ensuring that all individuals possess the legal authority to seek and obtain remedies for violations of their rights, regardless of their socioeconomic status, race, or gender. The Supreme Court of India, in the instance of Anita Kushwaha case [1], determined that access to justice constitutes a fundamental right as outlined in the Constitution of India, particularly within articles 14 and 21. This acts an essential role in promoting transparency, guaranteeing accountability, and upholding the rule of law within governance structures. The accessibility of legal resources and mechanisms empowers individuals to assert their rights, resolve conflicts amicably, and seek remedies for any injuries they may have endured. Nonetheless, numerous countries face

challenges in achieving comprehensive access to justice due to deficiencies in judicial infrastructure, inadequate resource allocation, and a widespread lack of public awareness regarding their legal rights. The importance of guaranteeing access to justice has been recognized by the global community, as evidenced by numerous international instruments, such as the ICCPR¹ and the UDHR¹. Ensuring broad access to justice is vital for protecting human rights, fostering social justice, and building a unified and secure society.

The principle of access to justice is a foundation of any legal system, ensuring that all individuals have an avenue to seek and attain justice, irrespective of their socio-economic background or personal attributes. This principle serves as a fundamental element in maintaining justice, equity, and the core principles of the rule of law. [2]

Nonetheless, various impediments obstruct the application of justice, such as financial limitations, a lack of legal comprehension and literacy, geographic barriers, cultural and linguistic issues, along with inherent prejudices and inequalities present within the legal system. Whereas, addressing these challenges is essential for the development of an equitable and comprehensive legal framework, the digital transformation of judiciary is the master key. The advent of the digital era has significantly altered numerous facets of society, including the justice system. The adoption of electronic courts has become an essential component of the legal systems across several countries. [3]

E-courts represent their capabilities, especially in economically disadvantaged nations encountering obstacles associated with constrained judicial resources and infrastructure. Moreover, in COVID-19 epidemic situation, e-courts have turned out to be crucial by facilitating the continuation of legal proceedings while concurrently minimizing the danger of virus transmission.

In spite of this, the implementation of e-courts exhibits a number of various challenges also. Concerns regarding the protection of the confidentiality, privacy and security of court records are among the most important issues that need to be addressed. Another obstacle that needs to be addressed is the problem of ensuring that the electronic court system is

accessible to everyone, particularly for people who do not have access to the internet or other technological devices.

The current paper has aimed to analyse the evolution of such e-courts and virtual hearing technology along with the pros and cons of the same in different jurisdictions along with recommendations for effective implementation of digital justice delivery system.

2. Objectives

The aims of this research are as follows:

- To study the evolution of E-courts and virtual hearings on judicial efficiency and accessibility.
- To analyse the pros and cons associated with digital transformation in the judiciary.
- To explore global best practices in digital justice and their applicability to different legal systems.
- To provide recommendations for the effective implementation of Judiciary 2.0.

3. Methodology

- Research Design- This study incorporates a doctrinal legal research methodology, concentrating on a comprehensive analysis of the collected data.
- A comparative analysis- This study also employed a comparative analysis to analyse global best practices in digital

justice and their applicability to different legal systems in different jurisdictions.

- Sources of Data-
 - The primary sources of data include statutes, regulations, and pertinent judicial decisions from Indian courts.
 - The secondary sources of data include books, scholarly articles, legal commentaries, and reports.

4. The Future of Justice: E-Courts and Virtual Hearings

4.1 History and evolution of E-Courts and Virtual Hearings

A significant shift in the administration of justice has ensued through the advancement of e-courts and virtual hearings. This shift is particularly a response to the advancements in technology and the requirements of society. The concept of virtual courts is not completely novel, India's journey toward digital judiciary started with the initiatives of the National Informatics Centre (NIC) in the 1990s, which laid the groundwork for digitizing court records. Its origins can be traced back to earlier conversations about the function of technology in the legal system. It is possible to trace the earliest reference back to the year 1997, when Professor Frederick I. Lederer discussed the possibility of courtrooms functioning as information hubs, thereby

facilitating the exchange of data through the use of high technology.¹

The Indian judiciary, recognized as one of the most extensive judicial systems globally, and the irony is it has been confronted with a significant backlog of cases, with millions remaining unresolved across numerous courts. The conventional judicial framework, dependent on in-person proceedings and substantial documentation, frequently results in postponements in the administration of justice. In this context, the implementation of E-Courts and Virtual Hearings is crucial for enhancing accessibility, efficiency, and transparency within the judicial process. The ongoing digital transformation within the judiciary, bolstered by technological advancements, seeks to establish a legal system that is more efficient, economical, and accessible for the populace.

The establishment of e-courts serves a fundamental purpose, to alleviate the backlog of cases. The Indian judiciary confronts significant challenges with a backlog of cases, where in-person hearings frequently result in avoidable delays stemming from scheduling conflicts, lawyer unavailability, and procedural inefficiencies. Virtual hearings facilitate an expedited judicial process by allowing judges to preside over cases from various locations without necessitating physical presence, thus minimizing adjournments and fostering a more rapid resolution of cases. This approach not only facilitates the resolution of outstanding cases but also

guarantees that new cases are addressed promptly and without unnecessary postponement.

One significant benefit of e-courts is finding easy access to justice by individuals residing in any remote and rural regions. A significant number of individuals encounter challenges in participating in hearings, attributable to considerable distances, economic limitations, or insufficient legal infrastructure within their locality. Virtual hearings enable litigants, attorneys, and witnesses to engage in court proceedings from any location, thereby enhancing the inclusivity of the legal system. This is especially advantageous in situations concerning women, elderly individuals, and persons with disabilities who might encounter challenges in attending court proceedings in person.

The cost-effectiveness of electronic courts represents a crucial element influencing their essentiality. Conventional judicial proceedings frequently necessitate that involved parties incur costs related to travel, lodging, and various additional expenditures. The transition to a virtual mode facilitates significant savings in both time and financial resources for litigants, thereby enhancing the accessibility and affordability of the justice system. Legal practitioners and their clients are now able to engage through online platforms, facilitating the digital submission of evidence and thereby minimizing logistical challenges. Furthermore,

electronic courts facilitate a judiciary that operates without reliance on paper, thereby reducing the volume of paperwork, safeguarding documents against loss or damage, and promoting environmental sustainability.

The COVID-19 epidemic underscored the significance of virtual courts. In response to lockdowns and limitations on in-person gatherings, the judiciary promptly transitioned to virtual proceedings, thereby guaranteeing that pressing cases, such as bail hearings, criminal issues, and public interest litigations, continued to be addressed. The pandemic demonstrated the efficacy of a digital legal system, leading the judiciary to persist in the integration of technology into routine proceedings, even following the lifting of restrictions.

