The Three-Dimensional Analytical Framework for Ethical Governance of AI-Enabled Information Systems in Hotels: A Systematic Review of Phasic Evolution, Mechanism Synergy, and Boundary Conditions

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Abstract

While the use of information systems based on artificial intelligence or AI improves efficiency in the hospitality sector, it wields ethical concerns for algorithmic fairness, transparency, and accountability. Extant literature so far has mainly concentrated on technical applications, and there is still a lack of systematic discussions of the dynamic evolutionary mechanisms of the ethical governance of AI. Following the rules of the PRISMA, this paper performs a systematic literature review of 15 high-quality contributions, obtained from the Web of Science Core Collection (2021-2025). Using thematic analysis together with cross study triangulation, we derive a three-dimensional framework for AI ethical governance in hospitality. This framework embeds phasic evolution (design-pilot-scaling-institutionalization), mechanisms of governance (data governance, touching boundary spanning networks, and reflective learning), and usages of context (boundary condition). The study identifies four key findings, namely the threshold effects of value alignment; the inverted U-shaped relationship of stakeholder engagement; the centrality of an error tolerant culture as key to iterative piloting and that data governance is the foundation of it. By combining Diffusion of Innovations, Sociotechnical Systems, and Organizational Learning theories, this research adds: Theoretical content to the Information Systems (IS) governance research field, and A phased implementation roadmap for managers of the hospitality industry facing ethical challenges in Artificial Intelligence (AI).

Keywords

AI ethics, AI-enabled information systems, IS governance, hospitality information systems, algorithmic fairness, systematic literature review.

1. Introduction

1.1. Research Background

The sudden development of Artificial Intelligence (AI) technologies in the hospitality sector has led to a plethora of ethical issues, which in turn has disrupted the conventional service standards and customer relationships [1]. AI systems, while showing good success in improving operational efficiency and personalization of service, do at the same time 'drive fundamental ethical issues and questions about algorithms, clarity, accountability mechanisms' [2]. Noteworthy, with the onset of the post-pandemic era, adoption of Artificial Intelligence (AI) technologies has taken off, particularly due to severe labor shortages [3]. For all those reasons, existing AI deployments are subject to significant challenges [4]. As far as consumer acceptance

is concerned, there is a polarized trend with people exhibiting a range of apprehension about smart hotel and AI-driven services [5].

1.2. Research Gaps and Rationale

Despite the exponential proliferation of Artificial Intelligence (AI) study within the hospitality sector, three vital lacunae within the current scholarship.First, most of the researches show the techno-centrism orientation and they are majorly focused on the function and performance outcomes of AI-based information systems [6,7], while vastly ignoring the existence of the mechanism of systemic governing. Secondly, there exists a clear paucity of empirical research on institutionalization of AI ethics within the context of hospitality information systems. Existing scholarship is still largely limited to conceptual articulation.Third, models presently do not pay sufficient attention to interdependencies among the governance mechanisms. Factors like data governance, cross-hierarchical communication, and organizational learning are usually addressed as distinct and isolated presences and wards, not proactive, mutually reinforcing and synergetic governance functionalities.

1.3. Research Objectives

This systematic literature review is intended to close these identified gaps by means of these three main objectives. First, to consolidate existing knowledge on the subject of AI ethical governance in hospitality sector in a multi-dimensional conceptualization, taking into account the implementation phases, governance mechanisms, and boundary conditions. Second, to define the phasic pathway of the hospitality AI governance - from the formulation of principles to institutionalization - as well as to clarify key enablers and transitional risks. Third, in order to offer practical recommendations to hospitality managers in terms of governance framework, stakeholder engagement, and the organization culture.

Accordingly, the three following research questions have been proposed in this study:

RQ1: How does the process of AI ethical governance in information systems for hospitality take place through different stages of implementation?

RQ2 How are governance mechanisms deployed for the responsible use of AI in hospitality and how do these interact?

RQ3: How do the organizational attributes, technical maturity, and regulatory intensity affect the configuration of AI ethical governance in the hospitality information systems?

