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Ethnocultural Codes in Journalism Ethics: A Fuzzy Logic Analysis of Deontological and Teleological Reasoning Orientations

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Abstract: This study proceeds from the premise that journalistic ethics, understood as ethnocultural codes, are more than behavioral guidelines; they are normative structures that institutionalize specific forms of ethical reasoning. The central hypothesis is that journalistic ethical norms do not operate within purely deontological or teleological categories but instead generate graded patterns of ethical reasoning that intersect at varying intensities. Accordingly, the ethical norms in the Turkish Journalists Association (TJA) Declaration of Rights and Responsibilities were coded using Large Language Models (LLMs) according to deontological and teleological criteria, with fuzzy membership degrees, and subsequently analyzed using a fuzzy inference system (FIS). The normalized intensity distribution indicates that the Declaration exhibits an ethical orientation of approximately 65% deontological and 35% teleological reasoning. These findings suggest that journalistic ethical codes constitute a hybrid reasoning continuum dominated by deontological principles while incorporating significant teleological considerations. High deontological reasoning intensity was observed in norms concerning accuracy, independence, and the avoidance of conflicts of interest, whereas teleological reasoning intensity was observed in norms concerning public interest, harm reduction, and contextual exceptions. Expert journalist codings, employed to validate the LLM outputs, confirmed the predominantly deontological character of the Declaration at the system level. The findings demonstrate that journalistic ethical codes are best understood as hybrid normative structures rather than mutually exclusive ethical categories. The study proposes an original methodological framework for the analytical modeling of journalism ethics, using an applied

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normative reasoning analysis that examines ethical reasoning through graded, comparable fuzzy patterns.
Keywords: Ethnocultural Codes, Journalistic Ethics, Ethical Reasoning, Deontology, Teleology, TJA Declaration of Rights and Responsibilities, Fuzzy Inference System.

Journalistic Ethics as a Normative System

This research focuses on identifying the patterns of ethical reasoning embedded within journalistic codes of ethics, conceptualized as ethnocultural codes. Journalism ethics codes are not merely collections of professional rules; they are also cultural and historical articulations of the values through which a professional community defines legitimate journalistic conduct. As Wilkins and Brennen (2004) argued, ethics codes can be analyzed within a broader theory of culture and history because they embody historically situated understandings of professional responsibility. In this study, the term ethnocultural code refers not to ethnic particularism but to normative professional frameworks shaped by linguistic, institutional, historical, and cultural contexts. In this sense, the TJA Declaration is approached as an ethnocultural articulation of journalistic ethics within the Turkish media tradition.

Ethical reasoning patterns are rarely explicitly articulated in professional codes of ethics or applied ethical norms; however, they constitute the essence, spirit, and underlying rationale that directly shape ethical decision-making processes. The primary objective of this study is to identify, delineate, and analyze the implicit ethical reasoning patterns—specifically, whether they are teleological (consequence-based) or deontological (rule-based)—that underlie these ethical norms.

Ethics is commonly examined through three interrelated domains: meta-ethics, normative ethics, and applied ethics. Meta-ethics addresses the nature and status of moral judgments; normative ethics develops principles and standards for moral evaluation; and applied ethics examines how such principles are applied in concrete situations (Bozalek et al., 2024; Dittmer, 2013; Rao et al., 2023; Rousi & Vakkuri, 2023). Because journalistic ethics operates as a form of applied ethics grounded in normative principles, analyzing the ethical reasoning embedded in professional codes requires attention to the relationship between normative theories and practical decision-making.

Ethical Reasoning, Ethical Evaluation, and Normative Approaches

Normative ethics is generally structured around three fundamental frameworks: deontology, teleology (consequentialism), and virtue ethics (Audi, 2012; Borden, 2013). These three approaches constitute the core veins of normative ethics, enabling the formulation of ethical policies at varying levels of abstraction (Rao et al., 2023). Teleological (consequentialist) ethics evaluates the moral worth of actions according to their outcomes and advocates selecting actions that maximize benefits and minimize harms (Alexander & Moore, 2021; Sinnott-Armstrong, 2023). In professional decision-making, teleological reasoning emphasizes public benefit, stakeholder welfare, and contextual consequences (Raza et al., 2025; Rousi & Vakkuri, 2023). Deontological ethics evaluates actions according to duties, rules, and obligations rather than their consequences (Alexander & Moore, 2021; Aydin, 2014). Rooted in Kant's concept of the categorical imperative and later refined through Ross's notion of prima facie duties, this approach maintains that certain actions remain ethically required or prohibited regardless of outcomes (Kant, 2002; Ross, 1930). In professional ethics, however, strict rule adherence is often moderated by

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practical considerations, creating hybrid structures that combine principled obligations with contextual concerns.

Ethical evaluation is a multidimensional cognitive process in which different ethical criteria are analyzed and compared in the event of a moral dilemma, ultimately leading to an ethical decision. The ethical decisions mentioned here are the outputs of ethical evaluation processes; ethical evaluations, in turn, are the outputs of normative reasoning patterns. In this research, we do not aim to determine the "correctness" of ethical decisions or to produce final ethical judgments, but rather to analyze the normative reasoning patterns that enable ethical evaluation.

In the literature, ethical reasoning is defined as a "path to generating justified choices" by analyzing the information, values, and principles related to moral problems (Tractenberg & Thornton, 2024). Therefore, it resides between normative principles and practical decision-making processes, functioning as a multidimensional assessment mechanism that ensures the legitimacy of professional decisions in situations involving ambiguity, conflict of interest, and public accountability (Paul & Elder, 2006; Rousi & Vakkuri, 2023).

Collectively, these studies indicates that ethical reasoning is not merely a "task of choosing what is right" or a "calculation based solely on rules or outcomes"; it is also a "process of making a choice defensible by basing it on specific principles, norms, and outcomes" and a "multilayered decision-making process that simultaneously includes conflicting values, beliefs, and contexts."

Models of Ethical Reasoning and Normative Pluralism

Ethical reasoning is not monolithic. The literature reveals that distinct types of ethical reasoning are defined by differing fundamental assumptions about the correctness of moral action. Among these, rule-based (deontological), consequence-based (teleological), virtue-based, rights-based, and care-based approaches emerge as the most prominent (Audi, 2012; Borden, 2013). Each of these approaches grounds the rectitude of moral action in different criteria: some focus on rules and duties (Kant, 2002); others emphasize outcomes and utility (Bentham, 1789; Mill, 2014); some center on character development and virtues such as honesty, justice, and responsibility (Aristotle, 2009; Hursthouse & Pettigrove, 2022); some prioritize the protection of the inalienable rights of individuals (Rawls, 1971; Nozick, 1974); while others privilege relational responsibilities, empathy, and practices of care (Gilligan, 1982; Noddings, 1984). This diversity demonstrates that ethical reasoning exhibits a pluralistic structure that cannot be reduced to a singular principle.

Deontological and Teleological Reasoning

Professionals often oscillate between prioritizing consequences and focusing on the act itself when making moral decisions (MacIntyre, 2007). This study specifically examines the deontological (rule-based) and teleological (consequence-based) reasoning patterns that feature prominently in professional ethics.

- **Teleological reasoning** evaluates the moral worth of actions based on their outcomes and advocates for choosing the option that maximizes aggregate benefit (Sinnott-Armstrong, 2023). This mode of reasoning focuses on the question: "Does this action increase public benefit or minimize harm?" Here, the individual accounts for contextual responsibility rather than merely following a fixed set of rules (Pieper, 2012).

- **Deontological reasoning** assesses actions based on their conformity to specific ethical norms and principles, independent of their consequences, and grounds the value of the action in universalizable rules (Alexander & Moore, 2021; Kant, 2002). This mode of reasoning centers on the question: "Is this action in accordance with professional principles and obligations?"

Furthermore, contemporary studies demonstrate that ethical decision-making processes are frequently multilayered structures in which multiple cognitive mechanisms operate in tandem (Greene, 2007; Kahneman, 2011). These stratified structures become particularly visible within the context of ethical dilemmas. For instance, consider a journalist faced with the decision of whether to publish an unverified but potentially significant allegation of corruption. To resolve this dilemma, a journalist applies meta-ethical explanations that define the meaning and status of concepts such as accuracy, harm, and public interest, alongside ethical norms that provide general principles derived from these concepts.

When a journalist considers the rule "unverified information cannot be published" or principles such as "multiple-source verification" and the "presumption of innocence," they are employing **deontological reasoning.** Conversely, when they weigh the rule "you must consider the benefits and harms that publication will generate," they are engaging in **teleological reasoning.** In the subsequent stage, a journalist compares the intuitions derived from these two forms of reasoning and conducts a moral evaluation before reaching a final decision on whether to implement the news practice. Throughout this process, a conceptual ethical chain is established, progressing from the most abstract level to the most concrete application. Meta-ethics, normative ethics, and applied ethics are theoretically interconnected; nevertheless, these theoretical distinctions in ethical reasoning rarely remain within such sharp boundaries in practice.

Ethical Dilemmas and Journalism Ethics

Journalists frequently experience ethical dilemmas when caught between competing demands: adherence to norms such as accuracy, impartiality, and respect for rights versus the necessity of considering public interest and societal outcomes (Ward, 2020; Christians, 2019). An ethical dilemma is a tense situation in which an individual is caught between two or more moral values, and, regardless of the choice made, one value is inevitably compromised. There is a broad consensus that no single all-encompassing principle or mode of reasoning can fully resolve moral conflicts (Rao et al., 2023; Shams, 2026). What steers journalists toward one form of reasoning over another is the set of professional ethical norms. Yet, the true meaning of ethical norms becomes apparent only when they are materialized in behavior. The application of these principles requires not only ethical sensitivity but also advanced normative logic and evaluation skills (Paul & Elder, 2006).

Professional Ethics, Guidance, and Journalistic Ethical Norms

At its core, professional ethics consists of institutional initiatives aimed at integrating abstract ethical theories into professional practice. Journalistic ethics, specifically, is a practical discipline intended to guide journalists in specific situational contexts (Donev, 2017; Rousi & Vakkuri, 2023; Wulfemeyer, 1990). This guidance occurs within a normative framework that justifies professional decisions in areas of "journalistic discretion," where the law remains indeterminate (Beauchamp, 2005).