Furthermore, virtual courts promote enhanced transparency and efficiency within the judicial system. The live-streaming of significant cases and the digital recording of proceedings serve to bolster accountability and foster public trust in the legal system. The inclusion of automated case supervision systems, digital filing processes, AI-assisted legal research etc. significantly improves judicial efficiency by minimizing human errors and mitigating administrative delays.

While there are many aids, it is essential to confront challenges such as internet connectivity issues, cybersecurity concerns, and the digital divide to ensure

the effective implementation of e-courts. Enhancing digital infrastructure, delivering adequate training to judicial officers and legal practitioners, and safeguarding data security will be crucial for the efficacy of virtual courts.

However, the shift towards e-courts and virtual hearings has evolved from a mere possibility to an essential requirement for the judicial system in India. Utilizing technological advancements, the judiciary has the potential to provide justice that is timely, cost-efficient, and accessible to all, thereby reinforcing the rule of law within the nation.

The e-Courts project in India, initiated under the "National Policy and Action Plan for the incorporation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005,"¹ constitutes a substantial endeavour aimed at enhancing the Indian legal system via the incorporation of technological advancements. The e-Committee of the Supreme Court of India, launched in 2004, has been instrumental in formulating this policy and directing the integration of technological innovation within Indian judiciary.

The project has experienced multiple stages since its initiation:

- Phase I (2007-2014): The initiative aimed at modernizing district courts encompassed the creation of judicial facilities, data management hubs, and legal service centres, all within

a financial framework of Rs. 639 crores¹. In 2010, the project received approval to encompass 14,249 courts, leading to the establishment of the e-Courts National portal in 2013, which offered vital case-related information.

- Phase II (2015-2020): In 2014, a budget of Rs. 1670 crores were sanctioned for this phase, which sought to augment judicial services by advancing the technological infrastructure. It is significant to note that the inaugural e-court in India was established in Hyderabad in the year 2016. In 2020, October 30 marked the opening of "Nyay Kaushal," India's first e-Resource Centre, in the city of Nagpur, Maharashtra. [4] It makes it easier for lawyers and litigants to use e-Court services online by allowing electronic filing in the Supreme Court, High Courts, and District Courts.
- Phase III (2023): Union Cabinet has recently granted approval for this phase, which is projected to extend over a period of four years with a financial allocation of Rs. 7210 crores. The initiative seeks to create paperless courts through the digitization of records and the advancement of e-filing and e-payments.

The e-Courts initiative embodies a thorough approach to utilizing information and communication technology to improve access to justice and enhance operational efficiency. In response to the necessity for educating judicial officers and court personnel, the e-Courts project also executed a "Change Management exercise"¹. This initiative sought to enhance the capabilities of judicial officers and court personnel through training in computer utilization and the Case Information System (CIS).

However, despite of such technological arrangements the total number of unresolved cases, which included over 180,000 cases that had been pending beyond 30 years in district and high courts, surpassed 51 million or 5.1 crores in 2024¹. This figure includes all types of cases at all levels. More than 87 percent of the cases, or 4.5 crore out of 5.1 crore, are still pending in district courts as of the year 2024 which is a matter of concern.

E-courts and virtual hearings are still in the process of being governed by a legislative framework that is still in the process of developing, with existing laws frequently struggling to keep up with the rapid advancements in technology. Digital judicial procedures in India are supported by the Information Technology Act of 2000 as well as procedural legal statutes of the Indian Evidence Act, 1872 and the Code of Civil Procedure, 1908. These laws provide the legal foundation for digital judicial procedures. On the other hand,

these laws were not initially drafted with the intention of addressing the complexities of virtual courtrooms. As a result, there are ambiguities concerning the admissibility of electronic evidence, challenges connected to jurisdiction, and concerns regarding cybersecurity. There is a lack of comprehensive regulations that are specific to e-courts, which leads to inconsistent implementation across different jurisdictions. This creates barriers to uniform access to digital justice. In addition, the laws that protect data continue to be insufficient when it comes to addressing concerns regarding privacy and confidentiality in online judicial proceedings. It is possible that Judiciary 2.0 will result in operational inefficiencies and potential threats to the integrity of the judicial system if robust legal reforms and standardized digital court procedures are not implemented.

4.2 Technological advancements in legal proceedings

The advancement of technology is fundamentally transforming the judicial framework in India, facilitating the digitization of processes and promoting enhanced efficiency and transparency in judicial proceedings. The modernization of the such digital justice systems in a number of countries has resulted in the adoption of best practices of the technological tools, which have ensured transparency and inclusivity while simultaneously maintaining security and privacy. The extent to which these

practices are applicable alters according to the legal traditions, infrastructure, and governance frameworks that are in place. However, a number of factors, including the characteristics of the legal system, the technological infrastructure, and the readiness of regulatory bodies, influence the adoption of best practices for digital justice. Procedural flexibility is advantageous for common law jurisdictions, whereas civil law jurisdictions might need to make adjustments to their structure. Access to justice, judicial efficiency, and legal transparency can all be improved, globally, through the effective implementation of these practices.

In past few years, India's judicial system has undergone significant technological advancements, which have been witnessed by the country. Among the most important trends is the digitization of records. Projects such as the National Judicial Data Grid¹ have made millions of case records available online, which has contributed to increased accountability and transparency. The COVID-19 epidemic was a key contributor to the widespread use of virtual hearings in Indian courts. This was due to the fact that social distancing requirements necessitated remote dispute resolution. Within the Indian legal system, the pandemic brought to light the potential of technological tools that are not being utilized to their full potential and alternative work models, such as virtual hearings. In *Krishna Veni Nagam* case [5], the Supreme Court of India gave its

approval to the use of video-conferencing for the purpose of making decisions regarding matrimonial cases. Nevertheless, the course of action was only temporary. The decision to livestream the proceedings of the court is a step toward ensuring that the court is open and transparent. Though in *Santhini v. Vijaya Venketesh* case [6], the Supreme Court directed that personal presence in matrimonial cases is essential, and video conferencing should not be the norm unless both parties' consent. However, dissenting judges highlighted the importance of digital alternatives in reducing logistical burdens. Back in the lane, in *Hussainara Khatoon* case [7], The Supreme Court of India held that speedy trial is a fundamental right under Article 21 and that courts must adopt modern methods to prevent unnecessary delays. This ruling laid the foundation for future judicial reforms, including digital case management and in *All India Judges' Association v. Union of India* [8], Court emphasized the need for judicial digitization, ruling that courts must adapt to evolving circumstances while ensuring procedural fairness. It reiterated the judiciary's constitutional duty to reduce backlogs and expedite case resolution whereas, in *Amitabh Bagchi* case [9], Calcutta High Court ruled that video conferencing is a cost-effective method that prevents unnecessary delays and ensures judicial efficiency, recognizing its validity in civil proceedings.