1.4. Progress of the Theory and Practice

This research integrated a three-dimensional governance model by adapting Diffusion of Innovations Theory, Sociotechnical systems theory [8] and Organizational Learning perspective [9]. The non-linear dynamics inherent in institutionalisation of AI ethics and the regression risks and the curvilinear effects of stakeholder engagement are exemplified in this framework. A comprehensive synthesis of 15 such studies across Asia to the Europe and North America produce findings that not only have global appeal but also specific context. Managerially, the framework provides a phased approach for implementation roadmap for hospitality practitioners, informing on the criticality of value alignment assessment, the calibration of stakeholder engagement and the adoption of iterative learning mechanisms.

2. Methodology

2.1. PRISMA Process

This systematic review followed on PRISMA guidelines using the WOS Core Collection to identify peer-reviewed studies. A Boolean search was used combining three dimensions: hospitality context ("hotel" OR "hospitality industry"), digital transformation ("smart hotel" OR "digital transformation" OR "hotel AI"), and ethical governance ("AI ethics" OR "algorithmic

fairness" OR "responsible AI" OR "governance"), in order to obtain 49 records. Multi-stage screening then excluded five pre-2021 papers and six without full text, and we were left with 38 for eligibility assessment. Based on predefined criteria, i.e. focus on AI in hospitality, discussion of AI ethics, governance or AI-enabled information systems, peer-reviewed journal, English language and published since 2021, 15 studies were retained for synthesis (see Figure 1).

