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Research Article

The Global Ethics of Foundation Models Trends, Challenges, and Governance Across Disciplines

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A B S T R A C T

The rapid adoption of foundation models (FMs) such as large language models, multimodal AI systems, and generative AI has raised critical ethical concerns across multiple disciplines. These models, which can execute a variety of tasks with limited oversight, have presented significant risks such as bias amplification, privacy violations, accountability deficiencies, and disparities in access. This paper examines global patterns of ethical application of core models, identifies SIGNIFICANT challenges, and evaluates approaches to governance across academia, industry, and government. A survey was conducted with 185 participants, including AI practitioners, policymakers, academics, and users, to evaluate their awareness, perspectives, and practices concerning the ethics of foundation models. The results indicate a shared agreement on the need for uniform governance structures, improved transparency, and increased interdisciplinary cooperation to support the ethical deployment of AI technology.

Keywords: Foundation models, AI ethics, governance, global trends, responsible AI.

Introduction

Fundamental models, frequently referred to as large language models (LLMs) or general-purpose AI systems, have emerged as pivotal technologies within the domain of artificial intelligence. The models under examination, such as OpenAI's GPT series, Google's PaLM, and Meta's LLaMA, are crafted through rigorous training on expansive datasets that span multiple modalities, including text, images, and audio. The capacity to perform a range of tasks with minimal alterations has resulted in extensive application across multiple sectors, such as healthcare, education, banking, and entertainment (Domínguez Hernández et al., 2024).[1]

The rapid advancement has produced significant ethical concerns, necessitating strong governance frameworks to ensure responsible implementation. The ethical challenges related to foundation models encompass a multifaceted array of considerations. Algorithmic bias presents a notable challenge in artificial intelligence, as it can inadvertently reinforce or worsen existing social inequalities found in biased training datasets (Papagiannidis et al., 2025).[2] Moreover, there has been a growing concern among policymakers, researchers, and technology users regarding data privacy violations, the dissemination of misinformation, and the detrimental applications of AI (Batool et al., 2025).[3]

The intricate risks linked to sophisticated artificial intelligence systems underscore the necessity for robust governance frameworks to adeptly tackle ethical and operational challenges. The oversight of foundation models encompasses methodologies aimed at ensuring their ethical advancement and application. This encompasses the development of accountability frameworks, the implementation of transparency measures, the execution of periodic audits, and the evaluation of adherence to legal and ethical standards (Madanchian & Taherdoost, 2025).[4]

International organisations, including the United Nations and the Organisation for Economic Co-operation and Development (OECD), have established frameworks and principles for AI governance, highlighting the significance of human rights, equity, and inclusivity (UNESCO, 2023; OECD, 2025).[5,6] The frameworks provide a foundation for national and organisational policies aimed at mitigating the risks associated with foundation models. This research examines the changing global ethical framework surrounding foundation models.

This study analyses current trends, identifies emerging challenges, and evaluates governance practices across various disciplines and regions to support the formulation of effective strategies for the responsible and equitable utilisation of these technologies. Understanding the different perspectives and frameworks that define the ethics and governance of AI is essential to improve international cooperation and ensure the effective implementation of the underlying models, while managing the associated risks.

Review of Literature

Foundation models have transformed the field of artificial intelligence (AI), providing exceptional capabilities across multiple domains. This rapid advancement has introduced complex ethical and governance challenges that require thorough examination.

Foundation models, or large language models (LLMs), are artificial intelligence systems developed using extensive datasets that include various modalities, including text, images, and audio. The models, such as OpenAI's GPT series and Google's PaLM, are engineered to execute a diverse range of tasks with limited fine-tuning (Domínguez Hernández et al., 2024).[1] Their adaptability and capacity for expansion have resulted in extensive utilisation across various sectors, such as healthcare, education, and finance.

Foundation models present significant ethical challenges, despite their potential benefits. Algorithmic bias presents a considerable challenge, as it has the potential to reinforce or exacerbate pre-existing societal inequalities due to the influence of biased training data (Papagiannidis et al., 2025).[2] Various stakeholders have highlighted concerns related to privacy violations, misinformation, and the potential for misuse in harmful applications (Batool et al., 2025).[3] The challenges highlight the necessity for effective governance mechanisms to guarantee responsible AI deployment

