Policy Implementation and the Quality of Hajj Health Services in Pangandaran Regency, Indonesia

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ABSTRACT

The organization of the Hajj is a government responsibility that includes providing guidance, services, and protection to ensure that pilgrims can perform the pilgrimage safely and in accordance with Islamic principles. One of the most important aspects of Hajj administration is the delivery of health services, because the pilgrimage requires adequate physical and mental readiness, particularly among elderly pilgrims and those with health risks. This study examines how policy implementation influences the quality of Hajj services in Pangandaran Regency, Indonesia. Using an exploratory sequential mixed-methods design, the research combines qualitative coding with quantitative testing through SEM-PLS. The quantitative results show that policy content has a positive and significant effect on service quality ($\beta = 0.317$; $t = 3.839$; $p = 0.000$), whereas policy context has a positive but marginal effect ($\beta = 0.142$; $t = 1.955$; $p = 0.050$). Measurement model statistics indicate acceptable quality, with all retained outer loadings above 0.60, AVE above 0.50, and composite reliability above 0.80. The strongest higher-order contributors are resources for policy content, power for policy context, and empathy for service quality. Qualitative analysis using NVivo reinforces these results by highlighting communication, regulation, evaluation, health, government, and ecosystem coordination as recurring themes. A project map reading further shows that policy substance and implementation context converge in shaping empathy, responsiveness, and reliability in services for pilgrims. The study concludes that improving Hajj service quality requires not only supportive institutions but, more importantly, clear policy design, strong resource readiness, and human-centered implementation.

Keywords: Hajj Health Policy; Policy Implementation; Service Quality

INTRODUCTION

Hajj administration in Indonesia is a central government responsibility and forms part of the state's obligation to guarantee freedom of religion through guidance, services, and protection for its citizens (1), (2), (3). In this governance setting, health services are not a peripheral component of pilgrimage administration but a core determinant of whether pilgrims can perform the ritual safely, comfortably, and in accordance with religious requirements (4), (5).

The urgency of Hajj health governance has increased in line with rising public demand for pilgrimage services and the growing proportion of older pilgrims. The source manuscript reports that West Java dispatched 40,594 pilgrims in 2024 and that around one-fifth of them were elderly. In the same year, Pangandaran recorded 449 pilgrims who completed health screening, of whom 448 were declared istitha'ah and one was declared ineligible to depart. These figures indicate high screening coverage, but they also underscore the need for consistent quality in preventive, promotive, curative, and rehabilitative health services (4), (5).

The policy problem, however, is not limited to screening coverage. The source manuscript identifies persistent implementation weaknesses in Pangandaran, including the limited number and uneven distribution of health personnel, restricted access to modern referral facilities, weak utilization of digital health systems (6), (7), incomplete surveillance support for high-risk pilgrims, and the absence of dedicated financing arrangements for pilgrimage-related health protection. These shortcomings make Pangandaran a relevant site for examining how policy implementation shapes service quality in practice (3), (6), (7).

These implementation issues have broader consequences. The dissertation draft documents deaths among West Java pilgrims in Saudi Arabia across several Hajj seasons and uses this pattern to argue that pre-departure health governance remains strategically important. Against this background, the article asks whether stronger policy implementation improves service quality and whether the substantive content of the policy matters more than the surrounding institutional context (8).

The study is positioned within the literature on public policy implementation and public service quality. Implementation studies emphasize that policy success is determined not only by formal decisions but also by how those decisions are translated into coordinated action, resource allocation, compliance, and organizational routines (3), (8), (9). This article specifically adopts the distinction between policy content and policy context, which is useful for explaining why some policies produce stronger service effects than others (8).

Policy content refers to the substantive design of what is to be implemented, including target groups, expected benefits, the degree of change to be achieved, the locus of decision-making, implementers, and available resources. Policy context refers to the institutional and political environment in which implementation occurs, especially the distribution of power, the characteristics of implementing institutions, and the level of compliance among actors. This distinction is analytically valuable because policy content tends to influence service quality more directly, whereas policy context often operates by enabling or constraining implementation (8), (9).

The dependent variable is service quality, which is operationalized through the classic SERVQUAL dimensions of tangibles, reliability, responsiveness, assurance, and empathy (10). In Hajj administration, these dimensions are interpreted in terms of the availability of physical facilities, the consistency of procedures, the speed of responses, the sense of safety and competence provided to pilgrims, and the humane attention given to their health conditions and personal needs (5), (11), (12).