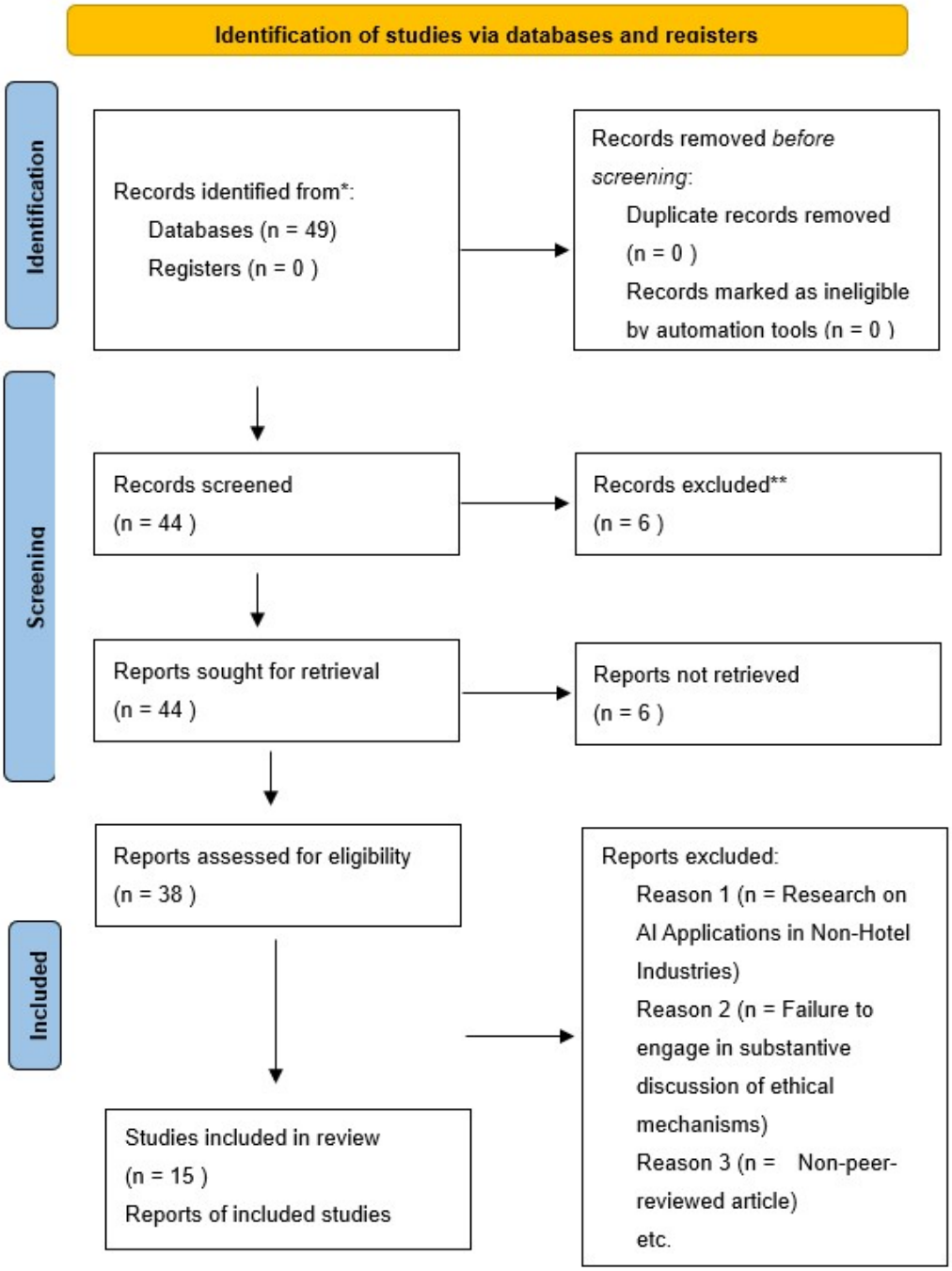

Figure 1. PRISMA flow diagram of study identification and selection.

2.2. Literature Coding Table

The 15 included articles were coded based on the major research focus, theory perspective, and methodology of artificial intelligence in the ethical governance of the hotel industry. Table 1 can be seen as a brief overview of the included articles.

Table 1. Overview of included studies

No.	Author (Year)	Main Focus	Theoretical Framework	Method / Sample
1	Chen, Z. (2025)[1]	AI lifecycle and governance issues in hotels	AI Lifecycle Framework	Systematic literature review of 65 articles (2019–2024)
2	Cozzio, C., Javier, F. & Maurer, O. (2025)[4]	Employee perceptions of AI adoption and ethics	Human Relations Theory	Consensus-mapping workshops with 55 hotel stakeholders
3	Hajal, G.E. & Yeoman, I. (2024)[11]	AI futures and talent management in tourism/hospitality	Dator's Alternative Futures Framework	Scenario planning workshops with 30 experts
4	Khan, A.N. & Soomro, M.A. (2025)[8]	AI capability, ethics and value alignment in hotels	Socio-Technical Systems Theory (STS)	Three-wave time-lagged survey of 429 Chinese hotel firms
5	Kim, H., Kam, K., Shin, S. & Li, J. (2024)[13]	AI applications and trends in hotels/tourism	An exploratory review and forecast that integrates multiple data and methods	Natural language processing of 1,407 news articles, plus review of 22 papers and input from 20 experts
6	Law, R., Ye, H. & Lei, S.S.I. (2024)[2]	Ethical challenges and principles for AI in hotels/tourism	AI Evolution Trajectory Model (6 stages)	Narrative review of 44 highly cited articles
7	Liu, Y., Li, Y., Song, K. & Chu, F. (2024)[9]	AI's double-edged effect on employee behaviour	Conservation of Resources Theory (COR), Approach/Avoidance Theory	Three-wave time-lagged survey of 280 Chinese five-star hotel employees
8	van der Rest, J.-P., Sears, A.M., Kuokkanen, H. & Heidary, K. (2022)[15]	Algorithmic pricing, fairness and backlash in hospitality OTAs	Consumer Backlash ,CSR Theory, Perceived Price Fairness	Argumentative literature review with illustrative cases (Trivago, Booking., Expedia)
9	Nannelli, M., Capone, F. & Lazzeretti, L. (2023)[5]	Bibliometric mapping of AI in tourism/hospitality	A Review of Comprehensive Methodologies	Bibliometric and social network analysis of 696 documents, plus qualitative review of 63 scientific articles
10	Mattila, A.S., Wu, L. & Wang, P. (2025)[14]	AI and service quality in hotels/tourism	Gaps Model of service quality	Conceptual analysis and narrative literature review
11	Filimonau, V., Ashton, M., Derqui, B. & Hernandez-Maskivker, G. (2025)[7]	AI and sustainability in hotels	Convergence Innovation Framework	Exploratory qualitative study with 35 senior hotel managers (18 in the UK and 17 in Spain)
12	Dwivedi, Y.K., Pandey, N., Currie, W. & Micu, A. (2023)[10]	Generative AI applications and agenda in hotels/tourism	Propose directions for future research	Conceptual paper combining literature analysis and illustrative industry cases using ChatGPT
13	Shin, H., Ryu, J. & Jo, Y. (2025)[3]	Adoption factors and consequences of AI/automation	Innovation Archetype (process/output/systemic), DOI+TAM+TOE+COR	Qualitative post-positivist study based on interviews with 22 managers and directors
14	Seraj, A.H.A., Hasanein, A.M., Al-Romeedy, B.S. & Elziny, M.N. (2025)[6]	Digital leadership, AI and digital transformation	Dynamic Capabilities Theory, DCT	Cross-sectional survey of 346 Egyptian hospitality employees (210 hotel staff, 136 travel-agency staff)
15	Huang, A., Chao, Y., de la Mora Velasco, E., Bilgihan, A. & Wei, W. (2021)[12]	Adoption susceptibility of different AI applications	Diffusion of Innovations Theory	Qualitative triangulation with 5 PhD experts evaluating 25 AI applications