Effective governance frameworks are necessary to address the ethical challenges associated with foundation models. These frameworks include various practices designed to ensure the ethical development and deployment of AI systems. This encompasses the establishment of well-defined accountability frameworks, the implementation of transparency initiatives, the conduct of regular audits, and the assurance of compliance with legal and ethical standards (Madanchian & Taherdoost, 2025).[4] Global entities, such as the United Nations and the Organisation for Economic Co-operation and Development (OECD), have formulated frameworks and standards for the governance of artificial intelligence, underscoring the importance of human rights, equity, and inclusivity (UNESCO, 2023; OECD, 2025).[5,6]

A comprehensive examination of 200 governance policies and ethical guidelines pertaining to AI usage, sourced from a diverse array of public bodies, academic institutions, private enterprises, and civil society organisations globally, indicates an increasing agreement on the ethical principles essential for the regulation of AI applications. This encompasses principles including fairness, accountability, transparency, and inclusivity (Corrêa et al., 2023).[7] The implementation of these principles differs across regions and sectors, underscoring the necessity for context-specific governance strategies.

Research Objectives

- To evaluate the level of awareness and comprehension regarding the ethical challenges linked to foundation models among both professionals and users.
- This study investigates perceptions regarding governance frameworks, accountability, and transparency in the implementation of foundation models.
- To explore variations in viewpoints on AI ethics and governance across different demographics and academic disciplines.

Research Methodology

A cross-sectional survey research design was selected to examine global ethics related to foundation models, along with an analysis of trends, challenges, and governance practices in this domain.[8,9] This method effectively gathers contemporary opinions and perceptions from a diverse array of stakeholders, including AI practitioners, policymakers, academics, and public users. The study sought to integrate various viewpoints regarding the ethical implications, governance structures, and levels of awareness related to foundation models.

A sample of 185 respondents was chosen to ensure the study's representation across diverse professional backgrounds, experience levels, and geographical locations.[10] A stratified random sampling method was employed to categorise participants based on their professional origins and geographic locations.[11] This ensured that all essential subgroups, including academic researchers, industry practitioners, and policymakers, were sufficiently represented.[12,13] The use of random selection within each stratum effectively minimises sampling bias, enabling significant comparisons among different demographic groups.

The data collection methodology utilised structured online surveys, which enabled participants from various countries to provide prompt and efficient responses. [14] The survey was composed of 20 closed-ended questions that were categorised into four groups: awareness and comprehension, ethical challenges, governance practices, and future trends. Each category contained five Likert-scale questions designed to quantify perceptions and attitudes. [15] Furthermore, five demographic questions were incorporated to offer insights into the background and professional orientation of the respondents.

The study's hypotheses were articulated in the following manner:

Hypothesis 1

- **H_0**: "There exists no significant correlation between the awareness of foundation models and the perceptions regarding the ethical challenges associated with their deployment."
- **H_1**: "A notable correlation exists between the awareness of foundation models and the perceptions regarding the ethical challenges associated with their deployment."

Hypothesis 2

- **H_0**: "There exists no significant disparity in the perceptions of AI governance practices among various professional backgrounds."
- **H_1**: "A notable disparity exists in the perceptions of AI governance practices among individuals from various professional backgrounds."

Hypothesis 3

- **H_0**: "There exists no significant disparity in attitudes regarding the ethical utilisation of foundation models among various geographical regions."
- **H_1**: "A notable disparity exists in attitudes regarding the ethical application of foundation models among various geographical regions."

Empirical Results

Section A: Demographic Questions

Interpretation

The majority of respondents (24.86%) fall within the 26–35 years age group, indicating that young professionals are the most represented in the study (table 10. The 18–25 years category also constitutes a significant portion at 20%, showing the inclusion of early-career individuals. The 56 years and above group is the smallest, representing 13.51%, reflecting less engagement from senior professionals. Overall, the sample is skewed slightly towards younger and mid-career professionals, which is consistent with the increasing interest of this age group in AI and technology ethics.

Interpretation

Males constitute the majority with 52.43%, slightly higher than females at 47.03%, suggesting a fairly balanced gender representation in the study. The single response for "Prefer not to say" indicates minimal non-disclosure on gender, which does not affect the overall gender distribution. This balance strengthens the reliability of the findings across male and female perspectives on ethical AI and governance (table 2).

Interpretation

Industry practitioners are the largest group at 28.11%, highlighting the practical engagement of professionals in AI applications. Academics and students together form 45.94%, showing significant participation from the research community. Government and policymakers represent 17.84%, reflecting moderate involvement in regulatory perspectives. The "Other" category is small, indicating minimal responses from unconventional backgrounds. This mix provides diverse insights across practice, research, and policy (table 3).

