

Board Governance for Sustainable Development: A SWOT-AHP Evaluation of Strategic Leadership in Mongolia's Specialized Hospitals

Ureltsetseg Batdelger^a

^a Mongolian National Council for Education Accreditation (MNCEA), Ulaanbaatar 14200, Mongolia

Corresponding author: Ureltsetseg Batdelger, (Head of Administration and Management Department, MNCEA; M.P., Ph.D.), Email: Ureltsetseg0725@gmail.com, ORCID: <https://orcid.org/0009-0009-9234-7354>

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ABSTRACT

Sustainable Development Goal 3 (SDG-3) commits countries to ensuring healthy lives and well-being, a commitment that depends squarely on the strength of health system governance, including at the level of the individual hospital board. In Mongolia's specialized hospitals, effective governance by the Board of Trustees is central to strategic leadership, yet the Board's own role has been largely untouched by prior structural equation modeling of hospital governance. This paper addresses that gap using pairwise-comparison questionnaires completed by executives and governance experts at three anonymized state hospitals, identified here as Hospital A, Hospital B, and Hospital C. A SWOT-based Analytic Hierarchy Process (SWOT-AHP) quantified how internal and external factors shape Board governance, and the resulting priority weights informed a Threats-Opportunities-Weaknesses-Strengths (TOWS) strategy together with a forecast running through 2030. Among internal factors, the strongest were the Board's commitment to fair compensation and service quality for medical staff (0.218), its consistent representation of staff interests (0.213), and its oversight of executive management (0.159); the weakest were an unclear development strategy and vision (0.135) and limited use of annual reports for risk assessment (0.152). Among external factors, the chief executive's greater authority relative to the Board (0.224) exerted the strongest influence. Overall, strategic leadership in these hospitals is constrained chiefly by an unresolved division of authority between the Board and executive management; SO, WO, ST, and WT strategies are proposed to strengthen Board effectiveness by 2030 and, in doing so, to support progress toward SDG-3 targets on health-system governance and universal health coverage.

Note: An earlier, preliminary version of this analysis was presented as a conference paper at the FEEB International Scientific Conference (Chisinau, Moldova, November 2025) [17]. The present manuscript substantially expands the methodology and expert-panel documentation, reclassifies the SWOT factors for internal consistency, makes the SWOT-AHP-TOWS linkage explicit, adds a Sustainable Development Goal 3 policy framing, and includes a full discussion of study limitations not present in the conference version.

INTRODUCTION

Sustainable Development Goal 3 (SDG-3) calls on countries to ensure healthy lives and promote well-being for all, a mandate that the 2030 Agenda for Sustainable Development identifies as inseparable from strong, accountable health-system governance, including universal health coverage under target 3.8 [22]. Population growth and rising life expectancy are placing sustained pressure on healthcare systems worldwide, making sound governance a precondition for safe, high-quality care. In the hospital setting, governance denotes the structures and processes by which strategic choices are made, resources are allocated, and accountability is upheld in service of organizational goals [1], [5]. Strategic leadership sits at the heart of this governance function, requiring the foresight to anticipate change, the clarity to set direction, and the capacity to mobilize resources toward long-term objectives [2], [6], while classical management theory adds that planning, organizing, and controlling are what ultimately translate strategy into operational effectiveness [8]. Mongolia's 2016 Law on Health Care Services made a Board of Trustees (hereafter "the Board") mandatory for state-owned and specialized hospitals, and by 2020 such boards were operating at three hospitals referred to here, for confidentiality, as Hospital A, Hospital B, and Hospital C [7]. The reform was meant to give hospitals greater autonomy, separate strategic oversight from day today management, and hold executives accountable for financial and clinical results yet how these boards actually function, and how authority is in practice divided between the Board and the chief executive, has never been examined systematically. International evidence points to the same blind spot: a review spanning fifteen years

of empirical research on hospital governance concluded that most studies focus on board composition, leaving board processes, dynamics, and the board executive relationship comparatively unstudied precisely the terrain this paper covers [21]. Domestically, prior structural equation modeling of organizational climate, development, work performance, justice, and responsibility identified justice as the only factor with a statistically significant, positive effect on governance in Mongolia's specialized hospitals [14], [15], [17], complementing a related study of governance under a Board of Directors that likewise drew on structured survey data from board-linked personnel [16]. As far as the author is aware, no prior Mongolian study has brought clinical governance and Board level governance together within one research program; this paper does so by pairing the earlier structural equation results with a SWOT-AHP evaluation of the Board of Trustees itself, asking which internal and external factors most shape its governance role and what strategic-leadership priorities follow.