An Artificial Intelligence Committee has also been established by the Supreme Court to investigate ways in which AI can enhance the efficacy of the judicial adjudication process and the decision-making process.

Likewise, in *Arnab Manoranjan Goswami v. State of Maharashtra* [10], when issue arise regarding whether urgent matters can be heard virtually or not, the Supreme Court of India itself emphasized that matter relating to bail applications and habeas corpus petitions must be prioritized in virtual hearings, reinforcing the importance of digital access to justice. However, in *Smti. Jothi Sahi case*[11], the

Meghalaya High Court held that virtual hearings must be allowed whenever physical presence is difficult, ensuring continuity of justice during crises like pandemics.

According to Justice D.Y. Chandrachud, the former Chief Justice of India, more than 1.78 crore cases in India have been resolved via virtual hearings in e-courts, with a total of 19.2 million cases being conducted virtually across High Courts and District courts as of April 2022, as per the available data. [12] The figure 1 below, depicts the Number of cases attended through Video Conferences throughout India. [13]

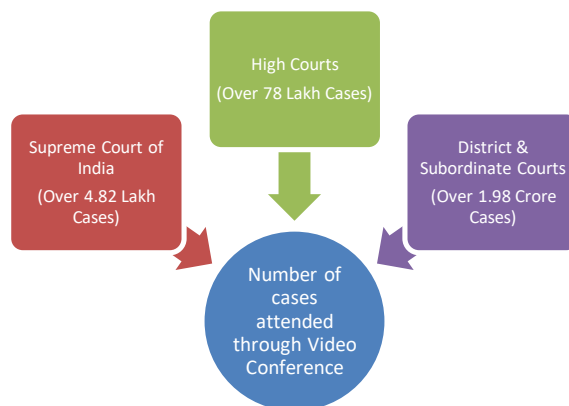


Figure 1: Number of cases attended through Video Conference

In recent era, the e-courts and online virtual hearings have been successfully incorporated into the legal systems of a number of republics, including the U.S.A., India, the U.K., Singapore, etc. among others as depicted in the table 1 below¹. In order to address the challenges that are

associated with digital infrastructure, legal frameworks, and cybersecurity, every nation has gone about implementing their own distinct strategies. In contrast to the Supreme Courts of various other nations, the Supreme Court of the United States has managed to adjudicate a larger volume of

cases. From 5th of February to 29th of April, 2020, the United Kingdom Supreme Court has resolved 18 cases, while the Supreme Court of United States has put off 28 cases in between 24th of February to 27th of April, 2020 [14]. This information

is based on reports. The Indian Courts have, therefore, been able to accomplish a great deal more within the constraints of their limited resources, despite the fact that they have been confronted with circumstances that are almost identical.

Table 1: Formats of E-Courts and Virtual Hearings Around the World

<i>Country</i>	<i>Virtual Hearings</i>	<i>AI Usage</i>	<i>E-Filing</i>	<i>Blockchain</i>	<i>Key Challenges</i>
<i>United States</i>	Widely used (Zoom, Webex)	AI in case management	PACER & CM/ECF	Not mainstream	Cybersecurity, access issues
<i>United Kingdom</i>	Cloud Video Platform	AI transcription	Digital Case System	Not mainstream	Digital exclusion
<i>Canada</i>	Zoom/Webex	AI legal research	E-filing in most provinces	Testing phase	Uneven implementation
<i>Australia</i>	Microsoft Teams	AI case analysis	Paperless courts	Not mainstream	Indigenous access
<i>EU</i>	Cross-border hearings	AI legal assistance	e-Justice Portal	Some use	Integration challenges
<i>China</i>	AI-powered smart courts	AI judges	Nationwide digital courts	Recognized	AI transparency, privacy concerns
<i>Singapore</i>	Fully digital courts	AI in case management	Mandatory e-filing	Limited use	Cost, AI bias
<i>India</i>	Webex, Zoom	AI in experimental phase	E-courts portal	Not yet implemented	Infrastructure, digital literacy

India has the potential to improve its e-court system through the integration of AI-assisted legal research and transcription, drawing on successful implementations observed in jurisdictions such as the UK, Singapore, and Canada, thereby facilitating more efficient case analysis and documentation. The implementation of blockchain technology for evidence submission, exemplified by practices in China, has the potential to enhance the authenticity and security of digital records. Implementing a standardized approach to video conferencing platforms within the judicial system, akin to practices observed in the US and UK, would promote uniformity and enhance accessibility across all tiers of the judiciary. Furthermore, India ought to transition to a system of paperless court filing and digital case management, similar to the practices observed in Australia and Singapore, in order to enhance efficiency and mitigate delays. To fully actualize these advancements, it is imperative for India to confront the existing infrastructure deficiencies in rural courts, facilitate training for judges and lawyers regarding digital tools, and enhance cybersecurity legislation to safeguard sensitive court records against potential threats.

5. Judiciary 2.0: Pros and Cons

5.1 Benefits

The emergence of electronic courts and virtual hearings presents several benefits that notably enhance the effectiveness,

easy access, and accountability of the legal process. The Supreme Court and High Courts have proficiently sustained their functions in an online format during the COVID-19 pandemic.

- E-courts and virtual hearings improve access to justice by enabling citizens to file cases, track status, pay fees, and access legal documents online. This eliminates the need for citizens to physically visit the courthouse.
- The digitization of court processes streamlines case management, reduces the amount of paperwork involved, and speeds up the resolution of cases, which ultimately results in fewer delays in the judicial system.
- Provided that litigants and legal representatives have the ability to monitor their cases from any location and at any time, online access to case-related information, which includes court orders and judgments, promotes transparency.
- The elimination of travel costs and the requirement for physical submissions, which results in significant time and cost efficiencies in the legal process, is one of the ways that online case filing helps to reduce the financial burden that litigants are under.
- The transition to electronic filing and a paperless judicial environment

reduces the amount of paper that is used, which makes a positive contribution to environmental sustainability while also making it easier to automatically digitize case records.

- Interoperable Criminal Justice System: Electronic courts make it easier for information to be shared between different branches of the state, such as the judicial system, the police, and the prison system, by utilizing the Interoperable Criminal Justice System (ICJS).
- In the realm of judicial oversight and management, judicial officers have the ability to utilize a variety of

5.2 Challenges

While e-courts and virtual hearings offer a multitude of advantages, various obstacles impede their successful implementation and broader acceptance.