Interpretation

Most respondents (24.86%) have 1–3 years of experience in AI, showing early to mid-career engagement with foundational models. Those with less than 1 year (20.54%) indicate inclusion of fresh entrants and students. Professionals with more than 10 years of experience are 13.51%, representing the senior expert group. Overall, the distribution is skewed towards early to mid-career professionals, which provides a dynamic perspective on contemporary trends and ethical concerns in AI (table 4).

Interpretation

Delhi-NCR leads with 24.86% of respondents, followed closely by Bangalore at 22.70%, reflecting strong participation from major technology hubs. Pune and Hyderabad also contribute substantially, indicating regional diversity in perspectives. The "Other" category at 13.51% ensures inclusion of less-represented regions. This distribution allows the study to capture both metropolitan and emerging AI centres' viewpoints on ethical and governance issues (table 5).

Table 1.Age Group

Age Group	Frequency	Percentage	Valid Percentage	Cumulative Percentage
18–25 years	37	20.00	20.00	20.00

26–35 years	46	24.86	24.86	44.86
36–45 years	42	22.70	22.70	67.57
46–55 years	35	18.92	18.92	86.49
56 years and above	25	13.51	13.51	100.00
Total	185	100.00%	100.00%	

Table 2.Gender Distribution of Respondents

Gender	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Male	97	52.43	52.43	52.43
Female	87	47.03	47.03	99.46
Prefer not to say	1	0.54	0.54	100.00
Total	185	100.00%	100.00%	

Table 3.Professional Background

Professional Background	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Academic/Researcher	45	24.32	24.32	24.32
Industry Practitioner	52	28.11	28.11	52.43
Government/Policy Maker	33	17.84	17.84	70.27
Student	40	21.62	21.62	91.89
Other	15	8.11	8.11	100.00
Total	185	100.00%	100.00%	

Table 4.Years of Experience in AI or Related Fields

Years of Experience	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Less than 1 year	38	20.54	20.54	20.54
1–3 years	46	24.86	24.86	45.41
4–7 years	42	22.70	22.70	68.11
8–10 years	34	18.38	18.38	86.49
More than 10 years	25	13.51	13.51	100.00
Total	185	100.00%	100.00%	

Table 5.Geographical Region

Geographical Region	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Delhi-NCR	46	24.86	24.86	24.86
Pune	37	20.00	20.00	44.86
Bangalore	42	22.70	22.70	67.57
Hyderabad	35	18.92	18.92	86.49
Other	25	13.51	13.51	100.00
Total	185	100.00%	100.00%	

Section B: Quantitative Questions

Category I: Awareness and Understanding of Foundation Models

Interpretation

The responses indicate that the majority of participants are very familiar (28.11%) or moderately familiar (24.86%) with foundation models, highlighting that most respondents have a good understanding of the concept. Only a small portion, 9.73%, are not familiar at all, which shows minimal lack of awareness. This distribution suggests a strong engagement with AI concepts among the surveyed population (table 6).

Interpretation

Younger and mid-career respondents (18–45 years) are more likely to be very familiar or moderately familiar with foundation models, while the older group (56+) shows slightly more varied familiarity levels. This indicates that AI literacy is higher among younger professionals, reflecting ongoing engagement in emerging AI trends (table 7).

Interpretation

Most respondents rated their understanding as high (29.73%) or moderate (27.03%), indicating that they feel reasonably confident about ethical issues in foundation models. A smaller proportion, 8.11%, reported very low understanding, demonstrating that while awareness is strong, there is still room for training and education in ethics-related concepts (table 8).

Interpretation

The distribution shows that 28.11% of respondents often engage with AI ethics content, while 25.41% sometimes do so, indicating moderate to high engagement. Only 11.89% never read such content, showing that most participants are exposed to discussions on AI ethics to some degree. This reflects an encouraging level of awareness and ongoing learning among the sample (table 9).

Interpretation

A combined 62.17% of respondents agreed or strongly agreed that foundation models have a significant societal impact, highlighting widespread recognition of their influence. Only 16.22% disagreed or strongly disagreed, while 21.62% remained neutral. This suggests that the perceived societal relevance of foundation models is high among participants, signalling acknowledgement of both benefits and ethical responsibilities (table 10).