OBJECTIVES

Theoretical objective: to determine which internal and external factors shape Board governance and strategic leadership in specialized hospitals operating under a Board of Trustees.

Analytical objective: to weight the relative importance of these factors through a SWOT-AHP methodology and, on that basis, to build a TOWS strategy and a 2024–2030 forecast for strengthening Board governance in Mongolia's specialized hospitals.

RESEARCH MATERIALS AND METHODS

Study context and sample

This study was carried out at the three Mongolian state specialized hospitals operating under a Board of Trustees pursuant to the 2016 Law on Health Care Services and the 2020 Ministry of Health decisions; for institutional confidentiality, these are referred to

throughout as Hospital A, Hospital B, and Hospital C (see Data Availability Statement). Within each hospital, a purposive sample of individuals directly engaged in Board decision making was drawn, comprising executive directors, Board secretaries and members, and senior governance related management personnel. In total, 48 members of senior and executive management executive directors, hospital management-team members, and hospital managers completed the pairwise-comparison questionnaire across the three sites, equivalent to 41% of the 116-person combined leadership team: 25 of 56 (44.6%) at Hospital A, 15 of 48 (31%) at Hospital B, and 8 of 12 (66%) at Hospital C (Table 1). Selection was purposive rather than random, targeting individuals with at least 15 years in a hospital leadership role, direct experience shaping health-sector policy and regulation, or recognized standing within the sector. Consistent with

a Delphi-style design [20], each panel member completed the structured evaluation instrument independently; aggregating these individual judgments produced a consensus profile of Board governance without the distortions of open group discussion, and the resulting scores then fed into the AHP pairwise-comparison analysis. Purposive rather than random selection was necessary because the pairwise-comparison task depends on informed judgment from people with first-hand knowledge of how the Board operates; SWOT-AHP studies generally favor a small, knowledgeable panel over a large probability sample for this reason [4], [10]. This exercise builds on, and is complementary to, the larger 900-respondent clinical-governance survey reported elsewhere [17], which captured governance from the vantage point of frontline clinical staff rather than the Board.

Table 1. Composition of the expert panel by hospital

No.	Hospital	Leadership-team members (total)	Members surveyed	Share (%)
1	Hospital A	56	25	44.6
2	Hospital B	48	15	31.0
3	Hospital C	12	8	66.0
	Total	116	48	41.0

Source: authors' translation and calculation based on the underlying dissertation data [13].

Selection of the twelve factors entered into the pairwise comparisons six internal, six external followed a deliberate two-stage process rather than an ad hoc choice. Candidates were first drawn from the board-governance theory reviewed in Section 1 and from relationships found to be statistically significant in the broader 900-respondent clinical governance survey [14], [15], [17]. The same 48-member panel then screened this list in a preparatory Delphi-style round, rating each candidate's relevance to Board-level governance; the six internal factors (three strengths, three weaknesses) and six external factors (three opportunities, three threats) with the highest relevance ratings were retained for the pairwise-comparison questionnaire.

SWOT-AHP methodology

A conventional SWOT analysis describes the pull of internal and external factors only in qualitative terms, which caps its analytical usefulness. The Analytic Hierarchy Process (AHP) was therefore layered onto the SWOT framework to convert these qualitative judgments into numbers [4], [10]. The theoretical review and the wider governance survey together yielded six internal factors (three strengths, three weaknesses) and six external factors (three opportunities, three threats) relevant to Board governance, and experts then judged every possible pair of factors on Saaty's 1-3-5-7-9 comparison scale; a priority vector (PV) expressing each factor's relative weight was extracted from the resulting matrices [10]. Matrix reliability was checked through the consistency index (CI) and