Taken together, these perspectives imply that Hajj service quality will improve when policy goals are clear, plans are accurate and consistent, task assignments are well defined, standards are operational, and monitoring is credible (8), (9). At the same time, service quality is likely to be strengthened by a supportive context in which institutional authority, coordination, and compliance reduce implementation frictions (13), (14), (15).

METHODS

This study employs an exploratory sequential mixed-methods design (16). It began with a qualitative inquiry to identify themes, mechanisms, and patterns of implementation based on interviews, field observations, and documentary evidence. The qualitative findings were then followed by quantitative testing using SEM-PLS to examine the statistical relationship between policy implementation and service quality.

The qualitative data were analyzed using NVivo 12 through coding, thematic categorization, query-based pattern identification, and visual mapping. In the quantitative phase, data from 278 respondents were analyzed to estimate higher-order constructs. Policy content was modeled as an exogenous construct consisting of the dimensions of interest, benefit, change, decision-making position, implementers, and resources. Policy context was specified through the dimensions of power, institutional characteristics, and compliance. Service quality was modeled as an endogenous construct reflected in tangibles, reliability, responsiveness, assurance, and empathy.

The SEM-PLS analysis involved assessment of the measurement model through outer loadings, average variance extracted (AVE), discriminant validity, and composite reliability, followed by evaluation of the structural model using path coefficients, t-statistics, p-values, and the contributions of higher-order constructs. This mixed-methods design enabled the study not only to quantify the strength of the relationships but also to explain why those relationships emerged within the local implementation context.

RESULTS

Quantitative findings

The descriptive analysis reported in the source manuscript places all major constructs in the "very good" category. Policy content reached 87.18%, policy context 87.45%, and service quality 86.98%. At the dimensional level, policy content was strongest in implementers (87.90%) and change (87.48%), while service quality was strongest in assurance (87.47%) and empathy (87.03%). These results indicate that respondents perceived the overall implementation environment positively; however, descriptive strength alone does not reveal which elements actually drive service quality (11), (12).

Table 1. Descriptive and structural summary of the main constructs

Construct / Path	Descriptive result	Structural result	Interpretation
Policy content	87.18% (very good)	Strongest higher-order dimension: resources = 1.000; followed by change = 0.773	The substantive design of the policy is especially reinforced by resource readiness and the capacity to drive planned change.
Policy context	87.45% (very good)	Strongest higher-order dimension: power = 0.399; followed by institutional characteristics = 0.318	Institutional authority and organizational setting shape implementation, but their role is more enabling than direct.
Service quality	86.98% (very good)	Strongest higher-order dimension: empathy = 0.630; followed by responsiveness = 0.486	Pilgrim-centered and humane treatment is the strongest marker of perceived quality.
Policy content → service quality	—	$\beta = 0.317$; $t = 3.839$; $p = 0.000$	Positive and statistically significant.
Policy context → service quality	—	$\beta = 0.142$; $t = 1.955$; $p = 0.050$	Positive but only marginally significant.

Measurement-model quality

The SEM-PLS measurement model demonstrated acceptable quality. All retained outer loadings for the service quality indicators were above 0.60, indicating that the observed items were sufficiently associated with their respective latent dimensions. Convergent validity was also supported, as the AVE values exceeded the 0.50 threshold across all retained first-order dimensions. The AVE values ranged from 0.535 to 0.694 for the policy content dimensions, from 0.567 to 0.792 for the policy context dimensions, and from 0.578 to 0.615 for the service quality dimensions. Reliability statistics were also satisfactory. Cronbach's alpha and composite reliability values in the source model all exceeded the commonly accepted minimum thresholds, with composite reliability ranging from 0.805 to 0.900 for the policy content dimensions, 0.897 to 0.938 for the policy context dimensions, and 0.878 to 0.917 for the service quality dimensions. The source manuscript also states that discriminant validity requirements were met based on cross-loading comparisons and the relationship between the square root of AVE and inter-construct correlations.