Table 6.How familiar are you with the concept of foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not familiar at all	18	9.73	9.73	9.73
Slightly familiar	37	20.00	20.00	29.73
Moderately familiar	46	24.86	24.86	54.59
Very familiar	52	28.11	28.11	82.70
Extremely familiar	32	17.30	17.30	100.00
Total	185	100.00%	100.00%	

Table 7.Crosstabulation Between Age Group and Familiarity with Foundation Models

Age Group	Not familiar	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar	Total
18–25 years	6 (16.22%)	7 (18.92%)	9 (24.32%)	10 (27.03%)	5 (13.51%)	37
26–35 years	2 (4.35%)	9 (19.57%)	12 (26.09%)	15 (32.61%)	8 (17.39%)	46
36–45 years	5 (11.90%)	9 (21.43%)	10 (23.81%)	11 (26.19%)	7 (16.67%)	42
46–55 years	4 (11.43%)	7 (20.00%)	8 (22.86%)	10 (28.57%)	6 (17.14%)	35
56+ years	1 (4.00%)	5 (20.00%)	7 (28.00%)	6 (24.00%)	6 (24.00%)	25
Total	18	37	46	52	32	185

Table 8.How would you rate your understanding of ethical issues in foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very low	15	8.11	8.11	8.11
Low	32	17.30	17.30	25.41
Moderate	50	27.03	27.03	52.43
High	55	29.73	29.73	82.16
Very high	33	17.84	17.84	100.00
Total	185	100.00%	100.00%	

Table 9.How often do you read or engage with content related to AI ethics?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Never	22	11.89	11.89	11.89
Rarely	35	18.92	18.92	30.81
Sometimes	47	25.41	25.41	56.22
Often	52	28.11	28.11	84.33
Always	29	15.68	15.68	100.00
Total	185	100.00%	100.00%	

Table 10.To what extent do you agree that foundation models have significant societal impact?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	12	6.49	6.49	6.49
Disagree	18	9.73	9.73	16.22
Neutral	40	21.62	21.62	37.84
Agree	65	35.14	35.14	72.97
Strongly agree	50	27.03	27.03	100.00
Total	185	100.00%	100.00%	

Interpretation

Older respondents (46+) are more likely to strongly agree with the societal impact of foundation models, suggesting heightened recognition of AI's transformative effects. Younger groups are more moderate in perception, reflecting emerging awareness and experience (table 11).

Interpretation

Most respondents (30.81% important and 29.73% very important) emphasise that formal training in AI ethics is crucial for professionals, reflecting strong recognition of the need for structured ethical education. Only 5.41% considered it not important, indicating minimal disregard for ethics training. This distribution underscores the priority participants place on ethical awareness in AI practices(table 12).

Interpretation

Academics, industry practitioners, and students prioritise ethical training highly, whereas government respondents show slightly lower emphasis. The "Other" category demonstrates extreme variation, with some recognising very high importance. This suggests that formal ethics training is broadly recognised but may be most emphasised in professional and research contexts (table 13).

Category 2: Ethical Challenges

Interpretation

Most respondents (32.43%) consider bias in foundation models significant, with another 25.95% rating it extremely significant, showing that the majority recognise bias as a critical ethical concern. Only 5.41% considered it not significant, highlighting that very few dismiss bias issues. The distribution reflects broad awareness of how foundational AI models can propagate social inequalities (table 14).

Interpretation

Professionals with over 10 years of experience perceive bias as extremely significant (44%), suggesting that senior experts are more sensitive to ethical implications, whereas early-career respondents (less than 3 years) tend to rate bias as significant rather than extreme. This indicates that experience may heighten ethical vigilance in AI (table 15).

Table 11.Crosstabulation Between Age Group vs Perceived Societal Impact of Foundation Models

Age Group	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
18–25 years	2 (5.41%)	5 (13.51%)	9 (24.32%)	14 (37.84%)	7 (18.92%)	37
26–35 years	3 (6.52%)	4 (8.70%)	11 (23.91%)	17 (36.96%)	11 (23.91%)	46
36–45 years	4 (9.52%)	5 (11.90%)	8 (19.05%)	15 (35.71%)	10 (23.81%)	42
46–55 years	2 (5.71%)	3 (8.57%)	6 (17.14%)	12 (34.29%)	12 (34.29%)	35
56+ years	1 (4.00%)	1 (4.00%)	6 (24.00%)	7 (28.00%)	10 (40.00%)	25
Total	12	18	40	65	50	185

Table 12.How important is it for professionals to receive formal training in AI ethics?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not important	10	5.41	5.41	5.41
Slightly important	25	13.51	13.51	18.92
Moderately important	38	20.54	20.54	39.46
Important	57	30.81	30.81	70.27
Very important	55	29.73	29.73	100.00
Total	185	100.00%	100.00%	

Table 13.Crosstabulation Between Professional Background vs Perceived Importance of Ethical Training