2.3. Critical Appraisal Skills Program (CASP)

To evaluate the methodological quality of the included studies, all 15 articles were evaluated by using a six-item checklist based on the Critical Appraisal Skills Programme (CASP). The checklist included clarity of purpose, appropriateness of research design, adequacy of data collection, rigour of data analysis, support for conclusions and consideration of potential bias. Each piece was scored for Yes (1 point), Partly (0.5 points) or No (0 points) for a total score ranging from 0 to 6 points.

All 15 studies had a minimum of a score of 4.0 and were thus included in the review. Five were rated as high quality (6.0), six as good quality (5.5), three as acceptable quality (5.0) and one as threshold quality (4.0) as summarised in Table 2.

Table 2. Literature Quality Assessment

No.	Is the purpose clear?	Is the research design sound?	Is the data collection method clear or adequate?	Is the data analysis logical or appropriate?	Are the conclusions supported by the results?	Is potential bias considered?	Total score
1	1	1	1	1	1	0.5	5.5
2	1	1	1	1	1	1	6
3	1	1	0.5	1	1	1	5.5
4	1	1	1	1	1	1	6
5	1	1	1	1	1	0.5	5.5
6	1	1	0.5	1	1	0.5	5
7	1	1	1	1	1	1	6
8	1	0.5	0.5	1	0.5	0.5	4
9	1	1	1	1	1	0.5	5.5
10	1	1	0.5	1	1	0.5	5
11	1	1	1	1	1	1	6
12	1	1	0.5	1	1	0.5	5
13	1	1	1	1	1	1	6
14	1	1	1	1	1	0.5	5.5
15	1	1	1	1	1	0.5	5.5

3. Content Analysis

3.1. Stage Discriminating Pathways

From a lifecycle perspective of information systems, the reviewed studies propose a four-stage process for AI ethics governance in the hospitality sector: design, pilot, diffusion and institutionalisation.

Design Stage (12/15 studies): This stage includes three activities. First, hotels institutionalise ethics which are based on brand values; Law, et al. (2024) [2] put forward five principles: explainability, inclusiveness, beneficence, autonomy, and accountability. Second, stakeholder mapping is used to identify affected parties; Cozzio et al. (2025) [4] illustrate through use of agreement mapping of 55 managers. Third, basic governance committees are formed such as the model of ethics committees described by Khan and Soomro, 2025.

Pilot Phase (10/15 studies): AI applications are piloted in controlled conditions in the various departments and processes. Chen et al (2025) [1] focuses on the fault diagnosis and recovery mechanisms while Liu et al. (2024) use time-delay schemes to measure employee adaptation over time. All the pilot projects must be equipped with ethical training, feedback mechanisms, and solution-oriented assessments.