- It is difficult for marginalized communities to effectively participate in virtual court proceedings because a sizeable portion of the population does not have access to dependable internet and essential devices. This is the impact of the digital divide.
- It is necessary to improve the technological infrastructure in many regions of India in order to support electronic courts. This includes ensuring that internet connectivity is reliable, upgrading both hardware

tools in order to effectively manage their courts, maintain oversight of pending cases, and access digitized case records. This helps to ensure that court operations are carried out in an efficient manner.

- A further improvement in convenience and efficiency in the legal process, virtual hearings allow citizens to verify hearing dates and access court judgments online. Virtual hearings reduce the need for in-person consultations between clients and legal representatives, which further enhances the convenience and efficiency of the legal process

and software, and providing training for judges, attorneys, and other court personnel.

- There is a significant lack of digital literacy among judges, court personnel, and legal practitioners, which hinders their ability to comprehend and make effective use of digital technology in the legal process. This is referred to as the "digital literacy."
- It is essential for the successful operation of electronic court systems to implement training programs and workshops that aim to improve the digital skills of judges, attorneys, and other court personnel.
- In order to protect individuals' privacy and reduce the risks

associated with hacking and other cybersecurity threats, it is necessary to implement stringent data security protocols when dealing with sensitive legal information.

- It is essential to address concerns and promote acceptance of electronic courts because there is a possibility that the transition from traditional court proceedings to electronic courts will be met with resistance from a variety of stakeholders at some point.
- The legal framework that governs electronic courts needs to be updated in order to address challenges to electronic evidence, authentication, and document admissibility. This will make sure that individuals with disabilities are able to access courts.
- The establishment of advanced electronic courts necessitates a substantial investment in technology as well as the resolution of ongoing problems such as the availability of electricity and internet connectivity. In order to improve access for underserved communities, E-Seva Kendras are going to be established in local court complexes.

6. Recommendations

After analysing all the pros and cons here are some recommendations that the authors intend to highlight upon,

for the effective implementation and smooth functioning of e- courts and virtual hearing.

- E-Courts: A Comprehensive Strategy for Online Administration A multifaceted approach that takes into account technological, legal, and social dimensions is required for the successful implementation of electronic courts and virtual hearings. This is necessary to ensure that judicial procedures are carried out within an efficient manner.
- In order to ensure that underrepresented communities have equal access to electronic court systems, it is essential to improve internet access and provide devices to those communities. Further improvement of access to legal services can be attained through the establishment of e-Sewa Kendras within court complexes.
- Connectivity to the internet that is dependable and cutting-edge hardware and software are both essential components of the technological infrastructure. While the digitization of court records is essential for the transition to a paperless judicial system, the adoption of cloud technology can make it easier to

access case information in real time.

- In order to make effective use of electronic court systems, regular training in information and communication technology (ICT) skills is required for judges, lawyers, and other court personnel. It is absolutely necessary to put in place stringent security measures, such as encryption and access controls, in order to safeguard sensitive legal information.
- It is necessary to amend legal frameworks in order to address the issues that are caused by online proceedings, particularly with regard to electronic evidence. For this reason, it is necessary to amend legal frameworks. Platforms for electronic courts ought to give accessibility a higher priority and incorporate assistive technologies in order to ensure inclusivity.
- It is essential to conduct public campaigns that educate citizens about the advantages of electronic courts in order to establish trust in the process of judicial administration. Continuous education for legal practitioners on the use of digital tools is also an important aspect.

- The utilization of alternative dispute resolution strategies has the potential to improve the effectiveness of case management. The transparency of the judicial process can be improved through the use of live streaming of court cases.
- For the purpose of providing assistance to users, it is essential to both establish dedicated IT support teams and grievance redressal systems. An increase in data sharing and consistency will result from the implementation of e-court procedures that are uniform across all jurisdictions. When it comes to evaluating the efficacy of electronic courts and adjusting to technological advancements, key performance indicators and feedback systems are essential components.

The adoption of these recommendations will allow the judicial system to significantly improve accessibility, efficiency, transparency, and equity in the administration of justice. This will be accomplished through the utilization of e-courts and virtual hearings if they are utilized effectively.

6. Conclusion

In summary, the incorporation of e-courts and virtual hearings signifies a notable evolution in the quest for justice, indicating a transition towards a new era of

judicial processes. This development utilizes technology to enhance accessibility, efficacy, and transparency in legal system. Virtual courts, designed to reduce the necessity for in-person attendance, have proven effective in adjudicating minor disputes and motor vehicle violations, providing a practical means for case resolution. The advantages of electronic courts and virtual hearings are numerous. They minimize expenses related to travel and infrastructure, conserve time, and alleviate the pressure of outstanding cases. The digitization of court records and processes enhances transparency and facilitates the smooth exchange of information across various branches of the State. Virtual proceedings have demonstrated their significant value during crises such as pandemics, facilitating the ongoing operation of justice system. Nonetheless, the journey toward fully actualizing the potential of Judiciary 2.0 presents a series of challenges. The disparities in digital access, constraints imposed by technology, and the imperative for improved digital literacy among various stakeholders present considerable challenges. Concerns regarding data security, reluctance to embrace change, and the imperative for modernized legal frameworks necessitate thorough examination. Through the examination of these challenges and the application of the proposed strategies, electronic courts and virtual hearings have the potential to facilitate a justice system that is more

accessible, efficient, and transparent. Embracing Judiciary 2.0 represents a dedication to utilizing technology in a manner that serves the public interest, fundamentally reshaping the future of justice for the advantage of all stakeholders involved. There has been a revolutionary change in the legal landscape brought about by Judiciary 2.0, which offers improved efficiency, accessibility, and transparency in proceedings of justice delivery system. Despite the fact that e-courts and virtual hearings have brought about a revolution in the legal system, there are numerous hindrances that need to be curb to guarantee their efficiency. The implementation of robust digital infrastructure, cybersecurity measures, and legal frameworks are all examples of how Judiciary 2.0 has the potential to pave the way for a legal system that is more equitable and efficient. To safeguard the ultimate values of fairness, transparency, accessibility is maintained throughout the digital transformation process, the future of justice will be determined by the successful integration of technology with legal principles.

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Whistleblowing and National Security in India: The Conflict Between Transparency and State Secrecy

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Abstract

Whistleblowing is a crucial tool for promoting transparency and accountability in government and corporate sectors, but it raises significant legal and ethical challenges, particularly when national security concerns are involved. In India, whistleblowers often face the dilemma of exposing corruption or wrongdoing while navigating laws that prioritize state secrecy. This paper examines the complex legal framework governing whistleblowing in India, analysing key legislations such as the Whistle Blowers Protection Act, 2014, the Official Secrets Act, 1923, and the Right to Information Act, 2005. Through case studies such as the Panama Papers and Uber Files, as well as prominent Indian whistleblower incidents, the paper explores the tension between public interest and national security. It identifies critical gaps in legal protections, such as insufficient safeguards against retaliation and weak institutional support for whistleblowers. The study also discusses the role of media in amplifying disclosures and the risks journalists face in covering sensitive matters. Ultimately, the paper offers policy recommendations aimed at strengthening whistleblower protection laws, expanding coverage to the private sector, creating safe and anonymous reporting channels, and ensuring judicial oversight in cases involving state secrecy. By addressing these challenges, the paper argues for a balance that protects both national security and the public's right to know, fostering an environment

where whistleblowers can contribute to a more transparent and accountable governance system.