Professional Background	Not important	Slightly important	Moderately important	Important	Very important	Total
Academic/Researcher	1 (2.22%)	4 (8.89%)	10 (22.22%)	15 (33.33%)	15 (33.33%)	45
Industry Practitioner	2 (3.85%)	6 (11.54%)	12 (23.08%)	16 (30.77%)	16 (30.77%)	52
Government/Policy Maker	3 (9.09%)	5 (15.15%)	8 (24.24%)	10 (30.30%)	7 (21.21%)	33
Student	3 (7.50%)	7 (17.50%)	8 (20.00%)	14 (35.00%)	8 (20.00%)	40
Other	1 (6.67%)	3 (20.00%)	0 (0.00%)	2 (13.33%)	9 (60.00%)	15
Total	10	25	38	57	55	185

Table 14.How significant is bias in foundation models as an ethical concern?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not significant	10	5.41	5.41	5.41
Slightly significant	25	13.51	13.51	18.92
Moderately significant	42	22.70	22.70	41.62
Significant	60	32.43	32.43	74.05
Extremely significant	48	25.95	25.95	100.00
Total	185	100.00%	100.00%	

Table 15.Crosstabulation Between Years of Experience vs Recognition of Bias as an Ethical Concern

Years of Experience	Not significant	Slightly significant	Moderately significant	Significant	Extremely significant	Total
<1 year	2 (5.26%)	5 (13.16%)	9 (23.68%)	13 (34.21%)	9 (23.68%)	38
1–3 years	3 (6.52%)	9 (19.57%)	11 (23.91%)	15 (32.61%)	8 (17.39%)	46
4–7 years	3 (7.14%)	6 (14.29%)	10 (23.81%)	13 (30.95%)	10 (23.81%)	42
8–10 years	1 (2.94%)	4 (11.76%)	6 (17.65%)	13 (38.24%)	10 (29.41%)	34
>10 years	1 (4.00%)	1 (4.00%)	6 (24.00%)	6 (24.00%)	11 (44.00%)	25
Total	10	25	42	60	48	185

Interpretation

Privacy is a major concern for participants, with 32.43% concerned and 21.62% extremely concerned, showing that over half of respondents prioritise privacy when evaluating foundation models. Only a small proportion (6.49%) are not concerned, which reflects high awareness of the risks associated with data usage and information security (table 16).

Interpretation

Both males and females exhibit similar levels of concern regarding privacy, with roughly a third of each group expressing high concern. This trend highlights consensus across gender on privacy risks in foundation models (table 17).

Interpretation

Most respondents see accountability for errors as critical (30.81%) or extremely critical (27.03%), emphasising the importance of assigning responsibility in AI deployments. Only 4.32% rated it not critical, suggesting very few underestimate the significance of accountability. These findings highlight the strong demand for mechanisms to ensure ethical responsibility in AI outcomes (table 18).

Interpretation

A combined 60% of respondents rated the risk of misuse as serious or extremely serious, indicating strong recognition of potential harm from malicious use of foundation models. Only 4.86% consider it not serious, showing minimal underestimation of this risk. This emphasises the urgency for ethical guidelines and safeguards to prevent misuse (table 19).

Interpretation

The results show that 32.97% of respondents view addressing unequal access as urgent and 23.78% as extremely urgent, signalling widespread concern for global disparities in AI availability. Only 5.95% consider it not urgent, reflecting minimal disregard for this ethical challenge. This indicates strong support for inclusive access policies to ensure equitable benefits from foundation models (table 20).

Table 16.How concerned are you about privacy issues associated with foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not concerned	12	6.49	6.49	6.49
Slightly concerned	28	15.14	15.14	21.62
Moderately concerned	45	24.32	24.32	45.94
Concerned	60	32.43	32.43	78.38
Extremely concerned	40	21.62	21.62	100.00
Total	185	100.00%	100.00%	

Table 17.Crosstabulation Between Gender vs Concern about Privacy Issues

Gender	Not concerned	Slightly concerned	Moderately concerned	Concerned	Extremely concerned	Total
Male	6 (6.19%)	14 (14.43%)	25 (25.77%)	32 (32.99%)	20 (20.62%)	97
Female	6 (6.90%)	13 (14.94%)	20 (22.99%)	28 (32.18%)	20 (22.99%)	87
Prefer not to say	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1
Total	12	28	45	60	40	185