Diffusion Stage (8/15 studies) : Successful pilot projects advance towards integration within an organisation's internal information systems. Seraj et al. (2025) [6] emphasise the critical role of digital leadership and cross-functional coordination in managing this phase. Mattila et al. (2025) [14] propose phased roll-out to ensure service processes align with ethical standards. However, this phase also presents obstacles including failures in performance management system (PMS) integration (Shin et al., 2025) [3], cultural resistance related to empowerment and compliance issues.

Institutionalization Stage (6/15 studies) : Ethical artificial intelligence is regarded as mainstream organisational practice. Role reconfiguration tends towards human-centred competencies such as emotional intelligence [3], performance assessment criteria linked to ethical compliance, and formal outcomes of institutionalised governance practices (e.g., ethics workshops and committees) [8]. Concurrently, the empirical evidence concerning comprehensive institutionalisation remains limited, with most research still concentrated in the design and pilot phases.

3.2. Cross-Stage Mechanisms

Mechanism 1: Data Governance System Architecture

Across the reviewed literature, data governance has appeared as a common mechanism for building ethical AI implementations. During the design phase, some basic data structures and governance strategies are defined [8]. In the pilot phase, governance becomes a dynamic diagnostic process. Here, biased AI outputs results in back tracking anomalies primarily focusing on finding biases and systemic errors. By the institutionalization phase, practices of the governance are formalized and are manifested through independent ethics committees and systematic audits. Furthermore, in the light of some studies that have underlined the inherent messiness of data management practices, it is proposed that the governance architecture needs to be deeply embedded within the organizational culture [5].

Mechanism 2: Boundary Spanners

Positioned at different levels in the hierarchy, boundary spanners have the responsibility of converting technical terms into popular terminology. This role helps promote governance through three distinct dimensions, from translating ethical principles into actionable language, to escalating frontline issues to upper management, and limiting AI experimentation to controlled pilot settings, where there is a low risk of trial and error [3]. However, the effectiveness of boundary spanning is dependent upon organizational and psychological support. Specifically, without psychological safety, employees are more likely to keep issues a secret and this impedes the feedback loops necessary for ethical governance [9].

Mechanism 3: The Iterative Learning Systems

The learning process is not an isolated event but rather a process which plays out over multiple stages. Adopting a triple-loop learning approach is especially instrumental in reflecting on relational dynamics of AI in the organization. The process works as follows: First, incidents are recorded and case data is archived by use of blame-free reporting and root cause analysis [1]. Second, collaborative learning is utilized between hotel chains [13]. Third, failures experienced while piloting are reframed as good learning opportunities [2].

3.3. Boundary Conditions.

Organizational Boundaries

Organizational structure has a complex impact on how AI ethics will be governed. Large-scale hospitality enterprises with excellent resource endowments have a better ability to manage risks by deploying pilot projects [7]. Conversely, Cozzio et al. (2025) [4] point out substantial differences in priorities between organizational levels: while executives are concerned with competition, frontline personnel focus more on cost reduction. This misalignment of strategic

intent and operational practice is often an impediment to the effective implementation of governance protocols.

Consequently, effective vertical communication and common values are important boundary conditions. Research by Khan and Soomro (2025) [8] shows that value alignment has a significant moderating effect between AI capabilities and ethical AI outcomes.

Technical Boundaries

AI maturity is not linear in the reduction of governance challenges.While search-based applications have a broad acceptance, robotics are seen as having much greater risks [12]. Black-box algorithms make governance even more complicated by making them even more opaque.

The infrastructure of integrating legacy systems is another significant technical obstacle. Property Management Systems (PMS), such as Opera, experience substantial friction during interfacing with AI tools and this friction is mainly caused by the restricted access permissions and the contractual constraints [3,7]. Multiple studies have shown that the level of maturity of the underlying data infrastructure determines the feasibility of governance practices. This observation presents an additional importance in developing effective data governance measures [8].

