



# Development National Ethical Framework for AI Use in Indonesia: Perspectives Regulation and Socio- Cultural Values

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## Abstract

*The rapid development of Artificial Intelligence (AI) has significantly impacted various sectors of life, while simultaneously raising complex ethical challenges – particularly in developing countries such as Indonesia. Currently, Indonesia lacks a comprehensive and context-specific national ethical framework to govern the use of AI. This study aims to develop a national AI ethics framework that not only aligns with global ethical principles but also reflects Indonesia's unique socio-cultural values. A qualitative exploratory research design was employed, involving in-depth interviews with 20 key informants, document analysis, and literature review. Data were analyzed using thematic techniques based on the Miles and Huberman model. The findings reveal five core ethical principles prioritized for the Indonesian context: transparency, fairness, privacy, accountability, and alignment with local values. The study also identified a gap between existing digital regulations and the ethical protection needs in AI deployment. As a response, the proposed national AI ethics framework comprises six main components: foundational principles, technical standards, institutional governance, public oversight, ethical literacy, and international harmonization. This study underscores the importance of a contextual and participatory approach in formulating AI policy that is ethical, inclusive, and sustainable for Indonesia's future.*

**Keywords :** AI ethics, regulation technology , values social culture , framework national , digital policy , Indonesia

## 1. Introduction

Development rapidly intelligence Artificial Intelligence (AI) has revolutionize various sector like health , education , security , and government . In Indonesia, the use of AI has experienced improvement significant along with national digital transformation and adoption technology by sector public and private ( Ministry of Communication and Information , 2022; Bappenas , 2023; World Bank, 2021). However , in the midst of continuous innovation develop , emerge various question ethical about justice algorithms , privacy , and responsibility answer unexplored use of AI own runway strong ethics in a way nationally ( Floridi et al., 2018; Cath, 2018; Jobin et al., 2019).



Absence framework ethics national in the use of AI can cause risk violation right basic human , abuse technology , as well as exclusion social due to algorithmic bias ( Latonero , 2018; Eubanks, 2018; Mittelstadt , 2019). In Indonesian context , urgency This the more urge remember height digital inequality and weakness literacy technology at the level society (APJII, 2023; BPS, 2022; Nugroho & Sihombing , 2020). Different with developed countries such as the European Union , Japan , and Singapore which have develop guidelines AI ethics since beginning decade this , Indonesia still be at the stage beginning formulation policy (OECD, 2021; AI Singapore, 2019; European Commission, 2018).

Like seen in the graph In the comparison above , Indonesia is one of the countries that has not in a way official adopt framework ethics national for AI, while neighboring countries as Singapore has formulate it since 2019 (AI Singapore, 2019; UNESCO, 2021; OECD.AI, 2022). The absence of guidelines This cause emptiness potential regulatory utilized in a way negative by the perpetrator industry and institutions . Data from the Stanford AI Index Report 2023 also shows that part big countries that have develop framework ethics own trend more AI applications inclusive and accountable (Stanford HAI, 2023; ITU, 2022; Future of Life Institute, 2023).

In a way theoretical framework AI ethics built on runway principles like fairness , non- discrimination , transparency , privacy , and responsibility answer social ( Floridi et al., 2018; Jobin et al., 2019; IEEE, 2020). In Indonesian context , adjustment with Pancasila values and norms socio-cultural become uniqueness separate which must be reviewed in a way in-depth ( Suryono et al., 2022; Hadad , 2021; Utomo , 2023). Therefore that , approach regulations No can just adopting the Western model, but need respond diversity complex local .

Study about AI ethics a lot done globally , as by Jobin et al. (2019) who reviewed 84 documents policy AI ethics in the world. At the level national , some studies beginning has lift issue AI regulation , however Still nature partial , such as focus on the sector health or financial (Setiawan, 2022; Lestari, 2021; Ramadhan, 2023). There is no studies comprehensive that integrates aspect regulatory and socio-cultural in One framework ethics systematic national .