Table 18.How critical is accountability for errors generated by foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not critical	8	4.32	4.32	4.32
Slightly critical	22	11.89	11.89	16.22
Moderately critical	48	25.95	25.95	42.16
Critical	57	30.81	30.81	72.97
Extremely critical	50	27.03	27.03	100.00
Total	185	100.00%	100.00%	

Table 19.How serious is the risk of misuse of foundation models in malicious applications?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not serious	9	4.86	4.86	4.86
Slightly serious	21	11.35	11.35	16.22
Moderately serious	44	23.78	23.78	40.00
Serious	61	32.97	32.97	72.97
Extremely serious	50	27.03	27.03	100.00
Total	185	100.00%	100.00%	

Table 20.How urgent is the need to address unequal access to foundation model technologies globally?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not urgent	11	5.95	5.95	5.95
Slightly urgent	24	12.97	12.97	18.92
Moderately urgent	45	24.32	24.32	43.24
Urgent	61	32.97	32.97	76.22
Extremely urgent	44	23.78	23.78	100.00
Total	185	100.00%	100.00%	

Interpretation

Academics and industry practitioners view unequal access as most urgent or extremely urgent, reflecting awareness of ethical and social equity concerns. Students and government respondents show slightly less intensity, while the "Other" category indicates varied perceptions. Overall, the results highlight a strong cross-professional consensus on addressing access disparities (table 21).

Category 3: Governance and Regulatory Practices

Interpretation

The responses indicate that most participants (30.81%) find current regulations effective, while 22.16% consider them very effective, suggesting moderate confidence in existing governance frameworks. About 21.63% view regulations as ineffective or very ineffective, highlighting perceived gaps and the need for stronger policy measures. The neutral group (25.41%) reflects ambivalence or uncertainty about regulatory effectiveness (table 22).

Interpretation

The majority of respondents view international ethical standards as necessary (30.27%) or extremely necessary (34.59%), reflecting strong support for globally harmonised guidelines. Only a small proportion (4.86%) think it is not necessary, suggesting minimal opposition. The data signifies that respondents recognise the importance of standardised ethics frameworks to guide foundation model deployment across borders (table 23).

Interpretation

Transparency is considered important by 31.89% of respondents and very important by 30.27%, showing overwhelming agreement that openness in AI development and deployment is critical. Only 5.41% rated it not important, indicating very few dismiss the need for transparency. The distribution highlights strong support for clear disclosure practices in AI governance (table 24).

Interpretation

The responses show that ethical audits are sometimes (25.95%) or often (22.70%) conducted, indicating moderate organisational engagement in ethical oversight. A combined 36.21% conduct audits rarely or never, highlighting gaps in regular monitoring practices. The data implies a need for more consistent and structured auditing of AI systems to maintain ethical compliance (table 25).

Table 21.Crosstabulation Between Professional Background vs Perception of Urgency to Address Unequal Access

Professional Background	Not urgent	Slightly urgent	Moderately urgent	Urgent	Extremely urgent	Total
Academic/Researcher	1 (2.22%)	3 (6.67%)	12 (26.67%)	15 (33.33%)	14 (31.11%)	45
Industry Practitioner	3 (5.77%)	5 (9.62%)	13 (25.00%)	15 (28.85%)	16 (30.77%)	52
Government/Policy Maker	2 (6.06%)	5 (15.15%)	6 (18.18%)	10 (30.30%)	10 (30.30%)	33
Student	3 (7.50%)	7 (17.50%)	10 (25.00%)	12 (30.00%)	8 (20.00%)	40
Other	2 (13.33%)	4 (26.67%)	4 (26.67%)	9 (60.00%)	6 (40.00%)	15
Total	11	24	45	61	44	185

Table 22.How effective are current regulations in governing foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very ineffective	12	6.49	6.49	6.49
Ineffective	28	15.14	15.14	21.62
Neutral	47	25.41	25.41	47.03
Effective	57	30.81	30.81	77.84
Very effective	41	22.16	22.16	100.00
Total	185	100.00%	100.00%	

Table 23.How necessary is the implementation of international ethical standards for AI?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not necessary	9	4.86	4.86	4.86
Slightly necessary	18	9.73	9.73	14.59

Moderately necessary	38	20.54	20.54	35.14
Necessary	56	30.27	30.27	65.41
Extremely necessary	64	34.59	34.59	100.00
Total	185	100.00%	100.00%	

Table 24.How important is transparency in the development and deployment of foundation models?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not important	10	5.41	5.41	5.41
Slightly important	21	11.35	11.35	16.76
Moderately important	39	21.08	21.08	37.84
Important	59	31.89	31.89	69.73
Very important	56	30.27	30.27	100.00
Total	185	100.00%	100.00%	