Environmental Boundaries

Governance is directly limited by the extent of regulatory intensity. Van der Rest et al. (2022) [15] note discrepancies between formal and substantive compliance with the GDPR because firms are using "legitimate interest" claims to justify automated decision making. Khan and Soomro (2025) note that the Personal Information Protection Law in China has more stringent requirements compared to some other jurisdictions, which means that there are different pressures for hotels operating across markets.

The way ethical governance will be oriented is also subject to cultural and market conditions. Khan and Soomro (2025) [8] validate a moderating effect of the transmission of AI capability to ethics by value alignment. Firms and markets determine when the ethics-efficiency trade off works; algorithmic pricing in competitive markets is held back by triggering a consumer backlash Whilst the development of COVID-19 increased the speed of contactless technology, Nannelli et al. (2023) [5] caution against possible post-pandemic ethical reaction against rapid AI implementation.

4. Results

4.1. RQ1: Theoretical Underpinning for a Four Stage Pathway

Through a review of 15 studies, we identified that the path for the ethical governance of artificial intelligence in the hotel information systems are generally followed by a four stage path: design, piloting, rollout and institutionalization although the specific path may be influenced by the organizational environment. Chen (2025) [1] suggested a five-dimensional lifecycle which included design, application, outcome, fault recovery, and ethical regulation; and Shin et al. (2025) [3] from an innovation archetype perspective listed three main stages including adoption process, adoption consequences, and skills transformation. Hajal and Yeoman's (2024) [11] scenario planning study showed that without incremental governance, AI integration can end up in "Collapse Scenario" where excessive automation renders human interaction obsolete and employees devalued. From an innovation diffusion perspective, high complexity (and low trialability) of AI systems (Huang et al., 2021) [12] suggests that adoption needs to go through a multi-stage process of cognition, trial, adoption and institutionalisation. Taken together, these views suggest that a staged pathway is not specific to hospitality but typical of general IS lifecycle, innovation diffusion and organisational change logics.

Triggers fall into external pressures and endogenous drivers, with the former including pressure from OTA partners regarding algorithmic pricing ethics (van der Rest et al., 2022) [15] and regulatory mandates such as GDPR; the latter are focused on strategic decision-making by the digital leadership. Empirical research carried out by Seraj et al. (2025) [6] illustrates the positive association of digital leadership with AI adoption and transformation and value alignment as one of the focal mechanisms. The research by Khan and Soomro (2025) [8] show the relationship between the capacities of AI and ethical practices can be moderated by value alignment. The results of Liu et al.'s (2024) [9] longitudinal study show that without psychological safety, a lack of psychological safety may translate to the withdrawal behaviour which poses the risk of regressing into regression behaviour during the process of institutionalising.

Cozzio et al. (2025) [4] reported that resistance to change and lack of awareness were perceived the main barriers from all hierarchical levels. First, Liu et al. (2024) [9] showed that without psychological safety and transparent feedback mechanisms, the organization in the institutionalization stage might go back to the pilot stage. According to a bi-national study conducted by Filimonau et al. (2025) [7], large hotel chains are more likely to implement strategic systems due to their resource strength, while small independent hotels can only adopt localized pilot projects due to their limited nature. In the expert analysis by Huang et al. (2021) [12], it was found that applications with a high adoption susceptibility, such as search engines, can be pushed forward rapidly, whereas applications with a high complexity, such as robotics, need to have an extended pilot period. Based on the service quality gaps model, Mattila et al. (2025) [14] show that the deployment of AI in various service touchpoints is not equal and cross-functional coordination mechanisms are required to prevent organisational conflicts during institutionalisation.

4.2. RQ2: The Logics of Systematic Synergy of Ethical Governance Mechanisms

Theoretical logic of mechanism complementarity

The existing literature reveals that the forms of adaptive data governance and reflective learning systems represent a nested governance architecture. Khan and Soomro (2025) [8], find that in cases of high organisational value alignment, the indirect AI capability effect on employee cognitive work ability through ethical practices is significantly positive. This implies that the technical feasibility of the data governance has to be channelled through an organizational learning culture in order to be translated into actual ethical performance. Seraj et al. (2025) [6] provide evidence that the role of digital leadership is undertaken in terms of two mediators which are AI capability and digital innovation practices. Cozzio et al. (2025) [4] show that middle managers need to translate "algorithmic fairness" into "customer segmentation logic" that frontline employees can understand. Together, the three mechanisms have the effect of a multiplier: a sound data governance builds technical credibility, a proper boundary translation builds a foundation for consensus on the ethical values, and a working established learning culture contributes to the continuous optimisation of data governance. However, Khan and Soomro (2025) [8] warn that this cycle does not work in situations of low value alignment, showing that the mechanism complementarity is a fragile one.