consistency ratio (CR), with a CR under 0.10 taken as the threshold for an acceptable evaluation [11]. The internal-factor matrix returned a principal eigenvalue of $\lambda_{\max} = 6.054$ (CI = 0.011, CR = 0.009), and the external-factor matrix a $\lambda_{\max}$ of 6.081 (CI = 0.016, CR = 0.013) — both comfortably under the 0.10 cut-off, indicating internally consistent expert judgment [11]. Each factor's 2024 score was first converted into a ratio against its maximum possible value; experts then projected realistic ratios for 2026, 2028, and 2030, and these were combined into a single PV-weighted average per year using the quantified-SWOT procedure of Chang and Huang [4]. Comparing each factor's ratio against this weighted average, year by year, showed which factors were closing in on or falling behind the overall governance trend across the 2024–2030 horizon [13].

RESULTS

Internal factors: Board strengths and weaknesses

The internal-factor evaluation matrix is set out in Table 2. Of the three strengths, the Board's focus on fair compensation for physicians and nurses as a lever for service quality carried the greatest weight (PV = 0.218), ahead of its consistent representation of medical staff interests (0.213) and its oversight of executive management (0.159). Among the weaknesses, insufficient use of annual reports for forward-looking risk assessment (0.152) and an unclear or poorly articulated development strategy and vision (0.135) weighed most heavily, while the sense that state hospitals lag behind private ones in improving their operations carried the least weight (0.123). Every matrix met the consistency requirement (CR < 0.10).

Table 2. Internal factor evaluation matrix for board governance

No.	Internal factor	Type	2024 base score	PV weight
I	The Board oversees the operations of hospital executive management	Strength	2.3	0.159
II	The Board consistently represents the interests of medical staff	Strength	2.8	0.213
III	The Board attends to fair compensation for physicians and nurses to improve service quality	Strength	2.5	0.218
IV	State hospitals lag behind private hospitals in improving operations	Weakness	1.6	0.123
V	The Board formulates the hospital's development strategy, vision and objectives	Weakness	1.8	0.135
VI	Risk assessment is not systematically based on prior annual reports	Weakness	2.0	0.152

Source: authors' calculation based on expert survey data.

External factors: opportunities and threats

Table 3 sets out the external-factor evaluation matrix. Overall, the strongest external factor was the chief executive's greater authority relative to the Board (PV = 0.224), followed by the opportunity offered by foreign investment and joint programs at state hospitals

(0.201) and by the threat posed by weak continuity and limited professional expertise on the Board (0.153). Two factors carried comparatively lower weights: the Board's formal oversight right over executive management (0.149) and the opportunity to clarify legal provisions and tighten regulatory enforcement (0.130). Both of these last two are treated as opportunities rather than as threats or weaknesses, since each describes room for institutional

improvement rather than a present shortfall in Board governance; their modest weights simply mean experts saw legal clarification as a less immediately actionable opportunity than either drawing in

foreign investment or formalizing the oversight powers the Board already holds.

Table 3. External factor evaluation matrix for board governance

No.	External factor	Type	2024 base score	PV weight
I	The chief executive officer holds more authority than the Board	Threat	3.9	0.224
II	The Board has the formal right to oversee hospital management's activities	Opportunity	2.0	0.149
III	Foreign investment and joint programs are being implemented at state hospitals	Opportunity	3.5	0.201
IV	Political and economic factors exert excessive influence on the health sector	Threat	2.8	0.143
V	Board composition shows weak continuity and limited professional expertise	Threat	3.0	0.153
VI	Clarifying legal provisions and strengthening enforcement of regulations governing the Board	Opportunity	2.3	0.130

Source: authors' calculation based on expert survey data.