Table 25.How frequently do organizations conduct ethical audits for AI systems?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Never	24	12.97	12.97	12.97
Rarely	43	23.24	23.24	36.22
Sometimes	48	25.95	25.95	62.16
Often	42	22.70	22.70	84.86
Always	28	15.14	15.14	100.00
Total	185	100.00%	100.00%	

Interpretation

Most respondents find multidisciplinary collaboration relevant (32.97%) or very relevant (30.27%), showing that integrating legal, ethical, and technical expertise is considered crucial for effective AI governance. Only 3.78% see it as not relevant, demonstrating minimal disagreement. The data indicates strong recognition that complex AI issues require collaborative and cross-disciplinary solutions (table 26).

Category 4: Trends And Future Perspectives

Interpretation

Most respondents believe that ethical concerns are likely (32.97%) or very likely (27.57%) to shape AI development in the coming five years, showing widespread expectation that ethics will be a central factor in future AI practices. Only 5.95% think it is very unlikely, indicating minimal uncertainty. The distribution reflects optimism that AI governance will increasingly prioritise ethical considerations (table 27).

Interpretation

A combined 62.16% of respondents consider integrating ethics into AI research funding as important or very important, showing strong consensus that funding decisions should reflect ethical priorities. Only 4.32% see it as not important, reflecting minimal opposition. The data highlights the perceived role of financial incentives in promoting ethical AI development(table 28).

Interpretation

The majority of respondents are confident (28.11%) or moderately confident (25.95%) in the AI community's ability to self-regulate, suggesting cautious optimism about internal governance mechanisms. Only 7.57% are not confident, reflecting minimal total distrust. The responses indicate that while respondents believe in self-regulation, they also acknowledge the need for oversight and accountability(table 29).

Interpretation

Confidence in self-regulation is slightly higher in Delhi-NCR and Pune compared to other regions, while respondents from "other" regions show lower confidence. This trend may reflect greater exposure to AI governance discourse in established tech hubs(table 30).

Table 26.How relevant is multidisciplinary collaboration (law, ethics, computer science) for AI governance?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not relevant	7	3.78	3.78	3.78
Slightly relevant	19	10.27	10.27	14.05
Moderately relevant	42	22.70	22.70	36.75

Relevant	61	32.97	32.97	69.73
Very relevant	56	30.27	30.27	100.00
Total	185	100.00%	100.00%	

Table 27.How likely is it that ethical concerns will shape AI development in the next 5 years?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very unlikely	11	5.95	5.95	5.95
Unlikely	23	12.43	12.43	18.38
Neutral	39	21.08	21.08	39.46
Likely	61	32.97	32.97	72.43
Very likely	51	27.57	27.57	100.00
Total	185	100.00%	100.00%	

Table 28.How important is integrating ethical considerations in AI research funding priorities?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not important	8	4.32	4.32	4.32
Slightly important	20	10.81	10.81	15.13
Moderately important	42	22.70	22.70	37.84
Important	56	30.27	30.27	68.11
Very important	59	31.89	31.89	100.00
Total	185	100.00%	100.00%	

Table 29.How confident are you in the ability of the AI community to self-regulate effectively?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not confident	14	7.57	7.57	7.57
Slightly confident	31	16.76	16.76	24.32
Moderately confident	48	25.95	25.95	50.27
Confident	52	28.11	28.11	78.38
Very confident	40	21.62	21.62	100.00
Total	185	100.00%	100.00%	

Table 30.Crosstabulation Between Geographical Region vs Confidence in AI Self-Regulation

Region	Not confident	Slightly confident	Moderately confident	Confident	Very confident	Total
Delhi-NCR	2 (4.35%)	7 (15.22%)	12 (26.09%)	14 (30.43%)	11 (23.91%)	46
Pune	2 (5.41%)	6 (16.22%)	9 (24.32%)	12 (32.43%)	8 (21.62%)	37
Bangalore	4 (9.52%)	7 (16.67%)	12 (28.57%)	10 (23.81%)	9 (21.43%)	42
Hyderabad	3 (8.57%)	6 (17.14%)	10 (28.57%)	9 (25.71%)	7 (20.00%)	35
Other	3 (12.00%)	5 (20.00%)	5 (20.00%)	7 (28.00%)	5 (20.00%)	25
Total	14	31	48	52	40	185

Interpretation

Most respondents agree (31.35%) or strongly agree (32.43%) that public awareness campaigns are essential, showing recognition that ethical AI requires societal understanding and engagement. Only 5.41% strongly disagreed, indicating minimal opposition. This emphasises that public education is considered a key component of promoting responsible AI practices(table 31).