The Cascading Risks of Mechanism Failure

Mechanism failure has a domino effect. The "chaotic data management" barrier identified by Nannelli et al. (2023) [5] indicates that the opacity of algorithmic choices, when hotels have no standardized data systems, directly affects cross-hierarchical trust. Frontline employees cannot understand how AI is allocating rooms, middle managers cannot understand and explain the logic of pricing algorithms to the senior management, and in the end employees circumvent the AI system. Cozzio et al.: There are extremely low levels of cognitive consensus across the three levels of hotel: "Competitive advantage" is the priority of senior management while "cost

saving" is the priority for the frontline staff. When translators are absent the physical development of data privacy policies can be misinterpreted and distorted when they are implemented, thus resulting in customer complaints and errors in decision-making. In the context of an organizational culture that does not create the necessary psychological safety, employee anxiety related to the use of AI develops into work withdrawal behaviours (Liu et al., 2024) [9]. Employees are not only passive copers to AI systems, they are more likely to brush the ethics risks under the carpet, so that the issues later manifest in a customer complaint crisis. The roots of this phenomenon are more profound to do with the fact that IT personnel have been relatively less involved in the early design process and a culture of learning from failure has not existed.

Key Elements for Mechanism Integration

Synthesizing the foregoing analysis, the success of AI ethical governance mechanisms hospitality is determined by three critical determinants. First, it is not until AI ethics comes onto the strategic agenda by top management that the three mechanisms can breakdown the silos within departments to achieve true integration (Seraj et al., 2025) [6]. Second, institutionalized coordination mechanisms guarantee continued interaction between the components of governance. It is recommended that there should be an independent AI ethics committee and the regular audits of algorithms to strengthen the three mechanisms at the organizational level (Khan & Soomro, 2025) [8].Third, it is all about a learning-oriented culture. Liu et al. (2024) [9] note that employees are motivated to report ethical risks given that the organization promotes a culture of learning from failure in turn facilitating a cycle of continuous optimization.

In a case study of Chinese luxury hotel chains, Khan and Soomro (2025) [8] found that organisations with high value alignment, institutionalised committees, and a good learning culture showed considerably better mechanistic synergy. On the contrary, based on data collected from OTA, the effects of synergy do not occur when organizations pursue a technology-driven, isolated pilot mode (van der Rest et al., 2022) [15]. Specifically, where initiatives are not coherently coordinated from the top, with mechanisms for learning, pursued in a bid to tick off the boxes of compliance with the GDPR legal requirements, effective governance remains elusive.

4.3. RQ3: Boundary Conditions

Literature review indicates that the governance mechanisms are able to achieve full synergistic effects only when three dimensions on organizational resources, technological compatibility, and regulatory intensity are all at desirable levels; whilst the lack of any dimension could induce the risk of governance formalization. Huang et al.'s (2021) [12] maturity assessment framework also shows that difference in maturity among different types of AI buffers boundary effects; higher maturity technology (search, recommendation) can be accelerated whereas robotics and autonomous systems require longer pilot cycles even for resource-rich firms due to their high complexity. Nannelli et al. (2023) [5] warned that AI systems that were hurriedly deployed during the post-pandemic era are at a risk of being viewed as unethical through a backlash. All in all, successful ethics governance of AI involves being aware of changing boundary conditions and finding a balance of organizational capacity building, technology system upgrades, and environmental adaptation.