Emptiness multidimensional study of AI ethics in Indonesia becomes gap important things that need to be done filled in . Research previously tend nature descriptive and sectoral without touch dimensions mark local and governance policy in a way intact (Kusuma, 2023; Hanif,

2022; Nugroho & Sihombing , 2020). This is where position study this , which offers approach cross discipline in propose framework ethics national based Indonesian contextual .

Study This offer approach integrative that combines analysis regulatory and values social Indonesian culture as base in formulate framework national AI ethics . Approach This different from the generally accepted international AI ethics models based Western liberal principles (Winfield & Jirotko , 2018; Cows & Floridi , 2020; UNESCO, 2021). Research this also attempts build bridge between theory ethics technology and practice policy public in Indonesia.

Study This aim For develop A framework ethics relevant and applicable national for development and use AI technology in Indonesia. Framework This expected capable answer challenge regulations , taking into account values local , as well as become reference in formulation policy national related to AI ( Bappenas , 2023; Kemenkominfo , 2022; OECD, 2022).

With develop framework ethics nationally , Indonesia has the potential contribute in global discourse on inclusive and contextual AI governance . In the ASEAN region , Indonesia can become pioneer in create standard AI ethics that takes into account diversity culture and challenges regional social (ASEAN Digital Masterplan, 2025; UNESCO ROAP, 2023; ITU, 2023).

Besides create framework ethics national , it is also important to align it with standard international such as the OECD AI Principles, UNESCO Recommendation on the Ethics of AI, and guidelines from the Global Partnership on AI (OECD, 2019; UNESCO, 2021; GPAI, 2022). Adjustment This it is important that the framework national can is universal but still local relevant .

The uniqueness of Indonesia as a multicultural country with diversity values , religion, and norms social demand development AI ethics that are not only technocratic , but also sensitive to values local (Hefner, 2000; Anshari et al., 2023; Wahid, 2022). Framework ethics national This must avoid one-size-fits-all approach that tends to fail in context policy public in developing countries .

With framework This , it is hoped that Indonesia will be able to facilitate utilization of AI in responsible responsible and sustainable , at the same time strengthen data sovereignty and national digital independence (BSSN, 2023; BPPT, 2022; Kominfo , 2024). Research this will also become

foundation beginning For discourse more carry on in development framework regulatory technology based values nation .

## **2. Method**

### **Type Study**

Study This use approach qualitative exploratory with method analysis studies policies and norms socio- cultural approach This chosen Because aim For study in a way deep phenomenon social and regulatory related ethics intelligence artificial intelligence (AI) in Indonesian context . Focus mainly is develop something framework ethics contextual , inclusive and relevant national to condition socio-political and cultural local . Research qualitative also allows understanding on meaning and dynamics social that is not can explained in a way quantitative (Creswell, 2016; Miles & Huberman, 2014; Yin, 2018).

### **Population and Sampling**

Population study This covers all over stakeholders interest related development and use of AI in Indonesia, including institution government , academics , developers technology , organization public civilians and figures culture .

Sample chosen by purposive sampling, with criteria :

- Experienced in field AI technology or policy public ,
- Involved in formulation or advocacy policy ethics technology ,
- Own understanding to norms Indonesian social and cultural aspects

Sample consists of from 20 informants keys , including representative from the Ministry of Communication and Information , BRIN, BSSN, academics from UI, ITB, and UGM, as well as figure culture and ethics from NU and Muhammadiyah.

### **Instruments Research Instrument**

Instrument main in study This is guidelines semi- structured interviews and review format document . Guidelines interview designed For dig view deep about mark ethics in AI development , challenges regulatory , and relevance mark local . Review format document used For analyze international AI regulations and policies relevant national , such as Plan Parent National Digital Transformation , Indonesia AI Roadmap (BPPT), and documents AI ethics from UNESCO, OECD, and the European Union .

### **Data Collection Technique**

Data collection techniques were carried out through :

- Interview deep with informant key ,
- Studies documentation to policies , regulations and guidelines national and international AI ethics ,

- Observation literature to values Indonesian culture and governance practices technology in society . All data collected in period time June until September 2025, with protocol ethics research approved by the committee university ethics .