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A journalist's choice within this indeterminate area represents a practice of moral autonomy structured through ethical reasoning. This practice is facilitated by "institutionalized reasoning schemata" that determine how journalists should think when addressing professional issues. These schemata crystallize linguistically within journalistic ethical norms. Both individual ethical norms and comprehensive ethical declarations serve as multilayered linguistic expressions that represent and suggest a specific form of ethical reasoning—either more dominantly than others or multiple types simultaneously. According to Paul and Elder (2006), the principles and values necessary for ethical reasoning are inherent in all-natural languages.

Journalism ethics is not static; it is periodically updated in response to technological and global developments. Ongoing digitalization is, on one hand, introducing new and unique dimensions to media ethics, while on the other, rendering ethical decision-making processes increasingly complex (Rousi & Vakkuri, 2023). According to some experts, the active integration of artificial intelligence systems is causing media ethics to transition from a human-centered professional ethics into a domain of multilayered communication ethics (see Gunkel, 2024). Issues such as power dynamics, bias, censorship, and freedom of expression have not been resolved by technology; rather, they have become increasingly multilayered (Kaplan & Haenlein, 2020). This multilayering implies that ethical decisions are now being made in environments characterized by growing uncertainty. Ethical decisions are no longer shaped solely by the interaction between individual conscience and normative principles, but rather within a nexus of data flows, algorithmic visibility, the platform economy, and AI-assisted content distribution.

Research: Patterns of Ethical Reasoning in Journalism Ethics

Theoretical Assumptions

This study rests on two fundamental ontological and epistemological premises within the context of the methodological analysis of media ethics. First, journalistic codes of ethics cannot be viewed merely as a static collection of behavioral rules; rather, they are structured reflections of specific ethical schools (deontology, teleology, etc.) and serve as normative guides. Second, it is assumed that ethical decision-making processes do not consist of sharp, mutually exclusive dichotomies but rather exhibit a continuum in which different ethical reasoning patterns overlap.

In this context, the analysis centers on the "transitional and graded" nature of ethical reasoning patterns, based on the recognition that even the most rigorous rule-based (deontological) approaches indirectly account for outcomes, while consequence-oriented (teleological) evaluations function within specific normative boundaries. This assumption facilitates the utilization of graded and intersecting analytical systems.

Methodological Limitations

This study is designed as an "applied normative reasoning analysis" approach, investigating observable normative reasoning patterns within journalistic codes of ethics. The analysis is delimited to deontological and teleological reasoning patterns based on the theoretical and empirical justifications outlined below:

- Within the broader field of professional ethics, deontological and teleological reasoning represent two distinct centers of gravity. Journalistic codes of ethics predominantly generate action-oriented normative structures, and norms are

largely shaped around rule-based obligations and consequence-oriented evaluations. Character-centered approaches, such as virtue ethics, possess limited capacity to produce operationalizable normative criteria.

- Current literature indicates that LLMs can process rule- and consequence-based ethical evaluative pattern—which rely on operationalizable criteria—with higher consistency compared to virtue ethics (see Rao et al., 2023). These two reasoning patterns are highly suitable for fuzzy logical analysis.

Within these theoretical limitations, the statements contained in the TJA Declaration were first transformed into normative ethical principles; subsequently, these principles were assigned fuzzy membership degrees according to deontological and teleological rule-bases by LLMs and field experts. The resulting membership intensity data were then analyzed using a Mamdani-type fuzzy inference system to identify general patterns in the Declaration's ethical orientation.

Research Questions and Hypotheses

The theoretical foundation of this study raises a fundamental problem concerning the ontological nature of ethical norms:

- RQ-1: Are ethical norms and declarations dominated by a monolithic paradigm?
- RQ-2: Can the intensities of ethical reasoning patterns embedded within ethical norms and declarations be analyzed in a graded manner, commensurate with the complexity of real-life conditions?

Proceeding from the assumption that ethical norms cannot be reduced to singular and closed categories, this study argues that multiple ethical orientations (deontological and teleological) can coexist in a hybrid structure within the same declaration and even within the same norm. To empirically test this theoretical claim, the research is constructed upon the following hypotheses:

- H-1: Journalistic ethical norms contain ethical reasoning patterns that are susceptible to analysis by Large Language Models (LLMs) and human coders.
- H-2: The ethical norms found in journalistic codes of ethics represent both forms of ethical reasoning simultaneously — rather than in a mutually exclusive manner — at varying degrees; in this representation, one form of ethical reasoning may possess a more dominant membership score.
- H-3: Ethical norms and ethical declarations contain hybrid zones that exhibit distinct ethical evaluation patterns.

Original Contribution

This research aims to reveal which ethical orientations shape the TJA (Turkish Journalists Association) Declaration. The findings address the methodological, theoretical, and practical gaps identified in the media ethics literature at three levels:

- **Operationalization of Ethical Reasoning (Methodological Contribution):** Contrary to qualitative approaches in the literature that merely describe ethical reasoning, this study redefines ethical norms as a measurable and graded structure. The original methodological framework, developed using a Mamdani-type fuzzy inference system, has enabled quantitative, analytical calculation of the degrees of membership of ethical norms within teleological and deontological sets.

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- **Hybrid and Transitional Ethical Space Model (Theoretical Contribution):** The study challenges the traditional perspective that treats ethical reasoning as sharp, mutually exclusive categories (dichotomies). By conceptualizing ethical evaluation as a continuum in a multidimensional space, this approach demonstrates that ethical norms can carry multiple ethical orientations simultaneously. It adds a "fuzzy" depth to ethical theory by proving that ethical reasoning operates not through "all-or-nothing" logic, but through hybrid and transitional relationships between values and outcomes.
- **Systematic Analysis of Normative Texts (Analytical and Practical Contribution):** Making the implicit reasoning structures underlying ethical declarations visible provides an analytical tool for media self-regulation mechanisms. This tool transforms the process of ethical reasoning—often viewed as a purely speculative field—from a "black box" into an open, measurable, calculable, comparable, and auditable analytical framework.

Through the case study of the TJA Declaration, this present study demonstrates that ethical texts are not merely idealized declarations, but rather constitute contextual and graded decision-making structures.

Sample and Coding Tools

The sample for this study comprises the ethical norms in the 2025 updated version of the Turkish Journalists' Rights and Responsibilities Declaration. This dataset, briefly referred to as the TJA Declaration (2025), provides a strategic sample for testing the research hypotheses. From its initial publication in 1998 to the updates in 2018 and 2025, the Declaration has both adapted to the dynamics of digital transformation and maintained its international normative validity. The current structure of the Declaration, which encompasses social media and artificial intelligence technologies, and its high normative similarity to the International Federation of Journalists' Global Charter of Ethics (IFJ, 2019), enhances the generalizability of the findings from this analysis to the global media ethics literature. At the same time, the Declaration reflects the historical development, institutional traditions, and professional culture of Turkish journalism. The evolution of journalism ethics in Turkey has been closely associated with professional self-regulation mechanisms and ethical declarations developed by journalistic organizations (Demir, 2006). Therefore, the Declaration constitutes a culturally situated professional code suitable for ethnocultural analysis.

The ethical norms within the Declaration were used as independent units of analysis. Each norm was analyzed using LLM-based algorithmic tools in terms of the ethical reasoning patterns it contains. The Mamdani-Type Fuzzy Inference System (M-FIS) was employed as the analysis model. Traditional approaches to ethical analysis often use binary categories ("yes/no", "0/1") and sharp boundaries. In contrast, the M-FIS model positions each ethical norm on a continuum, enabling them to be members of different ethical sets simultaneously and in a graded manner. Through this model, ethical reasoning could be represented within a density-based structure.

LLM-Based Coding Strategy

LLMs were used as the primary coders in determining the membership intensity of ethical norms in deontological and teleological reasoning sets. The membership intensities obtained as a

result of LLM-based coding were evaluated within a fuzzy inference system. The following strategies ensured that normative logic were analyzed in a more consistent, scalable, and reproducible manner.

Traditional content analyses mostly use human coders and a classical set approach. This analysis leads to inter-coder subjective judgment differences and a decrease in model reliability, as well as ontological reduction in the process of assigning membership intensity to norms. The classical set approach is binary, and according to this, "A norm is either a member of a set or it is not"; norms are either made full members of the set they are closer to by increasing their normative power, or they are made non-members by decreasing their normative power if they are far from that set. To overcome these problems of ontological reduction and epistemological relativism and to place ethical reasoning on an analytical ground, two strategies were followed:

i. In the first stage, the high ethical reasoning and normative classification capacity of LLMs were used.
ii. In the second stage, the graded membership assignment capacity of fuzzy logical analyses were applied.

In current literature, LLMs are positioned as "intelligent agents" capable of independent decision-making (Adamopoulou & Moussiades, 2020; Lund et al., 2023). It is stated that thanks to their natural language processing capacity, LLMs exhibit high performance in contextual meaning analysis and can produce human-like patterns in tasks requiring ethical reasoning (Dale, 2021; Lund et al., 2023; Rao et al., 2023). It is stated that GPT-based models perform much better than human experts at analyzing semantic relationships in normative texts, distinguishing ethical orientations, and establishing consistency across complex linguistic patterns. Furthermore, the semantic convergence and interpretive consistency observed among different LLM models are regarded as the factors that increase the reliability of LLM-supported qualitative coding processes (Jain et al., 2025; Parfenova et al., 2025). With these capabilities, LLMs have emerged as innovative tools that enhance the speed, efficiency, consistency, and scalability of qualitative and content-analytic research processes, reduce the analytical burden on researchers, and enable the systematic examination of large-scale datasets that exceed the practical limits of manual coding (Chew et al., 2023; Lund et al., 2023).

Studies in moral psychology and cognitive ethics literature also support the theoretical ground of the research. Studies by Haidt (2001) and Greene (2007) suggest that ethical judgments contain both intuitive and analytical components, and those linguistic and contextual patterns play a decisive role in ethical evaluation processes. In this research, the capacity of LLMs to analyze ethical norms has been accepted as an analytical tool compatible with contemporary approaches to cognitive ethics.

Validity, Reliability, and Methodological Limitations in LLMs

The transparency, reproducibility, and contextual consistency of LLM-generated results are the main focus of methodological discussion in our model. The literature emphasizes that algorithmic decision-making processes carry epistemological and ethical risks (Mittelstaedt et al., 2016), can produce ethically sensitive evaluations that are responsive to cultural contexts (Rao et al., 2023), and may contain biases that require human oversight (Lund et al., 2023). It is stated that cross-check mechanisms and multi-layered validation techniques used in addition to these issues strengthen reliability in algorithmic coding (see Suksakul et al., 2026; Jain et al., 2025).