Keywords- Whistleblowing, National Security, Legal Protections, Transparency, Accountability

INTRODUCTION

"The public has a right to know what the government is doing in their name."

— **Edward Snowden**

Whistleblowing plays a crucial role in ensuring transparency, accountability, and good governance in any democracy. In India, where corruption and bureaucratic inefficiencies often hinder institutional functioning, whistleblowers have emerged as key agents of change. However, their actions often come at significant personal risk, as existing legal frameworks provide inadequate protection. Moreover, when national security is involved, the tension between the public's right to know and the government's need to safeguard sensitive information becomes particularly complex. This article explores the legal, ethical, and policy dimensions of whistleblowing in India, with a specific focus on how national security laws impact whistleblower protections.

Whistleblowing has been instrumental in exposing large-scale corruption scandals in India. From bureaucratic irregularities to corporate misconduct, whistleblowers have played a vital role in uncovering fraud and mismanagement. Some notable examples include Satyendra Dubey, a National Highways Authority of India

(NHAI) engineer who exposed corruption in the Golden Quadrilateral highway project and was murdered for his revelations, and Manjunath Shanmugam, an Indian Oil Corporation officer who exposed the adulteration of fuel and met a similar fate. These cases highlight the vulnerability of whistleblowers in India and the urgent need for robust legal protections. Transparency is the backbone of a functioning democracy, ensuring that the government remains accountable to its citizens. A lack of transparency fosters corruption, weakens institutions, and erodes public trust. The Right to Information (RTI) Act, 2005, has empowered citizens to seek accountability, but when disclosures involve sensitive national security matters, the balance between transparency and state secrecy becomes contentious.

Governments often justify secrecy on the grounds of national security, arguing that unauthorized disclosures can compromise military and intelligence operations, harm diplomatic relations, and enable foreign adversaries to exploit vulnerabilities. In India, the Official Secrets Act, 1923 (OSA), criminalizes the disclosure of classified information. While originally intended to prevent espionage, the OSA has been criticized for being excessively

broad, leading to the suppression of information that may be in the public interest. While governments stress the need for secrecy, whistleblowers argue that public interest must prevail, especially when the state is engaged in unlawful or unethical activities. They contribute to democracy by exposing corruption, ensuring accountability, and protecting human rights by bringing to light instances of unlawful surveillance, police excesses, and state-sponsored violations. The tension between secrecy and transparency becomes evident in cases where whistleblowers reveal information related to government mismanagement, corporate fraud, or human rights violations under the guise of "national security."

This research aims to explore the complex interplay between whistleblowing and national security in India. It seeks to understand the legal, ethical, and policy dimensions of whistleblowing in India while analysing how national security laws impact whistleblower protections. Additionally, it will examine key case studies such as the Panama Papers Leak (2016) and Uber Files Leak (2022) in the Indian context. A comparative study with whistleblower protection frameworks in other democracies, such as the United States and the European Union, will help assess best practices and potential reforms for India. The study aims to recommend policy changes that strike a balance between transparency and national security, ensuring that whistleblowers are

adequately protected while preventing the unauthorized disclosure of genuinely sensitive information.

This study adopts a doctrinal research approach by examining legal frameworks, including the Whistle Blowers Protection Act, 2014, the Official Secrets Act, 1923, and the Right to Information Act, 2005. Analysing case studies such as the Panama Papers and Uber Files will provide insights into how whistleblowing has exposed financial misconduct and corporate wrongdoing in India. A comparative study of whistleblower laws in the United States, particularly the Whistleblower Protection Act, 1989, and the European Union's Whistleblower Directive, 2019, will offer a global perspective on whistleblower protections. This methodology ensures a comprehensive examination of whistleblowing in India, balancing national security concerns with the need for greater transparency and accountability.

LEGAL FRAMEWORK GOVERNING WHISTLEBLOWING AND NATIONAL SECURITY IN INDIA

Whistle Blowers Protection Act, 2014:

The Whistle Blowers Protection Act, 2014, was introduced to encourage transparency and accountability in governance by providing protection to individuals exposing corruption in government offices. The Act allows whistleblowers to report cases of corruption, abuse of power,

and other forms of misconduct to designated authorities, including the Central Vigilance Commission (CVC). However, its effectiveness is hindered by several limitations. The Act does not provide comprehensive protection to whistleblowers, leaving them vulnerable to retaliation. Moreover, it does not allow the disclosure of information related to national security, defence, and intelligence agencies, creating a legal grey area where whistleblowers exposing misconduct within these sectors may not receive protection. Additionally, the absence of strong enforcement mechanisms makes it difficult for whistleblowers to seek timely redress, further deterring individuals from coming forward with vital information.

Official Secrets Act, 1923:

The Official Secrets Act, 1923, remains one of the most controversial laws restricting whistleblowing, particularly in cases related to national security. Originally enacted during the colonial era to prevent espionage, the Act criminalizes the disclosure of classified information by government officials. Any unauthorized sharing of information deemed to be prejudicial to national security is punishable with imprisonment, even if the disclosure serves public interest. Critics argue that the Act is outdated and overly restrictive, often being misused to suppress information that could expose corruption or governance failures. For instance, the law has been invoked against journalists and whistleblowers attempting to reveal

wrongdoing in defence procurement deals and intelligence operations. The lack of clear definitions regarding what constitutes "classified" information has also led to arbitrary interpretations, making it difficult for whistleblowers to navigate the legal landscape.

Right to Information Act, 2005:

The Right to Information (RTI) Act, 2005, has played a significant role in promoting transparency and ensuring government accountability. It empowers citizens to seek information from public authorities, thereby enabling investigative journalism and whistleblowing. However, the Act includes exemptions for matters concerning national security, intelligence agencies, and sensitive government operations. Section 8 of the RTI Act lists exemptions that prevent the disclosure of information that could affect the sovereignty and integrity of India, its strategic interests, or relations with foreign states. While these provisions are necessary for protecting national security, they are often misused to withhold information that should be made public. The restrictive nature of these exemptions makes it difficult for whistleblowers to use RTI as a tool to expose corruption within security and defence establishments.