### **Procedure Research Procedure**

Steps study This includes :

1. Studies introduction to framework international AI ethics and Indonesian policy ,
2. Identification and selection informant based on purposive criteria ,
3. Implementation interview deep , good both online and offline ,
4. Coding and analysis content on transcript interviews and documents policy ,
5. Synthesis results analysis For formulate framework ethics contextual national ,
6. Validation findings through discussion group focused (FGD) with expert policy and culture .

### **Data Analysis Technique**

Data analyzed use technique analysis thematic with Miles & Huberman's approach ( data reduction , data presentation , and data extraction) conclusion ). Steps analysis includes :

- Open coding for identify theme beginning from interviews and documents ,
- Axial coding for grouping theme based on dimensions regulatory and cultural ,
- Selective coding for formulate framework ethics end .

Software support such as NVivo 14 is used For increase reliability and efficiency data processing .

## **3. Results & Discussion**

### **Dominance of Socio-Cultural Values in Perceptions of AI Ethics**

Based on interview deep against 20 informants key , found that aspect mark socio-cultural is consideration dominant in Indonesian version of AI ethics . 20 out of 20 respondents mention importance relatedness between framework ethics with mark local such as mutual cooperation, equality , and obedience to norm social ( Suryono et al., 2022; Wahid, 2023; Anshari et al., 2023). They emphasize that global principles are necessary interpreted repeat in context diversity and reality Indonesian social .

The informants highlight that Western approaches tend to emphasize aspect individualism and personal freedom , whereas Indonesian society more value mark collectivity and harmony social (Hofstede, 2001; Hefner, 2000; Mulder, 2005). Therefore that , the framework national AI ethics must

take into account local moral principles like deliberation , tolerance , and balance between rights and obligations . This is in line with idea about contextual "ethics by design" in a way cultural ( Floridi & Cowls, 2019; Whittlestone et al., 2019; Dignum , 2020).

Observation results literature also shows that norm Indonesian socio - culture often becomes strength informal regulatory that regulates behavior technology in society (Wahid, 2021; Susanto, 2020; Hadad , 2022). Therefore , neglect to aspect This potential make regulations nature elitist and not applicable in the field .

### **Priority Ethical Principles in Design National Framework**

From the results interviews and reviews documents , five principles the main thing that is considered the most crucial in framework national AI ethics are : transparency , fairness , privacy , responsibility answer , and suitability mark local . Like as seen in the bar chart above , the value social culture become priority highest , followed by transparency and fairness . This is show existence need For ensure clarity of algorithmic processes at a time ensure values humanity still maintained ( Floridi et al., 2018; IEEE, 2020; Jobin et al., 2019).

Transparency considered it is important that users and developers understand method AI work and potential bias in system (Brundage et al., 2020; Lepri et al., 2017; Ananny & Crawford, 2018). Temporary that , justice associated with issue discrimination algorithmic and fair access to service AI -based , especially for marginalized groups (Eubanks, 2018; Noble, 2019; Mittelstadt , 2019). Informant from sector government confirm that misuse of personal data and irregularities algorithm without accountability can grind trust public to digital system .

Local values such as mutual cooperation and obedience to norm social considered as binder main thing so that AI doesn't only subject to law positive , but also ethical social . This strengthen argument that policy national AI ethics No can released from influence context cultural and spiritual aspects of society (UNESCO, 2021; Cowls & Floridi , 2020; GPAI, 2022).





**Figure 1.** Principle of Priority Ethics in Design National Framework

The image above serve *infographics principle ethics priority* in design framework National AI in Indonesia. Five principles main displayed is transparency , fairness , privacy , responsibility answer , and value social culture . Fifth principle This each other connected and formed base expected ethics capable direct development as well as the use of AI in responsible responsible , fair , and contextual with character Indonesian social . Every principle symbolized with thematic icons that represent focus mark of each principle .

### **Asynchrony Regulation and Potential Risk Ethical**

AI ethics also raises challenge in matter accountability . Who is responsible? answer If AI system makes wrong decision ? Question like This often appear in FGD discussion between researchers and stakeholders interests , indicating that existing regulations nature too common and not yet responsive to dynamics technology recent ( Binns , 2018; Veale & Edwards, 2018; Wachter et al., 2017).