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A multi-layered validation approach was adopted in our model to balance these limitations, and a human-in-the-loop validation architecture was created by following the steps below to compare algorithmic coding with human-expert coding:

i. Fuzzy membership codings produced by LLMs were repeated. The same model was given the same prompts and asked to re-code; it was determined that both models reproduced the same membership degrees in the second coding as in the first.
ii. The membership intensities produced by LLMs were subjected to cross-check by the authors of the research in terms of semantics and context; no output requiring correction was encountered.
iii. The same ethical norms were re-coded independently by eight journalists with at least five years of professional experience. Participation was voluntary, and no personal or identifiable information was collected beyond the professional experience criterion. Human-expert codings were not used as the primary dataset but solely as a validation layer supporting the model's contextual validity and external reliability.
iv. The agreement between different coders was questioned using the M-FIS Model; categorical matching, directional convergence, interpretive consistency, and fuzzy density patterns were compared.

With this multi-layered architecture, semantic convergence was targeted between different LLM models, re-codings, and expert journalist codings, and the model's ability to represent ethical reasoning patterns in a consistent and reproducible manner was solidified.

Ethical Considerations

This study primarily analyzed publicly available professional ethical norms contained in the Turkish Journalists Association (TJA) Declaration of Rights and Responsibilities. As part of the validation process, eight journalists with at least five years of professional experience voluntarily participated in an expert-coding exercise. No personal, sensitive, or identifiable information was collected from participants other than their professional qualification criterion. Coding forms were distributed and returned via e-mail, and all evaluations were analyzed in an aggregated form solely for validation purposes. Expert codings were used as a supplementary validation layer and did not constitute the study's primary dataset. The study was conducted in accordance with the principles of voluntary participation, confidentiality, and research integrity.

Research Model and Design

The operation of the model is based on a multi-stage fuzzy inference process that examines journalistic ethical norms one by one and transforms them into teleological and deontological membership degrees. This process is addressed at two levels: A) Model setup phase and B) Inference process.

A- Setup phase

- Determination of the set of journalistic norms to be analyzed
- Definition of deontological and teleological reasoning criteria
- Creation of the fuzzy rule-base in IF–THEN form
- Determination of the appropriate operator structure (AND/MIN, OR/MAX)

B- Mamdani-Type Fuzzy Inference Process
- Creation of datasets
- Definition of fuzzy rule-bases
- Assignment of fuzzy operator and membership values
- Inference process (rule evaluation and weighting)
- Defuzzification

Construction of the Dataset

The research universe consists of journalistic ethical declarations, which function as professional codes of conduct, while the sample comprises the TJA (Turkish Journalists Association) Declaration of Rights and Responsibilities of Journalists (2025).

Although the TJA Declaration serves as a professional code of conduct, as a document, it also contains intertwined legal guidelines, technical responsibilities, policies, vision statements, and metadata. This complex structure of the TJA Declaration necessitated separating the ethical norm statements from the others. To identify purely ethical norms, the Declaration was subjected to an analytical filtering process; in this process, statements "lacking normative obligation" were excluded. To establish this separation on a methodological basis, the following 5 fundamental exclusion criteria were applied to the entire Declaration:

Table 1
Criteria for Generating Ethical Norms from the TJA Declaration of Rights and Responsibilities of Journalists

No	Criterion Title	Technical Descriptions
1	Functional, Taxonomic, and Technical Elements	The physical structure of the document, navigation tools, and technical scope notes were excluded. For example, notes stating that the Declaration also covers internet news sites or structures related to digital archiving/memory centers, functional organizations regarding the execution of the profession.
2	Descriptive and Ontological Propositions	Statements that describe "what is" or provide an ontological definition were excluded if they do not propose a concrete behavioral standard (do/do not). For example, provisions regarding the ability of media organizations to broadcast in line with their political or economic preferences...
3	Legal Rights and Positive Guarantees	Clauses whose legitimacy stems not from conscience but from constitutional rights and international jurisprudence were excluded. Example: legal prohibitions such as disclosing the identity of minors under 18 or exposing victims of sexual assault; rights regimes such as the right to be forgotten and the right not to be stigmatized; clauses balancing the right to privacy with public interest...
4	Administrative and Juridical Obligations	Clauses where the moral subject of the responsibility is not the individual journalist or editor but the capital structure or public authority were excluded. Example: not forcing journalists to perform non-professional work (labor law), protection of editorial independence, or administrative procedures regarding internal institutional transparency...
5	Macro-Strategic Goals and Sectoral Vision	Collective projections and institutional projects regarding the future structural transformation of the profession that do not correspond to a daily ethical decision-making moment were excluded. Examples: goals for cooperation with technology companies, projects to combat climate change, or the objectivity of algorithms...

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After applying these screening criteria, the list of ethical norms in Table 2 was obtained, consisting of norms in which the subject is solely the journalist, the predicate indicates a concrete action (duty), and legitimacy stems directly from professional conscience rather than law.

Table 2
List of TJA Ethical Norms - Sample (Full list is in the Appendices)

Theme	No	Item of Ethical Norm
1. Ontological Responsibility and Public Interest	1	A journalist must unconditionally accept ethical responsibility for the social consequences of their professional actions and consider this responsibility an inseparable part of their professional identity.
	2	A journalist must use media freedom honestly in the name of the public's right to receive accurate news and access information.
	3	A journalist's responsibility to the public and the truth must take precedence over their responsibilities to public authorities and employers.
	90	A journalist must not publish information provided or statements made on the condition that they remain undisclosed (off the record).
	91	A journalist must comply with a source's request regarding the publication date of information or documents provided.
	92	A journalist is not required to have interview drafts reviewed by anyone other than those responsible.

Fuzzy Sets and Membership Rule-bases

In this research, two distinct fuzzy sets were defined: the Deontological Reasoning Set (DRS) and the Teleological Reasoning Set (TRS).

The Mamdani FIS Model mathematically determines which of these two sets the TJA Ethical Norms belong to and to what degree, and describes this using linguistic expressions. In the model, LLMs assign membership degrees to the fuzzy sets for the elements identified by experts, based on the level of satisfaction of the base rules also created by experts. Rule-bases consisting of "If-Then" logical propositions constitute the philosophical foundation of Mamdani-type fuzzy inferences. In this study, two independently functioning rule-bases have been constructed. Below are the rule-based sets that LLMs use when assigning membership scores for ethical norms to the "outcome-oriented/utility arithmetic" and "rule-based/categorical imperative" reasoning sets.

a) **Deontological Reasoning Rule-Base:** Views the action as a "normative compliance problem"; it audits through the nature of duty, universality, and independence from outcomes (See Table 3). Deontological reasoning rules perform "Action-Law Alignment." It does not look at the outcome; if there is a violation, the score drops directly. Thus, it enables coding journalistic norms as "insurmountable barriers."

Table 3
Deontological Reasoning Rule-Base (DRRB)

No	Criterion	If	Then
D1	Value/Law Orientation	if the action is evaluated according to an ethical value	deontology ↑
D2	Duty	if the action is defined as a duty	deontology ↑
D3	Universality	if it is based on universal norms	deontology ↑
D4	Independence from Outcomes	if outcomes are not taken into account	deontology ↑
D5	Value-Alignment	if the action must be consistent with the value	deontology ↑
D6	Unconditionality	if an unconditional principle is applied	deontology ↑
D7	Conscientious Responsibility	if the action is based on conscientious and human sensitivity	deontology ↑

Philosophically, the DRRB is considered as a Kantian categorical imperative. This set views the action as a "compliance" problem. The normative structure in D1-D3 is the logic of Kant's "categorical imperative." A journalistic norm is a law that stands there and is not questioned. It is checked whether the action "overlaps" with this law or not. The unconditionality and independence from outcome in D4-D6 is the principle of "Let justice be done, though the world perishes". No matter how wonderful the results are, if the rule has been violated, the action is unethical. The conscientious responsibility in D7 is a human dimension set against the risk of deontology's "cold and strict law enforcement." It recalls Kant's emphasis on conscience within the system; rather than blind obedience, it rewards responsibility undertaken in the name of humanity.

b) **Teleological Reasoning Rule-Base:** Treats the action as an "optimization problem" and questions its legitimacy through criteria of outcome-orientation, utility maximization, and contextuality (See Table 4). These rules perform a "Benefit-Harm Calculation." It evaluates the action through the context in which it exists and the result it leads to. Thus, it transforms journalistic norms into a "situational ethics" engine.

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Table 4
Teleological Reasoning Rule-Base (TRRB)

No	Criterion	If	Then
T1	Outcome-Orientation	if the action is evaluated according to its outcomes	teleology ↑
T2	Utility Maximization	if maximum utility is targeted	teleology ↑
T3	Utility Calculation	if the decision is based on a benefit-harm calculation	teleology ↑
T4	Contextuality	if the decision changes according to the context	teleology ↑
T5	Relativity	if the universal norm is rejected	teleology ↑
T6	Instrumentality	if the action is seen as a means to produce an outcome	teleology ↑
T7	Protective Justice	if the action prioritizes protecting vulnerable groups instead of total utility	teleology ↑

Philosophically, the TRRB is largely based on Benthamite utilitarianism. This set views the action as a calculation problem. The rules in the range of T1-T3 are based directly on outcome, benefit, and harm calculations; they look at how "useful" the action is when deciding whether it is morally preferable. There is a clear utility arithmetic here, and basically, an addition-subtraction operation is performed. The rules in the T4-T6 range represent contextual and instrumental reasoning. The protective justice in T7 is a safety valve against the risk of Bentham's "the minority can be sacrificed for the happiness of the majority"; it is included in the system as a protective safety valve that balances the logic of mere majority interest by protecting vulnerable groups.

These two rule-bases, which form the core of the M-FIS Model, mathematically depict the tension between the two poles of ethical reasoning: Bentham's utilitarianism and Kant's deontology.

Fuzzy Operator Logic

The M-FIS model is designed to determine what kind of ethical reasoning a professional journalist is mentally directed towards to comply with a given ethical norm; that is, to uncover the ethical reasoning patterns contained within ethical norms. Therefore, the operators used in the model needed to be not only technical mathematical operations but also semantic structures representing how a journalist interprets the norm. This feature is provided to the model through the operator logic shown in Table 5. Acting as both a classification and an ethical decision-making engine, this operator encodes teleological evaluation as calculation and deontological reasoning as compliance. This operator logic, which simultaneously processes two ethical evaluation poles as input variables, is the distinctive strength of the model.