Other Relevant Laws:

Apart from the primary legal frameworks governing whistleblowing, other laws also influence disclosures related to corruption and misconduct. The Prevention of

Corruption Act, 1988, criminalizes bribery and corruption among public officials, making whistleblowing essential in exposing corrupt practices. However, in the absence of adequate whistleblower protection, individuals reporting corruption often face severe repercussions, including threats to their safety. Another important law is the Digital Personal Data Protection Act, 2023, which introduces stringent data protection measures. While aimed at safeguarding personal data, it also raises concerns about restricting disclosures that may involve leaked documents, financial records, or digital evidence of misconduct. This could pose new challenges for whistleblowers seeking to expose wrongdoing in the digital age, especially in cases like the Panama Papers or Uber Files, where leaked data played a crucial role in uncovering financial and corporate irregularities.

Overall, India's legal framework presents a conflicting environment for whistleblowers. While certain laws promote transparency, others impose significant restrictions, particularly when national security is cited as a justification for secrecy. The absence of strong protective mechanisms further discourages whistleblowing, making reforms in these laws essential to balance the need for both state security and public accountability.

CASE STUDIES: WHISTLEBLOWING AND NATIONAL SECURITY IN INDIA

Panama Papers Leak (2016):

The Panama Papers leak was a global exposé that uncovered offshore financial dealings involving numerous politicians, businessmen, and public figures. The leak contained details about several Indian individuals and entities involved in tax evasion and money laundering through offshore accounts in tax havens. Among the prominent names revealed were Bollywood actors, business tycoons, and politicians who allegedly used shell companies to conceal their wealth. The Indian government responded by forming a Special Investigation Team (SIT) to probe the names mentioned in the leak. While tax evasion cases were initiated against some individuals, the overall legal impact remained limited due to the complex nature of offshore financial transactions and the difficulty in securing international cooperation for prosecution. The Panama Papers highlighted the need for stronger regulatory mechanisms to ensure financial transparency and prevent illicit financial flows. However, whistleblowers exposing such financial irregularities remain vulnerable in India, as the existing legal framework does not provide sufficient safeguards for individuals disclosing corporate misconduct with international implications.

Uber Files Leak (2022):

The Uber Files leak brought to light the aggressive lobbying tactics used by Uber

to influence regulatory frameworks in various countries, including India. The leaked documents showed that Uber engaged in lobbying with Indian policymakers to ease restrictions on ride-hailing services while downplaying concerns about passenger safety and labour rights. The revelations underscored the influence of corporate giants in shaping public policy, often at the expense of ethical governance and consumer protection. Unlike cases involving government secrecy, corporate whistleblowing in India faces additional challenges due to weak protections for employees who expose internal wrongdoing. While the Uber Files did spark public debate on the need for stricter corporate accountability, there were no significant policy changes to strengthen whistleblower protections in the private sector. This case highlighted the lack of a robust legal framework in India to protect whistleblowers from retaliation when they expose corporate malpractices affecting public welfare.

Satyendra Dubey (2003):

An engineer with the National Highways Authority of India (NHAI), Dubey uncovered large-scale corruption in the Golden Quadrilateral highway project. He wrote to the Prime Minister's Office (PMO) detailing financial irregularities and misuse of public funds. Despite requesting anonymity, his identity was leaked, and he was murdered, raising serious concerns about the government's

failure to protect whistleblowers. His case became a turning point in India's discourse on whistleblower protection, but legal reforms since then have remained inadequate.

Sanjiv Chaturvedi Case (2012):

A former Indian Forest Service (IFS) officer, Chaturvedi exposed corruption in Haryana's Forest department and later in the All India Institute of Medical Sciences (AIIMS). Despite his disclosures being in the public interest, he faced severe administrative harassment, including transfers, demotions, and disciplinary actions. His case reflects the institutional resistance to whistleblowing in India, where government officials exposing corruption often suffer career setbacks rather than receiving protection.

Manoj Kumar (BSNL Scam) Case (2016):

A whistleblower in the Bharat Sanchar Nigam Limited (BSNL) scam, Kumar exposed irregularities in tenders and procurement processes. In retaliation, he faced workplace harassment and legal threats, demonstrating the risks associated with exposing corruption in public-sector enterprises. His case further highlighted the gaps in India's legal framework, where the Whistle Blowers Protection Act, 2014, remains largely ineffective in providing real safeguards to those who expose misconduct.

Comparative Insights:

Whistleblowing in India differs significantly from global cases like

Edward Snowden's disclosures about the NSA's surveillance programs. While Snowden's leaks sparked a global debate on privacy, surveillance, and state overreach, they also led to major policy shifts and discussions on balancing national security with individual freedoms. In contrast, Indian whistleblower cases often do not result in significant legal or policy reforms, primarily due to weak protections and the systemic risks faced by whistleblowers.

Additionally, international whistleblower protection frameworks, such as those in the United States (e.g., the Whistleblower Protection Act and the Dodd-Frank Act), provide stronger legal safeguards, financial rewards, and mechanisms for anonymous reporting. India can learn from these models by strengthening its legal provisions, ensuring effective enforcement, and establishing independent institutions to handle whistleblower complaints without political interference.

Overall, these case studies demonstrate that while whistleblowers play a crucial role in exposing corruption, financial irregularities, and unethical corporate practices, the Indian legal system has not evolved sufficiently to protect them. Strengthening whistleblower protections and balancing transparency with national security concerns remains a critical challenge for Indian governance.

ETHICAL DILEMMAS IN NATIONAL SECURITY WHISTLEBLOWING IN INDIA

Transparency vs. State Secrecy

The tension between transparency and state secrecy lies at the heart of ethical dilemmas in national security whistleblowing. In a democracy, transparency is essential for ensuring that the government remains accountable to its citizens, and whistleblowers often play a crucial role in revealing corruption, misuse of power, and other forms of misconduct. However, when sensitive national security issues are involved, the government often justifies secrecy to protect the nation's interests, military strategies, and diplomatic relations. The question arises: when does disclosure serve the public interest? In cases where national security concerns are used to justify withholding information, there is an ethical responsibility to evaluate whether the disclosure of such information could ultimately protect public welfare or harm national security. For instance, the exposure of state surveillance programs, such as those revealed by Edward Snowden, may serve the public's right to know, but could also jeopardize national security and diplomatic relations. In India, this dilemma is particularly pronounced when whistleblowers expose military, defence, or intelligence information, as such disclosures can compromise strategic operations and safety. Should national security interests override democratic accountability, or should citizens have the right to know how their government operates, especially when its actions are

unethical or illegal? This balancing act forms the crux of the ethical challenge for whistleblowers in India.