In the era of progress rapid technology and globalization , regulations become vital instrument for guard balance between innovation and interests public . Unfortunately , the development technology and change social often goes beyond speed formation regulation . This is cause asynchrony regulatory that opens gap for various risk serious ethical misconduct . Non-conformity between regulation – good between countries, between sector , or between policy central and regional – to be significant challenges in ensure protection right individual , justice social , as well as sustainability environment .

When the regulation fail follow dynamics developments of the times, then appear potential violation ethics that are not only impact on individuals , but also on structure social , economic , and ecosystem in a

way wide . For understand connection between asynchrony this and the consequences ethically possible arise , following This served table that summarizes a number of sector main affected .

**Table 1.** Asynchrony Regulation and Potential Risk Ethical

<b>Field</b>	<b>Example Asynchrony Regulation</b>	<b>Potential Risk Ethical</b>
<b>Intelligence Artificial Intelligence (AI)</b>	Lack of regulations to use algorithm learning machine in taking decision public	Discrimination algorithmic , violation privacy , decisions automatic that does not transparent
<b>Digital Health</b>	Not yet available global standards for application health AI - based or wearable	Diagnosis that is not inaccurate , misuse of medical data , violation of informed consent
<b>Biotechnology</b>	Difference law about engineering genetics between countries	Experiment human beings who do not ethics , misuse of CRISPR, commercialization life
<b>Data Protection</b>	No synchronization standard data protection between countries ( e.g. GDPR vs developing countries )	Exploitation of personal data , distribution information without permits , supervision mass
<b>Environment &amp; Energy</b>	Regulation energy renewable that is not in line between level government ( central-regional )	Project risky to ecosystem local , conflict land , injustice energy
<b>Digital Finance</b>	Slowness fintech and crypto regulations	Fraud finance , lack of investor protection , uncertainty law
<b>Social Media &amp; Information</b>	Lack of regulations cross- platform digital content	Spread disinformation , violations ethics journalism , online radicalization
<b>Digital Education</b>	Inequality online education platform regulations	Access No equivalent , content No verified , student data manipulation

### **Recommendation Development National AI Ethics Framework**



Based on results analysis thematic and discussion with experts , research This propose framework ethics national consisting of from six component main , namely :

- (1) Principle basic ( transparency , fairness , accountability , privacy , values) social ),
- (2) Standard technical and design ethics ,
- (3) Governance institution ethics ,
- (4) Mechanism supervision public ,
- (5) Literacy and education digital ethics , and
- (6) Harmonization with framework international .

Framework This expected can become guide in policies and practices responsible use of AI responsible and contextual (Jobin et al., 2019; Winfield & Jirotko , 2018; Cows et al., 2021). In addition that , it is necessary ethics body formed national For digital technology that works set guidelines operational , supervising implementation policy , and become center references ethics technology (ITU, 2022; UNESCO, 2021; European Commission, 2020).

Study It also recommends that the preparation of policy done in a way participatory with involving leaders customs , religious figures , and society civil , so that legitimacy social from policy the still strong (Hefner, 2000; Wahid, 2022; Anshari et al., 2023). With this multistakeholder approach , Indonesia is expected capable build an ethical , inclusive , and sustainable AI ecosystem .

#### 4. Conclusion

Based on results analysis qualitative to interview in-depth , review policies and studies literature socio-cultural , research This conclude that development framework ethics national For the use of AI in Indonesia must consider two aspect main : principles universal ethics such as transparency , fairness , accountability , and privacy , as well as values socio-cultural local such as mutual cooperation, deliberation and harmony social . Findings This show that framework ethics of a nature contextual – which is not just adopting an international model in a way intact – will more effective in answer challenge ethics and social issues that arise from AI adoption in Indonesian society .

Study this also found that Not yet existence regulations specific about ethics the use of AI in Indonesia has potential cause risk ethics and exclusion social . Therefore that , research This recommend development framework ethics national based six components , namely principle basic , standard technical , governance institutions , mechanisms supervision public , literacy ethics and harmonization with global policy . With framework This , it is hoped that Indonesia will be able to push utilization of AI in responsible responsible , inclusive , and aligned with values nation , at the

same time strengthen foundation policy public in the era of digital transformation .

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