Table 5
Fuzzy Operator Logic

Elements	Mamdani Application
Input Variables	TJA Ethical Norms
Membership Function	"Does not fit at all", "Fits partially", "Fits well", "Fits Perfectly"
Deontological Operator	MIN (AND): If even one duty is missing, the output score is pulled down to the lowest value.
Teleological Operator	MAX (OR) / Sum: The total benefits provided by different items can balance a single Violation.

Input variables: The 92 independent ethical norms in the TJA Declaration of Rights and Responsibilities of Journalists are defined as the input variables of the model. The membership score produced by the model should not be arbitrary, such as "the item looks teleological, so let's give it full membership," but rather it must be explainable and defensible. The operator's task is to justify membership scores and ensure the model's internal consistency.

Membership Functions: According to the M-FIS Model, each ethical norm can simultaneously be a member of both the Deontological Reasoning Set (DRS) and the Teleological Reasoning Set (TRS) to varying degrees. Membership in fuzzy sets is defined by a function that differs from the two-valued nature of an element in classical set theory, where it is either "a member" or "not a member." In this constructed model, each ethical norm can be a member of both the DRS and TRS simultaneously, with degrees varying within the [0,1] range in increments of 0.05. Table 6 gives the membership degrees and their linguistic equivalents.

Table 6
Membership Degrees to Fuzzy Set and Linguistic Equivalents

Membership Level	Membership Degree	Linguistic Equivalent	Expression of Ethical Reasoning Orientation
1	0.00 – 0.15	No or minimal membership: The norm is "not a member" (0.00) or "almost not a member" (0.10) of the relevant reasoning set.	Zero or minimum orientation
2	0.16 – 0.25	Weak membership: The norm is a member of the relevant reasoning set at a weak level.	Weak orientation
3	0.26 – 0.50	Partial membership: The norm carries some features of the relevant reasoning set but does not represent it significantly.	Partial orientation
4	0.51 – 0.75	Substantial membership: The norm reflects the basic features of the relevant reasoning set to a meaningful extent.	Substantial orientation
5	0.76 – 0.85	Strong membership: The norm shows a high level of compliance with the relevant reasoning set.	Strong orientation
6	0.86 – 1.00	Full or almost full membership: The norm is a "full member" (1.00) or "almost full member" (0.95) of the relevant reasoning set.	Maximum orientation

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If a norm fully meets the relevant rule, it is scored at 1.00; if it meets it strongly at 0.85; if significant at 0.75; partially at 0.50; weakly at 0.25; and if it does not meet it at all at 0.00. These transitional but partly discrete values were preferred because, due to the interpretive nature of ethical norms, they cannot be reduced to exact quantitative equivalents.

Deontological operator: This represents the "weakest link" logic of deontological reasoning. Thanks to the MIN operator, even if a norm has a very strong duty, if the unconditionality in the norm is weak, the score drops slightly; therefore, no norm can automatically receive a membership degree of 1.00.

Teleological operator: This represents the "total utility" logic of teleological reasoning. Thanks to this operator, if a norm includes the intention to serve the public interest, prevent harm, and protect a vulnerable group, the teleological score increases. If there is only a single teleological element, the score remains at a moderate level. If a journalist, while applying the norm, asks questions such as "Which option produces more public interest?", "Which decision prevents more harm?", "In which context can an exception be made?" Then the norm carries a teleological character.

The M-FIS Model can assign membership scores to many ethical norms relatively easily through semantic analysis, but it must resort to intuitive reasoning when encountering norms that contain a "calculation vs. compliance" contradiction. For example, if a norm is called by both T4 (Contextuality) and D6 (Unconditionality) criteria at the same time, a rule conflict arises in the system. For instance, when deciding whether the article "not applying self-censorship" should be accepted as a matter of "pure compliance (deontology)" or "calculation requiring public safety (teleology)." If the model processes this item with D6, it acts "radical/fundamentalist" (Kantian); if it processes it with T4, it acts "relativist."

In the research, after the operator logic was defined, the "fuzzification" phase was initiated. In the M-FIS model, membership degrees were automatically generated by LLMs through algorithmic evaluation. This approach is referred to in the literature as direct membership assignment or expert-based fuzzy scoring. Following the fuzzification process, the research was conducted in accordance with the standard M-FIS procedure.

Fuzzification Process and Coding of Ethical Norms

The process of assigning membership scores to ethical norms (fuzzification) was carried out by LLMs using semantic-heuristic reasoning and criterion-based content analysis. The coding was performed by OpenAI's ChatGPT-5.5 and Google DeepMind's Gemini Advanced LLMs. The following were provided as prompts to the LLMs:

i. Table 2: List of TJA Ethical Norms (TJA Declaration)
ii. Table 3: Deontological Reasoning Rule-Bases
iii. Table 4: Teleological Reasoning Rule-Base
iv. Table 5: Fuzzy Operator Logic
v. Table 6: Fuzzy Set Membership Degrees and Linguistic Equivalents

After the documents were provided, the LLMs were asked to "determine the degree of belonging of each ethical norm given in Table 2 to the deontological reasoning set and teleological reasoning set, in multiples of 0.05, taking into account only the criteria in the rule-bases, the fuzzy operator logic, and the linguistic equivalents of the membership degrees." Each norm was analyzed in terms of its ethical reasoning orientation using a fuzzy membership density approach. Thanks to

this methodological robustness, the membership scores were not assigned merely intuitively; rather, how each norm was processed by which operator was determined with care.

This calculation model treats ethical reasoning not as a zero-sum structure between opposing poles, but as a multidimensional and simultaneously functioning evaluation system. Since membership degrees are not defined as mutually exclusive closed categories, a norm can be a member of both the teleological and deontological sets at the same time. For example, the norm "the best interest of the child must be protected" can trigger high teleological membership because it aims to minimize harm and maximize protection, as well as high deontological membership because it carries the meaning of an unconditional obligation in the form of "must be protected."

Table 7 presents the teleological and deontological set membership intensity codings performed independently by ChatGPT and Google Gemini. Before inclusion in the table, the authors manually reviewed the codings, and no notably anomalous codings were encountered.

Table 7

Independent Fuzzy Membership Coding Scores by ChatGPT and Google Gemini

Item	C-T	C-D	G-T	G-D	**Item**	C-T	C-D	G-T	G-D	**Item**	C-T	C-D	G-T	G-D
1	0.45	0.95	0.60	0.90	32	0.35	1.00	0.40	0.95	63	0.30	1.00	0.25	0.95
2	0.60	0.95	0.80	0.70	33	0.30	0.95	0.30	0.90	64	0.95	0.80	0.70	0.70
3	0.50	1.00	0.50	0.95	34	0.35	0.95	0.50	0.85	65	0.90	0.85	0.95	0.60
4	0.35	0.95	0.40	0.85	35	0.20	1.00	0.10	1.00	66	0.60	0.95	0.20	0.95
5	0.80	0.85	0.90	0.80	36	0.40	0.90	0.40	0.85	67	0.95	0.75	0.95	0.70
6	0.75	0.90	0.30	1.00	37	0.10	1.00	0.20	0.95	68	0.80	0.85	0.85	0.75
7	0.85	0.80	0.85	0.60	38	0.10	1.00	0.05	1.00	69	0.75	0.90	0.40	0.90
8	0.90	0.65	0.95	0.50	39	0.25	1.00	0.20	1.00	70	0.30	1.00	0.30	0.95
9	0.40	0.95	0.40	0.90	40	0.10	1.00	0.25	0.95	71	0.45	0.95	0.50	0.90
10	1.00	0.40	1.00	0.20	41	0.10	1.00	0.15	0.95	72	0.85	0.90	0.60	0.80
11	0.75	0.85	0.80	0.70	42	0.10	1.00	0.10	0.90	73	0.55	0.95	0.60	0.90
12	0.45	0.95	0.50	0.80	43	0.15	1.00	0.30	0.90	74	0.30	0.95	0.40	0.85
13	0.80	0.80	0.75	0.75	44	0.10	1.00	0.05	1.00	75	0.30	0.95	0.20	0.95
14	0.50	0.95	0.35	0.95	45	0.10	1.00	0.10	1.00	76	0.50	0.95	0.40	0.95
15	0.35	1.00	0.30	0.95	46	0.15	0.95	0.30	0.90	77	0.35	0.95	0.30	1.00
16	0.10	1.00	0.10	1.00	47	0.10	1.00	0.20	0.95	78	0.60	0.90	0.80	0.80
17	0.90	0.70	0.90	0.25	48	0.05	1.00	0.00	1.00	79	0.25	1.00	0.40	0.95
18	0.85	0.70	0.95	0.25	49	0.70	0.95	0.50	0.95	80	0.20	1.00	0.30	0.95
19	0.95	0.75	0.85	0.60	50	0.55	1.00	0.20	1.00	81	0.45	0.95	0.50	0.95
20	0.20	1.00	0.20	1.00	51	0.75	0.90	0.90	0.90	82	0.55	0.90	0.50	0.80
21	0.80	0.90	0.30	1.00	52	0.55	0.95	0.30	0.95	83	0.30	1.00	0.50	0.90
22	0.05	1.00	0.00	1.00	53	0.75	0.95	0.95	0.95	84	0.10	1.00	0.05	1.00
23	0.35	0.95	0.90	0.50	54	0.65	0.95	0.30	1.00	85	0.45	0.95	0.40	0.95
24	0.40	0.95	0.40	0.90	55	0.55	1.00	0.20	1.00	86	0.15	1.00	0.20	0.95
25	0.15	1.00	0.10	1.00	56	0.85	0.90	0.90	0.90	87	0.60	0.90	0.60	0.85
26	0.40	0.95	0.60	0.85	57	0.75	0.95	0.55	0.95	88	0.20	1.00	0.30	1.00
27	0.80	0.70	0.85	0.70	58	0.85	0.85	0.80	0.60	89	0.10	1.00	0.10	1.00
28	0.95	0.65	0.95	0.70	59	0.45	0.95	0.60	0.90	90	0.05	1.00	0.20	0.95
29	0.90	0.75	0.90	0.80	60	1.00	0.80	0.90	0.70	91	0.15	1.00	0.40	0.85
30	0.70	0.85	0.60	0.80	61	0.95	0.90	0.95	0.85	92	0.20	0.85	0.30	0.90
31	0.75	0.85	0.90	0.70	62	0.30	1.00	0.10	1.00					

Note: C-T: ChatGPT Teleological Score, C-D: ChatGPT Deontological Score, G-T: Google Gemini Teleological Score, G-D: Google Gemini Deontological Score.