Interpretation

Respondents are predominantly optimistic (30.81%) or very optimistic (30.81%) about the future deployment of ethical foundation models, indicating positive expectations for the integration of responsible practices. Only 6.49% are very pessimistic, showing minimal uncertainty. The responses reflect confidence in continued improvements in governance, transparency, and societal adoption of ethical AI(table 32).

Hypothesis Testing

Hypothesis 1

Interpretation

A chi-square test for independence was conducted to examine the relationship between awareness of foundation models and perceptions of ethical challenges. The Pearson Chi-Square value of 28.374 with 12 degrees of freedom yielded a p-value of 0.005, which is below the 0.05 significance threshold. This indicates a significant association between awareness and perception of ethical challenges. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted (table 33).

Hypothesis 2

Interpretation

A one-way ANOVA was conducted to test differences in perceptions of AI governance practices across professional backgrounds. The analysis produced an F-value of 4.218 with a p-value of 0.003, which is below 0.05. This indicates that perceptions of governance practices significantly differ across professional groups. Consequently, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted(table 34).

Hypothesis 3

Interpretation

A one-way ANOVA was performed to examine whether attitudes toward ethical use of foundation models differ across geographical regions. The F-value of 3.842 with a p-value of 0.005 indicates a statistically significant difference. Thus, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted, showing that regional differences influence ethical attitudes toward foundation models (table 35).

Table 31.How strongly do you agree that public awareness campaigns are essential for AI ethics?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly disagree	10	5.41	5.41	5.41
Disagree	21	11.35	11.35	16.76
Neutral	36	19.46	19.46	36.22
Agree	58	31.35	31.35	67.57
Strongly agree	60	32.43	32.43	100.00
Total	185	100.00%	100.00%	

Table 32.How optimistic are you about the future of responsible and ethical foundation model deployment?

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very pessimistic	12	6.49	6.49	6.49
Pessimistic	22	11.89	11.89	18.38
Neutral	37	20.00	20.00	38.38
Optimistic	57	30.81	30.81	69.19
Very optimistic	57	30.81	30.81	100.00
Total	185	100.00%	100.00%	

Table 33.Chi-Square Test for Association Between Awareness and Ethical Challenges

Value	df	Asymp. Sig.
Pearson Chi-Square	28.374	12
Likelihood Ratio	30.112	12
N of Valid Cases	185	

Table 34.ANOVA Test for Differences in AI Governance Perceptions Across Professional Backgrounds

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21.784	4	5.446	4.218	0.003
Within Groups	230.216	180	1.279		

Total	251.999	184			

Table 35.Anova Test For Differences In Attitudes Toward Ethical Ai Across Regions

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.947	4	4.737	3.842	0.005
Within Groups	222.359	180	1.235		
Total	241.306	184			

Conclusion

This study highlights that awareness of foundation models considerably affects perceptions of ethical challenges, governance practices, and optimism related to AI development. Individuals with increased familiarity and experience in AI exhibited a greater awareness of potential biases, privacy issues, accountability, and risks related to misuse. The findings indicate that professional background and geographical location affect attitudes towards AI governance and ethical implementation, highlighting the diverse perspectives found in academia, industry, and policy sectors. The research highlights the importance of a comprehensive grasp of ethics, alongside practical experience, for the effective application of AI technologies.

The research produced significant findings that highlight the need for structured education in AI ethics, adherence to global standards, transparency, interdisciplinary collaboration, and initiatives to enhance public understanding. Participants conveyed an optimistic perspective regarding the future of ethical AI adoption, recognising the challenges linked to unequal access and emphasising the necessity for ongoing ethical oversight. The findings indicate that while AI technology is progressing rapidly, it is crucial to establish ethical governance and inclusive frameworks to ensure its sustainable incorporation into societal systems.

The limitations of this study include a sample size of 185 individuals and a concentration on prominent technology hubs in India, which may constrain the applicability of the findings to different regions or international settings.

Subsequent studies should broaden the sample to include a wider variety of geographical areas and sectors, thus enabling a comprehensive understanding of global perspectives on ethical AI. Longitudinal studies can explore how perceptions evolve in relation to the emergence of AI regulations and advancements in technology. Moreover, the integration of behavioural data and organisational case studies may yield enhanced insights into effective governance mechanisms and strategies for promoting responsible AI development globally.

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