5. Conclusion

5.1. Theoretical Contributions

This research provides great theoretical contributions to Information Systems (IS) and hospitality management literature. First, we conceptualize AI ethical governance as a three-dimension process that includes phasic evolution, governance mechanism and contextual

boundary conditions.This augments the existing models of IS lifecycle and digital transformation with the addition of considerate ethical values into the temporal dynamics of AI-enabled systems, instead of implementing the same as a static compliance layer.

Second, this study identifies data governance, boundary spanning and iterative learning systems as complementary governance capabilities, the efficacy of which is subject to non-linear factors. The threshold effects of aligning values and the cascading risks to mechanism failure enriched the sociotechnical explanation of the way in which the capacities of artificial intelligence are translated to ethical practices in the organization.

Third, by identifying the configurational boundary conditions, this study helps to further understand the concept of contextual dependence in the governance of IS. We show that the effectiveness of governance is not based on independent factors, but is the product of specific combinations of organizational resources, technical ripeness and regulatory intensity. This configurational perspective explains why "best practices" often do not work when transferred into a variety of environmental settings.

5.2. Practical Implications

Based on the findings synthesized from this research, a phased governance roadmap for hospitality managers implementing AI ethical governance is suggested in this study.

At the design stage, organizations should make value alignment assessments a priority before making any technical investments. Cognitive consensus has to be developed at all levels of the hierarchy through structured dialogues. Key initiatives in this phase include: Standardization of Property Management System (PMS) interfaces, Data literacy mechanism for staff and algorithmic audit protocols. These actions put a very good foundation for later governance efforts.

Stakeholder engagement should follow the "principle of moderation" with the depth of engagement matching the complexity of the organisation. For the large hotel chains, setting up a cross-regional coordination teams is recommended whereas, for independent properties, it should focus on engaging 2-3 pivotal roles. Communication marketing strategies need to be focused for specific hierarchies of viewpoints: emphasizing operational efficiency for frontline personnel, the personalization of services for the middle management and strategic advantage for executives. This differentiated approach addresses cognitive dissonance, which lowers the likelihood of failure of implementation.

Pilot implementation requires the simultaneous creation of systems of technical feedback and psychology of safety. Prior to the system, organizations must implement non-punitive ways of reporting and a place for failure cases. Learning mechanisms must be institutionalized within the day-to-day operations instead of remaining inconsistent with the initiative of the individual. Through periodic reflection, structured error analysis and systematic knowledge capture failures are transmuted into learning opportunities rather than becoming sources of reciprocal blame.

Finally, managers need to navigate around three critical governance pitfalls identified in literature. First, AI deployment without a underlying data governance structure always leads to manifest failures. Second, the oversearch for stakeholder consensus results in escalated costs with little commensurate enhancements in outcomes. Third, anticipating mechanistic synergy with no organizational value alignment creates governance fragmentation and inefficiency.

5.3. Limitations and Research Prospects

There are also some limitations of this study. First, though the 15 articles chosen represent major research directions, they do not have a general applicability. Especially when one takes into account their concentration in certain geographical regions and organizational types. The exclusion of gray literature and practitioner reports may miss the implementation experiences

from industry sources. Second, being a cross-sectional review, this study synthesizes temporal patterns by using multiple studies but, by its very nature, cannot track the evolutionary trail within one organization. Third, as traditional AI technology is the focus of most of the available literature, Generative AI governance, especially regarding content authenticity, cross-border data sovereignty, and algorithmic accountability, needs to be validated empirically using our framework.

Based on these limitations, in the following section we propose three directions for priority research. First, with the new hotel sector, longitudinal multi-case studies should be conducted to follow the full implementation lifecycle in different hotel environments to validate the threshold effects and maturity stage transitions introduced in our framework. Second, quasi-experimental designs should be used to compare hotels that have structured governance frameworks with those hotels that have ad hoc governance frameworks in order to establish a causal relation with ethical outcomes. Third, cross cultural comparative studies need to be undertaken to investigate how the institutional context (e.g.; collectivism, as found in Asia, the regulators in Europe and the market-driven ones in North America) moderates the effectiveness of value alignment mechanisms. Such research will add to a greater understanding of the contextual boundary conditions surrounding global hospitality AI governance.

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