Moral Responsibility vs. Legal Consequences

Whistleblowers often face the moral responsibility to expose wrongdoing, particularly when they witness illegal or unethical conduct that undermines public trust. However, the ethical duty to reveal the truth is fraught with risks. In India, whistleblowers often encounter severe retaliation, including physical threats, job loss, harassment, and even criminal charges. For example, whistleblowers like Satyendra Dubey and Sanjiv Chaturvedi have faced persecution and personal harm, highlighting the vulnerability of individuals who try to challenge powerful political and institutional forces. Ethically, there is an inherent obligation to speak out against injustices and corruption, but the legal consequences can be daunting. In India, laws such as the Official Secrets Act, 1923, and the Unlawful Activities (Prevention) Act, 1967, criminalize the unauthorized disclosure of classified information, potentially subjecting whistleblowers to prosecution. In contrast, the legal frameworks intended to protect whistleblowers, like the Whistle Blowers Protection Act, 2014, are often ineffective or under-enforced. This mismatch between moral responsibility and legal consequences raises an ethical dilemma: Should whistleblowers prioritize their moral duty to expose wrongdoing, even at

the risk of legal punishment, or should they remain silent to protect themselves from legal retribution and personal harm? This question is critical in shaping the ethical landscape surrounding national security whistleblowing in India.

Role of Media in Disclosures

Media plays a vital role in amplifying the impact of whistleblowing by acting as a key medium for disclosing sensitive information. Investigative journalism often serves as a conduit for whistleblowers who wish to bring issues to light but fear personal repercussions. In India, several whistleblowing cases, such as the Panama Papers leak and the Uber Files, were made possible due to the work of journalists who obtained and published confidential documents revealing corruption, financial malpractices, and corporate influence over policymakers. However, media involvement in whistleblowing raises additional ethical concerns, especially when national security is implicated. While journalists may have a duty to expose unethical practices, they must also consider the potential harm to national security that could arise from such disclosures. Moreover, the Indian media environment has become increasingly hostile toward investigative journalism, with reporters facing threats, harassment, and legal action, particularly when they expose powerful entities or government wrongdoing. The ethical dilemma becomes more complex when journalists

are forced to weigh their professional duty to report the truth against the potential harm caused by publishing sensitive information. Furthermore, protecting journalistic sources is a critical ethical concern. In India, while there is no legal framework that guarantees the protection of sources, the risks to those who expose wrongdoing are immense. The lack of whistleblower protections makes it increasingly difficult for journalists to shield the identities of their sources, undermining the ethical principles of confidentiality and trust that are foundational to investigative reporting. Therefore, while media can act as a catalyst for transparency, it is confronted with the ethical responsibility to balance public interest against the protection of national security and the safety of whistleblowers.

Ethical dilemmas surrounding national security whistleblowing in India require a nuanced understanding of the competing interests between transparency, accountability, and state security. The moral responsibility to expose wrongdoing must be weighed against the legal consequences faced by whistleblowers, while media plays a pivotal role in ensuring that disclosures serve the public interest. These complex ethical challenges demand a reassessment of the current legal and policy frameworks to better protect whistleblowers and promote a culture of transparency in governance.

CHALLENGES AND CONSEQUENCES FOR WHISTLE BLOWERS IN INDIA

Legal Barriers and Threats

Whistleblowers in India often face significant legal barriers and threats, particularly due to the country's secrecy laws. The Official Secrets Act, 1923, which criminalizes the disclosure of classified information, serves as a major obstacle for individuals seeking to expose government wrongdoing. While this law is intended to protect national security, it can be used to silence whistleblowers who reveal information related to corruption, mismanagement, or malfeasance in government and public institutions. Those who blow the whistle on government activities are frequently at risk of prosecution under this Act, and they may face severe legal consequences, including imprisonment.

In addition to national laws, whistleblowers who leak information related to multinational corporations or international organizations may face extradition risks. For instance, cases like the Panama Papers leak involved individuals who disclosed sensitive financial information that spanned multiple jurisdictions. Whistleblowers who expose such data often find themselves caught in complex legal battles involving multiple countries, facing the risk of extradition to foreign jurisdictions where they could face severe penalties.

This international legal complexity further discourages potential whistleblowers from coming forward, as they are uncertain about the protection they may or may not receive from their own government or international bodies.

Lack of Strong Institutional Support

While India has implemented the Whistle Blowers Protection Act, 2014, the practical implementation and efficacy of this law remain deeply problematic. The law was designed to provide protection for individuals who expose corruption and other forms of wrongdoing within public institutions. However, several shortcomings have hindered its effectiveness. For example, the Whistle Blowers Protection Act does not provide for sufficient safeguards for whistleblowers, such as anonymity or legal immunity, leaving individuals vulnerable to retaliation. The absence of clear and immediate consequences for retaliation by employers or government bodies weakens the law's deterrent effect.

Furthermore, the Act's enforcement mechanisms are often slow and inefficient. Complaints under the Act often go unaddressed, and those who file them can face delays in receiving the protection they are entitled to. The lack of institutional support in the form of secure, transparent, and timely processes for handling disclosures creates a hostile environment for potential whistleblowers. The absence of an effective support system exacerbates

the personal risks faced by individuals who expose wrongdoing. Retaliation, in the form of job loss, legal action, physical threats, or social ostracism, is common. High-profile cases such as that of Satyendra Dubey, who exposed corruption in the National Highways Authority of India, show the grave consequences of lacking institutional backing for whistleblowers. Dubey was tragically murdered after he exposed corruption in the road construction sector, and despite his family's efforts, justice remains elusive, further illustrating the dangers faced by those who attempt to expose systemic corruption.

The Chilling Effect on Future Whistleblowers

The consequences faced by whistleblowers in India, including prosecution, retaliation, and legal ambiguity, create a chilling effect that discourages future disclosures. Fear of prosecution under secrecy laws, coupled with the lack of institutional support, makes potential whistleblowers hesitant to come forward. The traumatic experiences of whistleblowers like Sanjiv Chaturvedi, who exposed illegal practices within the Indian Forest Service and faced severe retaliation, illustrate how individuals can be dissuaded from reporting wrongdoing for fear of personal harm. The lack of adequate legal protection makes whistleblowing a risky endeavour, often with few rewards or assurances of safety for the individuals involved.

The chilling effect extends beyond individual cases and impacts the broader culture of accountability in India. If whistleblowers perceive that they will be punished or ignored, they are less likely to report corruption or illegal activity, perpetuating a culture of impunity. This fear of legal, professional, and personal consequences undermines the democratic process by reducing the transparency of government and corporate actions. To address this issue, India needs a more robust and independent whistleblower protection mechanism. This could include clearer guidelines for protecting the identity and safety of whistleblowers, stronger penalties for retaliation, and a more responsive legal framework to ensure that whistleblowers feel safe when exposing corruption or other illegal activities. Such mechanisms would help to counterbalance the chilling effect and encourage individuals to take action when they encounter unethical or illegal conduct.