At the broader model level, the reported Goodness of Fit values for the construct–dimension combinations ranged from 0.290 to 0.773. Using the interpretation thresholds provided in the source manuscript, these values indicate moderate to substantial fit, suggesting that the hierarchical model was adequate for subsequent structural interpretation.

Table 2. Summary of SEM-PLS measurement-model evaluation.

Evaluation aspect	Reported evidence	Rule of thumb	Conclusion
Outer loading	All retained indicators > 0.60	> 0.60	Indicators are acceptable and valid for reflective measurement.
AVE	Policy content: 0.535–0.694; policy context: 0.567–0.792; service quality: 0.578–0.615	> 0.50	Convergent validity is satisfied.
Composite reliability	Policy content: 0.805–0.900; policy context: 0.897–0.938; service quality: 0.878–0.917	> 0.70	Internal consistency reliability is strong.
Goodness of Fit	0.290–0.773 across the hierarchical model	0.25 = moderate; 0.36 = substantial	Overall model adequacy is moderate to substantial.

Structural-model interpretation

The structural model clarifies which aspects of policy implementation matter most. At the higher-order level, policy content is shaped most strongly by resources (1.000), followed by change (0.773), implementers (0.654), position of decision-making (0.641), benefits (0.633), and interests (0.556). This pattern implies that the substantive strength of the policy depends primarily on the availability of sufficient resources and the policy's capacity to induce operational change (8), (15).

Policy context is shaped most strongly by power (0.399), followed by institutional characteristics (0.318) and compliance (0.290). In other words, the contextual environment is important, but it contributes less strongly than policy content to the final quality outcome. Service quality itself is shaped most strongly by empathy (0.630), followed by responsiveness (0.486), reliability (0.450), tangibles (0.428), and assurance (0.386). The prominence of empathy shows that pilgrims evaluate service quality not only in terms of procedural efficiency but also in terms of humane care (10), (11), (12).

The direct-effect paths confirm this interpretation. Policy content has a positive and statistically significant effect on service quality ($\beta = 0.317$; $t = 3.839$; $p = 0.000$), whereas policy context has a positive but only marginally significant effect ($\beta = 0.142$; $t = 1.955$; $p = 0.050$). Substantively, this means that clear objectives, implementer readiness, and adequate resources improve service outcomes more strongly than contextual support alone (8), (15). Even so, the contextual effect remains relevant because compliance, institutional coordination, and actor responsiveness help stabilize outcomes (13), (14).

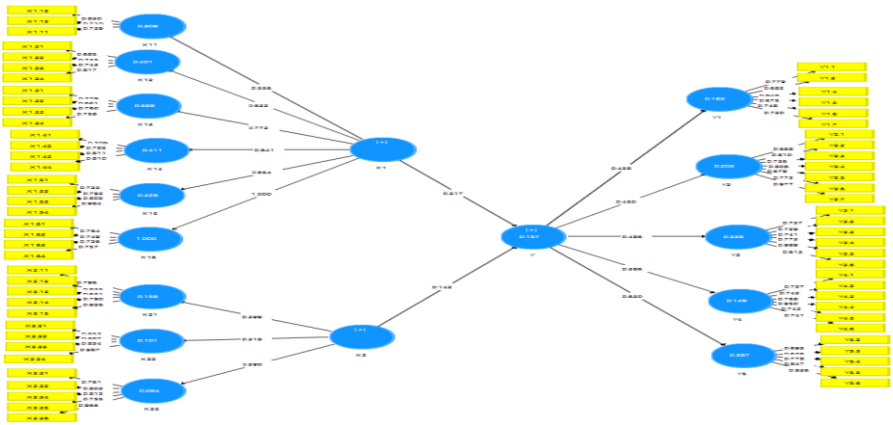

Figure 1. SEM-PLS structural path diagram of policy content and policy context toward service quality

Qualitative findings

The qualitative strand explains the mechanism underlying the statistical relationships. NVivo-based coding identified communication, evaluation, regulation, government, health, programs, and local ecosystem coordination as dominant recurring terms in the policy content data. These patterns indicate that implementation is anchored in the translation of regulation into routine communication, the institutionalization of evaluation, and the way the district government organizes program delivery in the health sector (3), (9).

NVivo word cloud policy-content variable

Figure 2. NVivo word cloud of dominant themes in the policy-content variable.