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The scores in the table are neither from pre-defined parametric membership functions nor generated randomly. These scores are not precise measurement results but rather semantic membership estimates that express the intensity of ethical meaning in a graded manner. The difference between values close to each other, for instance, between 0.45 and 0.50, represents a subtle semantic distinction in the degree to which a norm belongs to the relevant set, rather than a rigid mathematical difference.

Table 8
Comparison of Independent LLM Codings

Models	**Averages**	
	Deontological Reasoning Pattern	Teleological Reasoning Pattern
Google Gemini	0.89	0.47
ChatGPT	0.90	0.49

LLMs produce semantic representation by interpreting the linguistic structure, obligation force, goal orientation, outcome emphasis, and contextual meaning of ethical norms. According to the scores, the general averages are as follows:

According to both AI codings, the TJA Ethical Norms strongly trigger deontological reasoning. The high convergence between ChatGPT and Google Gemini codes demonstrates that different LLM architectures can analyze the semantic structure of ethical norms in ways that align with similar orientations. In the literature, such directional convergence is regarded as an indicator of interpretive consistency and conceptual reproducibility in LLM-based content analysis. Conversely, the limited differences observed in teleological memberships suggest that the contextual and interpretative dimensions of ethical norms can be processed by the models with varying intensity. This situation shows that for norms containing hybrid ethical patterns, LLMs can produce semantic evaluations that are not identical but strongly convergent.

In the next stage, accounting for directional convergence and limited intensity differences, the different LLM codings were combined to obtain unified fuzzy coding scores that represent the general fuzzy reasoning tendencies of the ethical norms.

Construction of the Unified LLM Membership Score

The variations between the ethical scores produced by ChatGPT and Google Gemini were minimized using the Arithmetic Mean Technique, achieving a more refined, holistic, and neutral result set (See Table 9). During this synthesis process:

1. Norms were decomposed into primary and secondary reasoning patterns.
2. A mathematical balance was established between "barrier norms" that trigger the MIN (AND) operator in the Mamdani processor and "contextual norms" that trigger the MAX (OR) operator.
3. Membership scores were optimized so that the fuzzy inference engine could produce a meaningful ethical "center of gravity" (Centroid) during the defuzzification phase.

Through this methodological approach, the TJA Declaration was transformed from a static text into a dynamic decision-support dataset capable of representing ethical reasoning tensions, gray areas, and hybridizations in journalistic practice.

Table 9
Unified LLM Fuzzy Membership Scores

Item	Unified μT	Unified μD	Item	Unified μT	Unified μD	Item	Unified μT	Unified μD	Item	Unified μT	Unified μD
1	0.53	0.93	24	0.40	0.93	47	0.15	0.98	70	0.30	0.98
2	0.70	0.83	25	0.13	1.00	48	0.03	1.00	71	0.48	0.93
3	0.50	0.98	26	0.50	0.90	49	0.65	0.95	72	0.73	0.85
4	0.38	0.90	27	0.83	0.70	50	0.38	1.00	73	0.58	0.93
5	0.85	0.83	28	0.95	0.68	51	0.73	0.95	74	0.35	0.90
6	0.53	0.95	29	0.90	0.78	52	0.55	0.95	75	0.25	0.95
7	0.85	0.70	30	0.65	0.83	53	0.85	0.95	76	0.45	0.95
8	0.93	0.58	31	0.83	0.78	54	0.48	0.98	77	0.33	0.98
9	0.40	0.93	32	0.38	0.98	55	0.38	1.00	78	0.70	0.85
10	1.00	0.30	33	0.30	0.93	56	0.88	0.90	79	0.33	0.98
11	0.78	0.78	34	0.43	0.90	57	0.65	0.95	80	0.13	0.98
12	0.48	0.88	35	0.15	1.00	58	0.83	0.73	81	0.48	0.93
13	0.78	0.78	36	0.40	0.88	59	0.53	0.93	82	0.53	0.85
14	0.43	0.95	37	0.15	0.98	60	0.95	0.75	83	0.40	0.70
15	0.33	0.98	38	0.08	1.00	61	0.95	0.88	84	0.08	1.00
16	0.10	1.00	39	0.23	1.00	62	0.20	1.00	85	0.43	0.95
17	0.90	0.48	40	0.18	0.98	63	0.28	0.98	86	0.18	0.98
18	0.90	0.48	41	0.13	0.98	64	0.83	0.75	87	0.60	0.88
19	0.90	0.68	42	0.10	0.95	65	0.93	0.73	88	0.25	1.00
20	0.20	1.00	43	0.23	0.95	66	0.40	0.93	89	0.10	1.00
21	0.55	0.95	44	0.08	1.00	67	0.95	0.73	90	0.13	1.00
22	0.03	1.00	45	0.10	1.00	68	0.83	0.80	91	0.28	0.93
23	0.63	0.73	46	0.23	0.93	69	0.58	0.90	92	0.22	0.88

Rule Evaluation, Weighting, and Inference

At this stage, rule evaluation and inference operations were performed by considering the extent to which an ethical norm triggers rules in the rule-base. Rule triggering values were interpreted through the 6 (six) level linguistic categories defined in Table 6 to increase the explainability and interpretability of the model. However, semi-continuous scores (multiples of 0.05) were maintained to reflect finer semantic differences. The triggering value was calculated using the following formula:

i. $\mu T = \Sigma(\text{triggering value} \times \text{rule weight}) / \Sigma(\text{rule weights})$
ii. $\mu D = \Sigma(\text{triggering value} \times \text{rule weight}) / \Sigma(\text{rule weights})$

The obtained triggering degrees were processed, along with the relevant rule weights, to calculate the teleological (μT) and deontological (μD) membership scores for each norm. This process corresponds to the "implication" phase of Mamdani-type fuzzy inference and enables the acquisition of defuzzified membership values for each norm.

Aggregation of Defuzzified Scores

In the aggregation phase of the M-FIS model, the teleological and deontological membership scores obtained per norm were aggregated to reveal the general tendency at the system level, and general membership scores were acquired. During this process, different weight values were assigned to fuzzy criteria in the rule-bases. Core rules in the rule-bases that form the logical

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backbone of the normative pattern analysis, such as T1, T2, D2, and D3, were processed with a weight of 1.00, while more supportive rules such as T5, T6, D5, and D7 were processed with a weight of 0.80. This process ensured that the model prioritized core reasoning forms that determine the ethical character of the norm, while taking contextual and complementary elements into account at a secondary level. The general scores and formulations obtained are given below:

- **General Deontological Membership Score** = [Sum (Deontological Membership x Rule Weight)] / Total Number of Norms = 0.89
- **General Teleological Membership Score** = [Sum (Teleological Membership x Rule Weight)] / Total Number of Norms = 0.48

This result demonstrates that the ethical norms in the Declaration carry a high level of deontological reasoning orientation. While teleological reasoning memberships exhibit a lower and more dispersed distribution, deontological memberships show a high and clustered structure.

Normalization of Membership Scores

Because the sum of membership scores of a norm to different sets in the M-FIS model does not have to be 1—as some norms can have both high teleological and high deontological membership—the scores require normalization. Membership scores normalized to sum to 1 provide a comparable dominance criterion for general teleological and deontological scores.

- **Normalized Teleological Score** = Teleological General Score/ (Teleological General Score + Deontological General Score) = 0.48 / (0.48 + 0.89) ≈ 0.35
- **Normalized Deontological Score** = Deontological General Score / (Teleological General Score + Deontological General Score) = 0.89 / (0.48 + 0.89) ≈ 0.65

This result indicates that the Declaration's dominant ethical orientation is approximately 65% deontological and 35% teleological. These percentages represent the relative intensity with which the analyzed norms activate deontological and teleological reasoning patterns within the fuzzy inference model.

The semantic equivalents of these numbers in Table 6 are as follows: The TJA Declaration contains significant deontological and partial teleological logical patterns. The partial membership rate means that the Declaration offers a hybrid normative structure requiring teleological evaluation in certain areas.

Dominant Ethical Reasoning Score (DERS) and Sensitivity Analysis

Although the normalized scores indicate which ethical reasoning pattern orientation the Declaration carries and at what intensity, they do not show how strong a normative density structure the TJA Declaration contains. The Dominant Ethical Reasoning Score (DERS) was calculated to express which pole the ethical orientation is closer to and how strong that orientation is, using a singular value. In the following formulation, normative weighting was applied to reflect the 65% dominant deontological character of the TJA Declaration, assigning a higher value to deontological memberships (α=0.60) and a lower intensity value to teleological memberships (β=0.40). This coefficient assignment is not arbitrary; it was based on a synthesis of the expert panel's qualitative views on the Declaration's prescriptive nature and the model's raw dominance scores. Furthermore, in the sensitivity analysis conducted to test the impact of these coefficients on the results, it was confirmed that even if the ratios between α and β values were changed (e.g., in a 0.50 - 0.50

balanced distribution), the Declaration's medium-high level normative membership density tendency (DERS≈73) did not show a statistically significant deviation, verifying that the model is "robust."

- **DERS** = [(Deontological Weight × General Deontological Score) +(Teleological Weight × General Teleological Score)]/ (Deontological Weight + Teleological Weight) ×100

= [(0.60 × 0.89) + (0.40 × 0.48)] × 100 ≈ **73.**

DERS evaluates not only the question, "Which normative reasoning pattern is dominant?" but also the question, "To what extent is this dominance intensive?" A value of approximately 73 indicates that the ethical reasoning density of the Declaration is at a medium-high level, but it is not a structure that can be explained absolutely by a single type of ethical reasoning. The point to note here is that DERS represents the ethical orientation power of the Declaration, not the behavior of a journalist. DERS provides a suitable basis for comparing different ethical codes and declarations in future research.

Findings and Model Analysis

Evaluation of Research Questions and Hypotheses

The analysis results answer the research questions and hypotheses established at the beginning of the study with the following data:

Answers to Research Questions: The TJA Declaration is not shaped by a monolithic paradigm, but by a hybrid/multi-layered normative structure that is primarily deontological while also containing a teleological dimension. The Declaration is characterized by the simultaneous existence of different modes of reasoning (RQ-1). Furthermore, the intensities of ethical reasoning patterns were successfully analyzed using M-FIS (Mamdani-Type Fuzzy Inference System), employing graded (fuzzy) membership scores that align with the complexity of real-world practice. This method demonstrates that ethical norms cannot be reduced to sharp, singular categories; analyzing them within a “transitional and graded” structure is a methodological necessity (RQ-2).