Whistleblowers in India face significant challenges due to legal barriers, a lack of institutional support, and the chilling effect of potential retaliation. These challenges not only put individuals at risk but also undermine the country's efforts to promote transparency and accountability in governance. Strengthening the legal protections for whistleblowers and ensuring that they have the institutional and legal support needed to disclose wrongdoing safely are crucial steps toward

creating a more transparent and accountable society.

POLICY RECOMMENDATIONS AND LEGAL REFORMS

Strengthening Whistleblower Protection Laws

One of the critical steps towards encouraging whistleblowing in India is strengthening the Whistle Blower Protection Act, 2014, to ensure that whistleblowers are adequately protected from retaliation. The Act currently offers limited protections and lacks clear safeguards, leaving whistleblowers vulnerable to workplace retaliation, harassment, or even physical harm. Amendments should be introduced to provide robust legal safeguards, including ensuring anonymity, offering immunity from legal repercussions, and instituting severe penalties for retaliation. A more comprehensive system for monitoring and enforcing these protections is also essential.

In addition to improving protections for government whistleblowers, there should be an expansion of coverage to include private sector whistleblowers. Private companies and corporations, particularly in sectors dealing with sensitive information (like finance or healthcare), need stronger accountability mechanisms. Whistleblowers in the private sector often face more significant challenges, such as job loss, defamation, and blacklisting. Legal reforms should ensure that private

sector whistleblowers enjoy similar protections as their counterparts in the public sector, promoting transparency across all sectors.

Balancing National Security and Transparency:

A key challenge in whistleblowing cases in India involves striking the right balance between national security concerns and the public's right to know. While protecting state secrets is essential for maintaining national security, it should not come at the cost of undermining democracy or allowing the government to shield corrupt or unlawful activities. There should be judicial oversight in cases where national security is invoked as a reason to prevent disclosures. Courts should review such cases to ensure that the government's claims of secrecy are genuine and that the public interest is adequately considered.

Additionally, mechanisms for safe and anonymous disclosures must be developed to protect whistleblowers, especially in cases involving sensitive or classified information. Whistleblower protection systems should allow individuals to report wrongdoing securely, without fear of exposure or retaliation. This could include setting up secure digital platforms, creating trusted third-party mediators, or involving civil society organizations to facilitate anonymous disclosures. Such measures would encourage more individuals to report unethical practices without the fear of being exposed.

Encouraging Safe Reporting Channels:

An essential component of strengthening the whistleblowing framework in India is the establishment of safe reporting channels. Whistleblowers must have access to systems that ensure their safety, confidentiality, and protection from retaliation. These channels could include secure online portals or dedicated helplines, where whistleblowers can report their concerns without the risk of exposure.

Whistleblower support systems should also be bolstered, providing not only legal protection but also psychological support, legal counsel, and financial assistance for those who face retaliation. NGOs and watchdog organizations can play a pivotal role in this regard by offering advice, resources, and support to whistleblowers. These organizations could act as intermediaries, ensuring that disclosures are handled professionally and that whistleblowers have access to legal remedies in case of retaliation. Their involvement would enhance trust in the whistleblowing process and help build a more transparent and accountable governance structure.

International Best Practices and India's Adaptation:

India can draw lessons from international best practices when it comes to whistleblower protection, particularly from countries like the United States and members of the European Union. The U.S. Whistleblower Protection Act, for

example, has long provided federal employees with a secure channel for reporting misconduct, offering legal immunity and protection from retaliation. Similarly, the EU has developed a strong framework for whistleblower protection that guarantees confidentiality and provides remedies for whistleblowers who face retaliation. These models can offer valuable insights into how India can adapt its legal and policy framework to better support whistleblowers.

India should also seek to improve international cooperation on whistleblower protection. As seen in high-profile cases like the Panama Papers leak and Uber Files, whistleblowing often involves transnational data and international organizations. Effective global cooperation is necessary to ensure that whistleblowers are protected across borders, especially when their disclosures pertain to multinational corporations or cross-border illegal activities. International treaties or agreements could be developed to create a cohesive framework for the protection of whistleblowers globally, ensuring that their rights are upheld, regardless of the jurisdiction in which they reside.

India must take significant steps to strengthen its whistleblower protection laws, ensuring robust protection for both public and private sector whistleblowers. Balancing national security concerns with the public's right to transparency is crucial, and judicial oversight should be part of this

process. Safe reporting channels and strong support systems will encourage more individuals to come forward and expose wrongdoing. Lastly, India should adapt international best practices to create a cohesive, robust framework for whistleblower protection and seek global cooperation to protect individuals who expose corruption and other unlawful acts on a global scale. These reforms will not only enhance transparency and accountability but also help India in fostering a more democratic and just society.

CONCLUSION

The analysis of whistleblowing and national security in India has highlighted several critical issues that hinder the effective functioning of whistleblower protection mechanisms. A key finding is that weak legal protections discourage individuals from coming forward to expose corruption or misconduct. Despite the existence of laws such as the Whistle Blowers Protection Act, 2014, whistleblowers often face retaliation, lack of institutional support, and the risk of prosecution under secrecy laws, which deters them from reporting wrongdoing. There is a clear need for urgent reforms to strengthen these protections and ensure that individuals who expose corruption or misconduct are shielded from harm.

The current legal framework, especially the Official Secrets Act, 1923, is outdated and overly restrictive, making it difficult to

balance national security with the public's right to transparency. The Right to Information Act, 2005, while a positive step, also has significant exemptions, particularly for national security matters, which limits its effectiveness in promoting transparency. These gaps in the legal structure must be addressed to ensure that the public is informed about issues that may undermine democratic governance.

Looking to the future, technology will play an increasingly important role in securing whistleblower disclosures. With advancements in digital platforms and secure communication tools, it is now possible to protect whistleblowers' identities and ensure their safety while enabling them to report sensitive information. Legal and policy shifts in India are likely to occur in response to global trends towards stronger whistleblower protection frameworks, as seen in the United States and the European Union. These shifts could create opportunities for India to adopt more comprehensive and transparent policies in line with international best practices.

Ultimately, striking a balance between national security concerns and the need for public accountability is essential for maintaining a robust and functioning democracy. While protecting state secrets is crucial for the country's security, this should not be used as an excuse to undermine transparency or shield unlawful practices from public scrutiny. Strengthening whistleblower protections

and ensuring that disclosures are handled in a secure and accountable manner will foster trust in government institutions and promote a culture of integrity and responsibility. India must prioritize these reforms to create a legal and policy environment that supports whistleblowers, encourages transparency, and strengthens the democratic fabric of the nation.

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Published by Registrar, CUTM Odisha, India – 752050

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