The word cloud shows that the most prominent terms cluster around district government, communication, health, ecosystem, evaluation, and regulation. This suggests that implementation is not perceived merely as compliance with formal rules. Instead, it is understood as an interconnected service ecosystem in which government actors, health institutions, and administrative routines must work together (13), (14).

NVivo word cloud policy-contex variable

Figure 3. NVivo word cloud of dominant themes in the policy-contex variable

The word cloud in Figure 3 indicates that the policy context is shaped by the interrelationship among evaluation, communication, health support, and technical implementation. This highlights the dynamic nature of policy implementation, which depends on coordination among actors, the readiness of health services, and the smooth execution of operational activities in the field (5), (13).

NVivo word cloud service quality

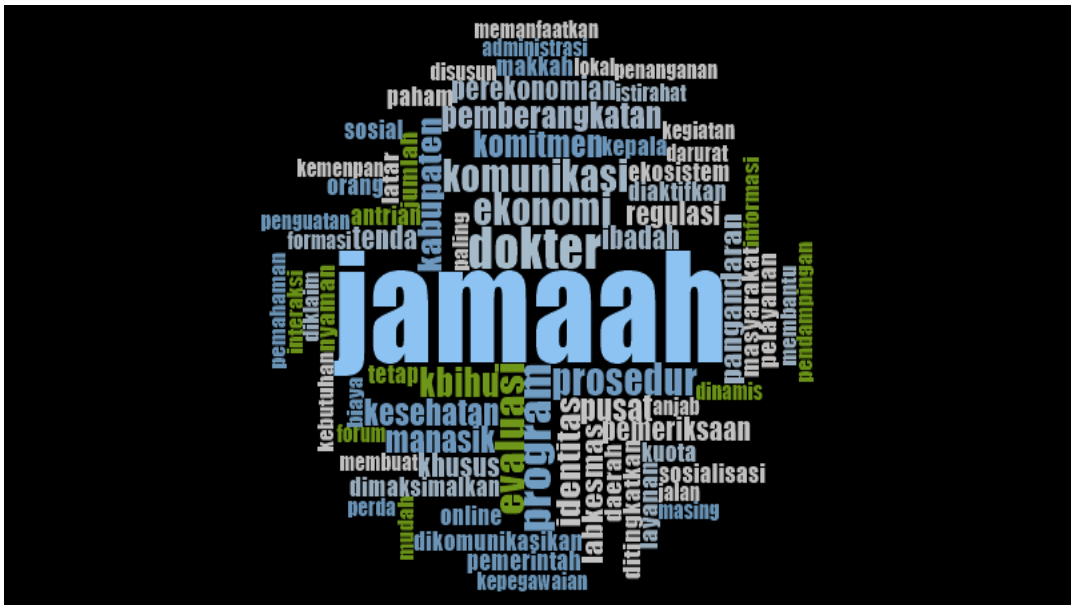

Figure 4. Word Cloud service quality

The word cloud in Figure 4 shows that service quality is centered on pilgrims as the primary recipients of the service. This is supported by the prominence of health, procedures, communication, and departure-related aspects. These findings confirm that the quality of Hajj services is determined by the readiness of health services, the clarity of procedures, the effectiveness of communication, and the smooth functioning of technical and institutional support (4), (5), (11), (12).