Verification of Hypotheses: Hypothesis H-1 was verified, as it was observed that journalistic ethical norms can be analyzed by both LLMs and human experts with high directional convergence. Membership scores of 0.89 (deontological) and 0.48 (teleological) support hypothesis H-2 by revealing that these norms represent both types of reasoning in a hybrid form rather than as mutually exclusive concepts, and that deontological reasoning maintains the dominant membership score. Finally, the distribution of norms in the ethical space (Graph 1) empirically confirms that the Declaration exhibits hybrid areas that simultaneously contain different ethical normative patterns and that ethical reasoning forms a continuum.

Distinctive Power of the Model: Consistency and Validity

This research identified the ethical reasoning patterns embedded in ethical norms and observed that these patterns could belong to different sets simultaneously and in a graded manner. This phenomenon indicates that the approach to determining membership intensity using LLMs can be applied alongside the Mamdani-type fuzzy inference mechanism. This provides a significant methodological superiority compared to categorical classification approaches. Furthermore, the average membership intensity values produced independently by ChatGPT and Google Gemini were found to be very close **(teleological ≈ 0.47 vs. 0.49; deontological ≈ 0.89 vs. 0.90)**. This

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finding suggests that the M-FIS model exhibits high internal consistency and is reproducible, and that the data obtained stems from the structural properties of the norms rather than algorithmic variation differences

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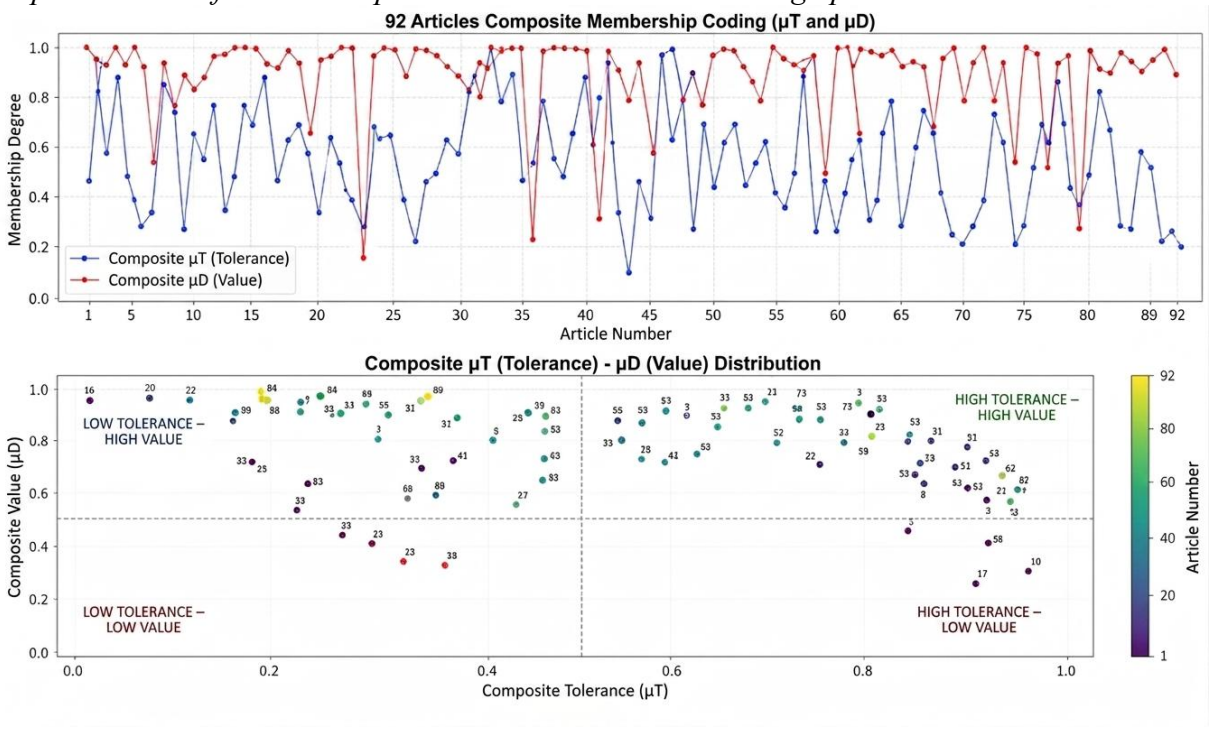
Distribution of Reasoning Patterns in Ethical Space

Graph 1 represents the two-dimensional ethical space in which the ethical norms in the TJA Declaration are positioned according to their degrees of teleological (μT) and deontological (μD) membership. The ethical space approach reveals that norms are positioned not on a single ethical axis, but at the intersection of two different ethical orientations. Norms with high membership values from both teleological and deontological perspectives can be interpreted as hybrid ethical structures.

Graph 1

Representation of Membership Intensities in Ethical Reasoning Space



The ethical space distribution emerging in Graph 1 shows that the TJA Declaration has a strongly deontological normative core. Norms related to privacy and individual rights (Arts. 12–19), crime reporting (Arts. 20–31), independence and financial ethics (Arts. 32–48), and editorial ethics and source security (e.g., Arts. 80–90) form a vertical line around high μD intensities.

Norms such as "not declaring the suspect guilty until conviction" (Art. 20), "not disclosing the identities of sexual assault victims" (Art. 22), "not publishing off-the-record information" (Art. 90), "not publishing news in exchange for benefits" (Art. 35), and "separating news from advertising" (Art. 39) appear to be structured as ethical boundaries, obligations, and universal principles that must be protected regardless of the outcome. The concentration of these norms in the upper regions of the ethical space indicates that the Declaration's fundamental normative logic is built around deontology. In contrast, norms such as the one stating that "public interest" can

supersede the right to privacy (Art. 10), "taking care not to create panic in society" (Art. 8), "taking peace journalism as a basis" (Art. 58), "the best interest of the child" (Art. 61), "creating social awareness regarding environment and climate change" (Art. 60), and "avoiding inciting details in suicide news" (Art. 28) show that ethical reasoning is also established through social consequences (teleology). These norms shift to the right in the ethical space and render outcome-oriented ethical reasoning patterns visible.

Another key finding in the graph is that some norms simultaneously exhibit high deontological and medium-high teleological membership. Norms such as "reporting facts without distortion" (Art. 6), "the public's right to be informed accurately" (Art. 9), "observing the difference between terror propaganda and the public's right to receive news" (Art. 31), "avoiding publications that incite violence against women" (Art. 56), and "correcting false information rapidly" (Art. 73) are positioned in hybrid ethical zones. These norms point to a multi-layered ethical reasoning pattern that, while containing principled obligations, also accounts for the social impacts of actions. The graph also reveals that ethical norms do not operate in sharp categories. The transitional and graded distribution observed among norms demonstrates that journalistic ethics cannot be explained through rigid binary oppositions. Norms clustered in medium-intensity zones make the decisive role of context in ethical decision-making processes visible.

The ethical space model makes it possible to analyze not only which ethical category a norm belongs to, but also which normative logic it carries and at what intensity. Clustering patterns in the ethical space also show that different normative logics concentrate in specific thematic areas. It is observed that teleological intensities increase significantly under the themes of "Ontological Responsibility and Public Interest," "Human Rights, Discrimination, and Peace," and "Special Groups." While norms under the heading "Independence and Financial Ethics" largely produce high deontological intensity, the headings "Human Rights, Discrimination, and Peace" and "Special Groups" exhibit a more heterogeneous and hybrid distribution. This distribution means that journalistic ethics comprises not only professional duty ethics but also consequentialist concerns such as social harm, public utility, the protection of vulnerable groups, and democratic stability.

Description and Analysis of Thematic Groups in Ethical Space

In Graph 2, average teleological (μT) and deontological (μD) values are used for each thematic group; each group is represented as a centroid in the ethical space. These centroids indicate the positions of the groups on the two ethical axes and their proximity to one another.

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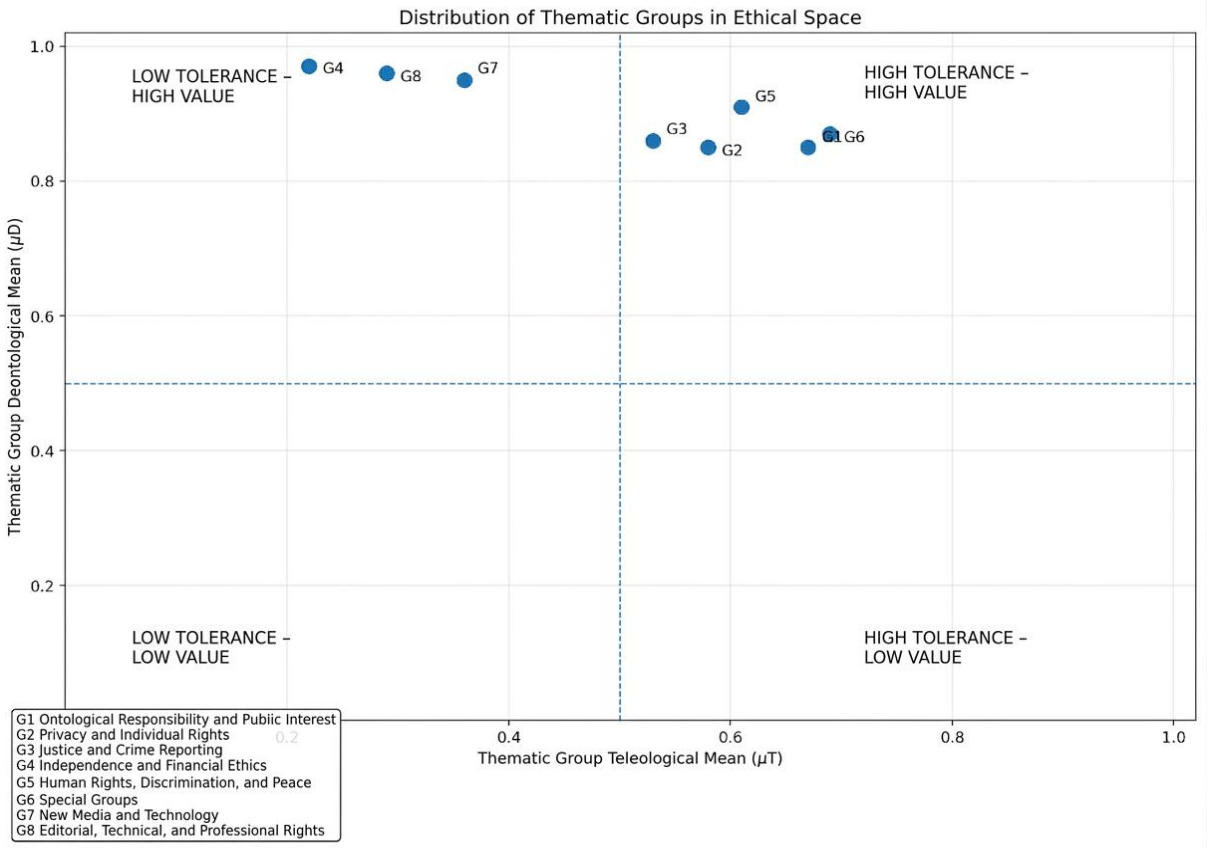
Graph 2

Representation of Thematic Groups in Ethical Reasoning Space



The distribution of thematic groups in the ethical space indicates that the normative structure of the TJA Declaration possesses a distinct asymmetry. The fact that all groups cluster around high deontological membership values reveals that the Declaration possesses a strong core of duty ethics.