NVivo project map

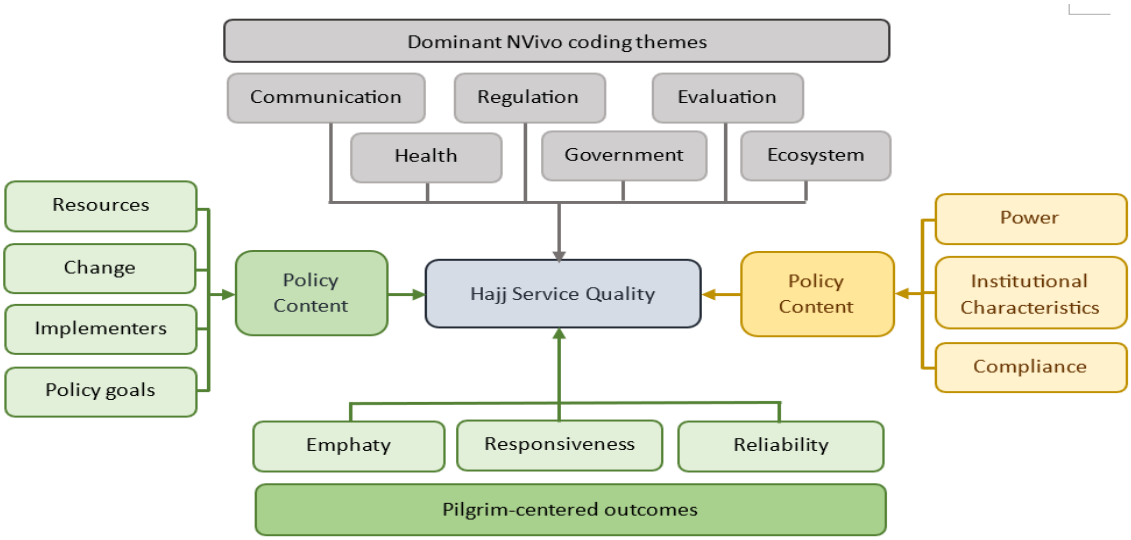

Figure 5. NVivo project map of the main coding themes and their pathways to Hajj service quality.

The project-map reading deepens the qualitative interpretation. It places Hajj service quality at the center and shows that policy content and policy context contribute to that outcome through a network of recurring themes,

especially communication, regulation, evaluation, health governance, and the local institutional ecosystem. The bottom layer of the map highlights empathy, responsiveness, and reliability as the most meaningful service expressions of these themes. In practical terms, the map suggests that quality is produced when substantive policy readiness and contextual support are translated into human-centered interactions with pilgrims (10), (13).

DISCUSSION

Separating the discussion from the results clarifies that the two strands of evidence converge on the same substantive argument. The quantitative model shows that policy content exerts a stronger effect on service quality, while the qualitative evidence explains why: the availability of resources, implementer readiness, and change-oriented planning provides concrete direction for health services before, during, and after the pilgrimage process (8), (15).

The weaker but still positive role of policy context is also meaningful. The structural coefficient for policy context is smaller and only marginally significant, yet the NVivo coding demonstrates that power relations, institutional characteristics, and compliance remain important because they determine whether coordination actually works. This means that context does not replace policy content; rather, it conditions whether policy content can be implemented consistently (9), (13), (14).

A second important contribution concerns the meaning of service quality. The dominance of empathy in the higher-order service quality model indicates that pilgrims assess quality not only through physical facilities or administrative order, but also through humane treatment, attention to vulnerability, and the ability of officers to respond to individual health conditions. The qualitative themes of communication, evaluation, and health ecosystem coordination support this conclusion by showing that empathy is organizationally produced, not merely individually displayed (10), (11), (12).

From a governance perspective, the findings suggest that efforts to improve Hajj services in Pangandaran should prioritize strengthening resource support, implementer competence, and policy clarity, while also maintaining the institutional conditions that sustain compliance and coordination (3), (6), (9), (15). The mixed-methods approach is particularly valuable here because it avoids treating statistical significance as self-explanatory; instead, it demonstrates how measurable effects are embedded in day-to-day implementation practices (16).

CONCLUSION

This study demonstrates that policy implementation has a positive effect on the quality of Hajj services in Pangandaran Regency, although the magnitude of that effect differs between policy content and policy context. The quantitative evidence shows that policy content is the more decisive predictor of service quality, whereas policy context remains a supportive but weaker factor. Measurement model statistics indicate that the SEM-PLS model is acceptable, reliable, and valid for interpreting these relationships.

The study also shows that service quality is highest when implementation is reflected in empathy, responsiveness, and clear communication. The NVivo word cloud and project map reinforce this conclusion by identifying communication, regulation, evaluation, government, health, and ecosystem coordination as the main qualitative themes linking implementation to service quality. Accordingly, policy improvement should begin with strengthening the substantive quality of policy design, especially in terms of resources and operational readiness, while simultaneously preserving institutional support, compliance, and inter-organizational coordination.

Declarations

Ethical Approval: This research involved human subjects (informant/responden). Ethical clearance and approval were obtained from the relevant academic and regional research boards prior to data collection. All participants provided informed consent. Conflict of Interest: The authors declare that there is no conflict of interest regarding

the publication of this paper. Data Availability: The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

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