However, the differentiations observed along the teleological axis indicate that certain themes are more amenable to outcome-based ethical reasoning patterns. For instance, themes such as G1 (public interest), G5 (human rights), and G6 (special groups) are positioned in the upper-right region of the ethical space, exhibiting hybrid patterns. These groups represent multi-layered ethical reasoning forms that simultaneously consider principled obligations and the social consequences of actions. Conversely, groups such as G4 (Independence and Financial Ethics), G7 (New Media and Technology), and G8 (Editorial, Technical and Professional Rights) cluster in the upper-left region, displaying a strongly deontological character. This distribution shows that they are positioned within a two-dimensional ethical space and that different modes of reasoning are activated according to the context. In this respect, the ethical space approach renders the multi-dimensional and dynamic structure of journalistic ethics visible.

Kantian Barrier and Hybrid Ethical Zones

The distinctive power of the model is clearly observable through norms positioned at extreme values. For instance, the rule prohibiting the publication of "off the record" information (Article 90) acts as a "Kantian Barrier," receiving a deontological membership score of 1.00 in the Mamdani inference system. In such norms, regardless of how positive the outcomes of an action may seem, the inviolability of the principle (D6: Unconditionality) is essential, and according to the MIN (AND) operator used by the model, a single violation directly lowers the total ethical compliance score. In contrast, articles such as "the journalist's responsibility regarding the social consequences of their professional actions" (Article 1) are positioned in hybrid ethical zones by receiving both high deontological duty (D2) and high teleological outcome-oriented (T1) scores. Such norms represent multi-layered reasoning patterns that simultaneously demand principled loyalty and a Benthamite benefit-harm calculation (T3) from a journalist. This hybrid structure represents multi-layered ethical evaluation processes where a norm functions simultaneously as both an unshakable principle (deontology) and a tool for optimizing social utility (teleology) in journalistic practice.

Benthamite Flexibilities and Utility Optimization

Benthamite flexibilities observed in the distribution in the ethical space are concretized, for example, with the rise in teleological membership values in the themes of Special Groups (G6) and Human Rights and Peace (G5). In these areas, the MAX (OR) operator and aggregation logic in the Mamdani inference process primarily come into play; rather than strict rule compliance, the system evaluates the overall ethical output the action will produce. In norms such as the protection of children or the minimization of social harm, the model operates like a "utility maximization" or "harm minimization" engine that changes according to the context. This data reveals that the TJA Declaration is established not out of a relativist concern in certain areas, but with a dynamic structural motivation that optimizes the moral value of the action through social outcomes and the "greatest good." In this region, journalistic ethics is structured through social effects as much as it is through prohibitions.

Concentration in Hybrid Structure and Flexible Deontology

The positioning of thematic groups in the ethical space clearly demonstrates that the system cannot be reduced to a single ethical paradigm. This is the most critical finding at the system level: the concentration in a hybrid structure that yields medium-high values on both the teleological and deontological axes within the ethical space. The themes of Public Interest (G1) and Human Rights (G5) show high membership in both forms of reasoning, confirming that ethical norms operate within an "ethical continuum" rather than as opposing poles. This situation transforms the normative architecture of the TJA from being a "rigid system of laws" and brings it closer to the structure defined in the literature as "flexible deontology." The model does not completely eliminate deontological barriers in moments of rule conflict; however, it makes these barriers "interpretable and gradable" through strong teleological inputs such as the public interest, thereby yielding a more accurate representation of ethical reality.

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Critical Threshold in Rule Conflict: Flexible Deontology

One of the most distinctive findings identified within the scope of the analysis is the manner in which the teleological-deontological tension areas emerging in certain norms are managed by the Mamdani fuzzy inference system. In such moments of structural tension, rather than producing a monolithic logical contradiction, the model operates a context-sensitive balancing mechanism. When strong teleological inputs such as public interest, harm reduction, or the protection of vulnerable groups are activated, deontological barriers do not disappear entirely but become interpretable by "stretching" through the model's membership functions. Although deontological philosophy, by its very nature, promises a rigid system of laws based on universal duties and unwavering rules (the Kantian categorical imperative), the TJA Declaration does not treat rules with absolute dogmatism because of the socio-political realities of practical professional practice. Structurally, the text softens the fundamental rules it constructs deontologically—such as accuracy, honesty, and independence—by continuously opening them to negotiation with teleological aims focused on social utility. While this eclectic structure carries the risk of leading to a relativistic arbitrariness where rules become completely invalid, it confirms a dynamic "flexible deontology" space where principles are continuously balanced with social outputs (consequences). Indeed, the simultaneous operation of the MIN operator, representing deontological rigidity, and the MAX operator, modeling teleological ends and flexibility, during the model's aggregation phase is the most concrete mathematical projection of this theoretical softening.

Global Normative Alignment: Comparative Analysis of IFJ and TJA Declarations

The TJA Declaration of Rights and Responsibilities exhibits a high level of normative synchronization with the Global Charter of Ethics for Journalists (IFJ, 2019) regarding fundamental principles such as accuracy, source reliability, and the protection of private life. However, the essential distinction between these two texts emerges at the point of the intensity and formulation of reasoning modes:

IFJ and Categorical Imperatives: The IFJ Charter structures ethical principles in a more systematic, imperative language, positioning journalism on the axis of "public accountability"; it exhibits a more rigid, higher-degree-of-membership deontological coding by defining accuracy as a "primary duty." The IFJ's strong emphasis on independent self-regulatory mechanisms may be related to its tendency to link ethical autonomy to institutional assurance.

TJA and Contextual Balancing: The TJA Declaration, conversely, presents the same principles in a more flexible, contextual narrative, making elements such as "do no harm" and "social impacts" more visible. This indicates that the TJA's teleological sensitivity (outcome orientation) is higher in certain situations than that of the IFJ. The fact that the TJA presents self-regulatory mechanisms within a less institutionalized structure can be interpreted as shifting ethical responsibility to a journalist's cognitive reasoning and conscientious discretion (the area of choice) rather than to the institution.

In the subsequent phase of the study, an inter-study of human expert coding was conducted to examine to what extent the scores produced by the LLM-based M-FIS model is shared by journalists.

Validation of the Model via Human Expert Coding

An additional study in the form of Human Expert Codings was conducted to validate the outputs of the LLM model. These expert-journalist codings were designed not as a high-resolution mathematical fuzzy inference process but as a supporting validation layer that reveals how journalists intuitively and comparatively interpret ethical norms. At the same time, the human expert codings were not included in the model's analysis and evaluation processes.

Expert-Based Fuzzy Inference Research

In the expert-coding research, eight Turkish journalists with at least 5 years of experience, identified by the researchers based on accessibility, were contacted via email between September 1, 2025, and September 30, 2025, to perform the coding. Experts were provided with deontological and teleological rule-bases and the TJA Ethical Norm List; they were asked to assign a complementary fuzzy membership degree to both teleological and deontological sets for each ethical norm. However, to simplify the experts' intuitive decision-making processes and reduce cognitive load, fuzzy membership degrees were defined so that their sum equals 1, in increments of 0.05. For example, a membership of 0.85 in the deontological set for a norm implies a membership of 0.15 in the teleological set for the same norm. High membership of an ethical norm in a specific set resulted in relatively low membership in the other set. In other words, the experts evaluated the dominant ethical orientation of the norms using a comparative intensity logic. Thus, the membership values were able to produce a sufficiently nuanced distribution of membership intensity while ensuring a common scale standardization in the coding process.

The 8 individual coding tables obtained via email were combined using the arithmetic mean method for each norm, thereby obtaining a singular set of "human expert coding scores."

Table 10

Developing appreciation and respect toward the target culture and cultural diversity

Item	Unified μT	Unified μD	Item	Unified μT	Unified μD	Item	Unified μT	Unified μD	Item	Unified μT	Unified μD
1	0.35	0.65	24	0.25	0.75	47	0.10	0.90	70	0.20	0.80
2	0.40	0.60	25	0.15	0.85	48	0.05	0.95	71	0.35	0.65
3	0.30	0.70	26	0.10	0.90	49	0.30	0.70	72	0.40	0.60
4	0.35	0.65	27	0.15	0.85	50	0.20	0.80	73	0.30	0.70
5	0.45	0.55	28	0.20	0.80	51	0.35	0.65	74	0.20	0.80
6	0.40	0.60	29	0.20	0.80	52	0.25	0.75	75	0.25	0.75
7	0.45	0.55	30	0.15	0.85	53	0.40	0.60	76	0.35	0.65
8	0.50	0.50	31	0.15	0.85	54	0.30	0.70	77	0.30	0.70
9	0.35	0.65	32	0.05	0.95	55	0.20	0.80	78	0.20	0.80
10	0.60	0.40	33	0.05	0.95	56	0.40	0.60	79	0.25	0.75
11	0.45	0.55	34	0.10	0.90	57	0.35	0.65	80	0.10	0.90

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Table 10
Continued

12	0.40	0.60	35	0.05	0.95	58	0.45	0.55	81	0.10	0.90
13	0.50	0.50	36	0.10	0.90	59	0.30	0.70	82	0.20	0.80
14	0.35	0.65	37	0.05	0.95	60	0.55	0.45	83	0.25	0.75
15	0.30	0.70	38	0.05	0.95	61	0.45	0.55	84	0.10	0.90
16	0.10	0.90	39	0.05	0.95	62	0.20	0.80	85	0.25	0.75
17	0.15	0.85	40	0.10	0.90	63	0.20	0.80	86	0.10	0.90
18	0.75	0.25	41	0.10	0.90	64	0.35	0.65	87	0.30	0.70
19	0.20	0.80	42	0.10	0.90	65	0.40	0.60	88	0.15	0.85
20	0.10	0.90	43	0.15	0.85	66	0.25	0.75	89	0.05	0.95
21	0.25	0.75	44	0.05	0.95	67	0.45	0.55	90	0.10	0.90
22	0.05	0.95	45	0.05	0.95	68	0.40	0.60	91	0.15	0.85
23	0.30	0.70	46	0.10	0.90	69	0.30	0.70	92	0.25	0.75

The membership values in the composite table were evaluated as a simplified M-FIS input structure, similar to the algorithmic coding, and the General Teleological Reasoning Score (GTRS) and General Deontological Reasoning Score (GDRS) were calculated using these combined fuzzy intensities. The obtained scores were treated as the simplified outputs of the aggregation and defuzzification phases of the fuzzy inference process. Since the sum of teleological and deontological memberships in expert coding was forced to 1.00 to reduce cognitive load, the expert scores were accepted as comparative ethical intensities. In the final stage, the Dominant Ethical Reasoning Score (DERS) was calculated to demonstrate the dominant ethical orientation. Table 11 presents the comparative results of the expert journalist codings and the LLM-based codings.

Table 1
LLM – Human Expert Reasoning Score (RS) Comparison Table

Skor Type	**Expert Score**	**LLM Value**
General Teleological RS	0.29	0.48
General Deontological RS	0.71	0.89
Normalized Teleological RS	0.29	0.35
Normalized Deontological RS	0.71	0.65
Dominant Ethical RS (DERS)	≈ 54	≈ 73

Notably, the expert coding research does not reproduce the LLM-based M-FIS model exactly, but it does validate it. In the next section of the study, the data obtained from the LLMs were analyzed.

Comparison of Human Expert Data with LLMs

These results indicate that human expert codings largely validate the fundamental ethical reasoning orientations produced by the LLM-based model. Both approaches produced a high level of directional convergence regarding the fact that the TJA Declaration carries a predominantly deontological and limitedly teleological character. This shows that the ethical patterns revealed by the model are not merely an algorithmic classification output but also significantly overlap with the ethical intuitions of human journalists. However, distinct representational differences emerged in the distribution of membership intensities. Since the expert journalist codings operated with a "complementary and comparative fuzzy membership" logic, they tended to identify the dominant ethical orientation of the norms in a more protective manner.

In the LLM-based coding, more independent fuzzy intensities were used, which allowed for the simultaneous and independent membership of a norm in both sets. For this reason, the LLM-based model was able to produce more granular and hybrid ethical intensities, especially in norms involving public interest, harm reduction, contextual exception, and social impact. The difference in teleological intensities (LLM: 0.48; expert: 0.29) is thought to stem largely from these two different fuzzy representation logics. While expert coders evaluated ethical norms as comparative orientations, LLMs were able to model the ability of norms to be attached to multiple ethical orientations simultaneously with high intensity through the "independent fuzzy membership assignment" approach. While this indicates differences in methodological resolution in the interpretation of ethical norms, it also reveals the capacity of the LLM-based model to perceive hybrid and contextual ethical patterns. Consequently, although the intensity distribution differs, the ethical reasoning orientation is the same in both types of coding.

Relation of Findings to Current Ethical Debates

Current debates show that journalism ethics in the era of digitalization and artificial intelligence have transcended the framework of individual professional morality and expanded toward platforms, algorithms, data flows, and public impacts. This transcendence indicates that media and journalism ethics have turned into a multi-layered field of ethical governance. This transformation suggests that ethical codes are not only normative guides but also governance mechanisms that regulate the reliability of the digital public sphere. The flexibility of the TJA Declaration in these areas can be regarded as an "ethical sensitivity" that attempts to balance universal values with local and social needs.

Parallelism with next-generation ethical debates: Research findings prove that the TJA Code of Ethics exhibits a structural parallelism with current ethical debate concepts—such as governance, algorithmic transparency, accountability, and harm reduction—by going beyond classical journalistic principles. Current ethical literature focuses on how ethical principles can be made applicable and auditable in complex socio-technical-digital systems rather than on abstract normative principles (Floridi et al., 2018; Jobin, Ienca, & Vayena, 2019). This orientation parallels the principles of transparency, accountability, human oversight, and data privacy emphasized in the UNESCO Recommendation on the Ethics of Artificial Intelligence (2021). In this sense, the TJA Declaration operates as a socio-cultural filter, or an ethnocultural constellation, that translates universal digital ethics into the local, identity-driven context of Turkish journalistic practice

Person-centered vs. system-centered responsibility: The normative structure concentrated in the G7 (New Media and Technology) group is directly related to discussions on transparency, traceability, and algorithmic accountability in digital ethics literature. Norms such as

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correcting misinformation, the duty of verification, avoiding misleading content, and clearly labeling AI-generated content can be read as counterparts to the principles of traceability, explainability, and accountability in journalism ethics (See Mittelstadt et al., 2016; Weber & Locke, 2022). The point that must be underlined here is that the TJA's approach is clearly and predominantly directed toward regulating a journalist's behavior. However, contemporary digital ethics literature shifts ethical responsibility to areas related to structure and ecosystem, such as platform architectures, data governance, algorithmic visibility, and the production of systemic risk (Gillespie, 2018; Zuboff, 2019); it shares responsibility with journalists. For this reason, the TJA's approach represents "journalist-centered ethics," while the contemporary digital ethics paradigm represents "system-centered ethical governance." Furthermore, in the digital communication environment, ethical responsibility is not limited to human actors; algorithmic systems and AI-based decision structures also directly participate in the production process of ethical outcomes (Gunkel, 2024). This requires rethinking journalism ethics as an expanded field of ethical governance that encompasses not only individual professional morality but also human-machine interactions.

Platform capitalism vs. editorial autonomy: The norms concentrated in the G4 (Independence and Financial Ethics) and G8 (Editorial, Technical and Professional Rights) groups form a protective ethical barrier against the pressure of the platform economy on editorial independence. Principles such as the advertising-news separation, transparency in sponsorship, prevention of conflicts of interest, and the prohibition of manipulative content create deontological boundaries that secure professional autonomy against algorithmic circulation mechanisms and the platform-based visibility economy. This is consistent with the "platform power" and "editorial sovereignty" axis discussed in current literature (Carlson, 2023; Napoli, 2019). However, in the digital age, ethical decisions have transcended the limits of individual reasoning and become products of distributed processes jointly shaped by platform architectures, algorithmic filtering systems, and data flows. The ethical pluralism approach, which stands out in contemporary AI ethics literature, also argues that ethical reasoning produces context-sensitive, transitional, and hybrid normative structures instead of absolute and exclusionary categories (Gunkel, 2024). In contrast, the ethical intensities produced by the G1 (Ontological Responsibility and Public Interest) and G6 (Special Groups) themes exhibit strong parallels with the "harm minimization" and "vulnerable groups protection" approaches in contemporary ethical literature (Christians, 2013; Ward, 2019; UNESCO, 2021). It is observed that in areas such as children's rights, health communication, suicide reporting, environmental risks, and peace journalism, ethical evaluation is shaped not only through rule-based but also through social impact, public responsibility, and the principle of harm reduction (McIntyre & Gyldensted, 2018; WHO, 2017). This approach is also consistent with the principle of "protection of human dignity" emphasized in Christians' (2013) communitarian ethics.

Conclusion and Suggestions for Future Research

This study demonstrates that the TJA Declaration of Ethics carries a predominantly deontological normative core; however, teleological reasoning functions effectively within the system as a context-sensitive, flexible layer. The findings reveal that journalistic ethical norms are not merely static rules, but rather a dynamic constellation of ethnocultural codes that institutionalize socio-cultural reasoning patterns, thereby acting as a collective repository of identity and professional governance.

The findings show that norms such as accuracy, independence, avoidance of conflicts of interest, and professional responsibility produce high deontological membership intensities, whereas teleological intensities exhibit a non-linear upward trend in norms that emphasize public interest, harm reduction, victim rights, and contextual exceptions. Ethical norms concerning suicide reporting and the protection of vulnerable groups validate the theoretical weight of the teleological harm-reduction approach in journalism ethics (Işıklı & Fazlıoğlu, 2023). The fact that some norms simultaneously produce high deontological and medium-high teleological membership degrees shows that ethical reasoning does not operate through the rigid, mutually exclusive dichotomies assumed by classical normative theories. This provides strong empirical evidence that journalism ethics is structured as a "hybrid ethical space" (Işıklı & Uzer, 2023), containing context-sensitive, transitional, and dynamic intensities. When viewed as a constellation of ethnocultural codes, this 'hybrid ethical space' demonstrates how specific cultural priorities—such as communal responsibility and harm reduction—are negotiated through a mix of deontological mandates and teleological flexibility.

The research also shows that ethical reasoning is not merely an intuitive or speculative field, but a structure that can be modeled analytically through fuzzy membership intensities. The directional convergence between human expert codings and LLM-based analyses reveals that AI-supported ethical modeling can be used as analytical tools that systematize human ethical intuitions in high resolution rather than replacing them.

These results indicate that the normative alignment observed with the Global Charter of Ethics for Journalists (2019) is also largely validated at the level of ethical reasoning. Future studies can create comparative normative pattern maps by applying the proposed fuzzy ethical reasoning model to different journalism ethics codes, platform policies, AI governance documents, and other professional ethical systems. Studies that model the ethics-law relationship more precisely in digital gray areas—such as data sharing, algorithmic transparency, intellectual property, and the legal status of AI agents—could make significant contributions to the media ethics literature.

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Ethics Statement

This study analyzed publicly available journalistic ethical norms. Expert validation was conducted with journalists who had at least five years of professional experience and participated voluntarily. No personally identifiable information was collected, and all responses were anonymized prior to analysis. The study involved minimal risk and complied with the ethical principles of voluntary participation, confidentiality, and data protection.

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Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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Conflicts of İnterest

The authors declare no conflict of interest.

Author Contributions

Conceptualization, methodology, formal analysis, visualization, supervision, project administration, and writing—original draft preparation, Ş.I.; validation and data curation, A.A.; investigation and writing—review and editing, Ş.I. and A.A. Ş.I. developed the theoretical framework, designed the fuzzy inference model, conducted the LLM-based coding procedures, performed the formal analyses, and prepared the original manuscript. A.A. coordinated the expert journalist validation process, managed data collection and organization, and contributed to the review and revision of the manuscript. Both authors contributed to the interpretation of the findings and the final revision of the manuscript. All authors have read and approved the final version of the manuscript.

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