TOWS strategic matrix

The SWOT-AHP results then fed into a TOWS (Threats-Opportunities-Weaknesses-Strengths) matrix [18], built to translate the Board's internal strengths into a means of capturing external opportunities and blunting external threats, while chipping away at internal weaknesses (Table 4). Rather than being drafted independently of the numbers, every strategy in Table 4 pairs the most heavily weighted factors within its SWOT quadrant, as reported in Tables 2 and 3: SO combines the Board's attention to compensation and care quality (Strength III, PV = 0.218) with the opportunity from foreign investment and joint programs (Opportunity III, PV = 0.201); WO links the Board's unclear strategy and vision (Weakness V, PV = 0.135) to its formal oversight right (Opportunity II, PV = 0.149); ST again draws on the compensation-and-quality strength (Strength III)

to counter the threat of excessive political and economic influence (Threat IV, PV = 0.143); and WT pairs insufficient risk-based use of annual reports (Weakness VI, PV = 0.152) with weak Board continuity and expertise (Threat V, PV = 0.153). In practice, the SO strategy channels state financial support into strengthening the Board's oversight of executive management by tying compensation to performance; WO tackles the authority imbalance between Board and chief executive through a formal decision-rights charter and a transparent, competency-based selection process for executives; ST directs the Board's compensation-and-quality focus toward blunting political interference in hospital operations; and WT centers on building Board members' governance capacity and putting structured risk-assessment procedures in place to counter the combined pull of internal weaknesses and external threats.

Table 4. TOWS strategic matrix for board governance (condensed)

	Strengths (S1-S3)	Weaknesses (W1-W3)
Opportunities (O1-O3)	SO: Use state financial support to strengthen the Board's oversight of executive management, linked to performance-based pay	WO: Select the CEO from among qualified staff and formalize a decision-rights charter that separates Board and executive authority
Threats (T1-T3)	ST: Direct Board oversight toward fair compensation and quality of care to offset political interference	WT: Build Board members' capacity through governance training and structured risk-assessment procedures

Source: authors' formulation based on Tables 2 and 3.

DISCUSSION

Taken together, the results point to a Board that is strongest where it protects staff welfare and service quality directly, and weakest where it should be setting strategic vision and defining its formal authority relative to the chief executive. This split echoes earlier findings that it is justice and accountability not organizational climate or developmental factors on their own that drive perceptions of good governance in these hospitals [12], [17]. Strategic-leadership theory holds that a governing board's value lies chiefly in setting vision, exercising ethical oversight, and monitoring performance rather than in day-to-day operational involvement [2], [6]; read against that theory, the modest weight given to the Board's role in strategy formulation and forward-looking risk assessment signals an underdeveloped strategic-leadership function rather than any shortfall in oversight capacity per se. That the chief executive's authority over the Board emerged as the single strongest external factor reinforces a wider observation that Mongolian law still leaves the Board's power to hold management accountable poorly defined [17]. On balance, these findings suggest that strengthening Board governance in Mongolia has less to do with adding committees or reporting requirements than with clarifying how strategic and operational authority is divided between the Board and hospital management, and with building the Board's own capacity for strategic planning and risk oversight. Because a hospital's Board is the institutional layer through which national health policy is translated into local practice, closing these governance gaps is also a practical step toward Mongolia's progress on SDG-3, and specifically toward the

health-system-strengthening and universal health coverage targets that SDG-3 sets out [19], [22].

Limitations

Three caveats bear on how these findings should be read. The study is confined to the three Mongolian state specialized hospitals currently governed by a Board of Trustees, so this narrow institutional base restricts how far the conclusions can be extended to other Mongolian hospitals, to specialized hospitals under different governance arrangements, or to board settings beyond Mongolia. The SWOT-AHP method itself rests on the subjective pairwise judgments of a small, purposively chosen panel of executives and governance experts rather than a large probability sample; that expert-based design is the norm for AHP work [4], [10], but it means the resulting weights capture informed opinion from a limited group rather than a population-representative picture of Board governance. Finally, the 2024 baseline figures and the 2026–2030 projections are expert estimates, not observed outcomes, so the forecast is best read as an illustrative target trajectory for planning purposes rather than a validated prediction. Widening the SWOT-AHP evaluation to more specialized hospitals, and checking the 2024–2030 forecast against actual governance outcomes as they emerge, would go some way toward addressing these limitations.

CONCLUSION AND RECOMMENDATIONS

Applying a SWOT-AHP methodology to three Mongolian specialized hospitals governed by a Board of Trustees, this study is, to the author's knowledge, the first in Mongolia to examine clinical governance and Board level governance together within one research program. The Board's greatest strengths lay in its attention to staff compensation and service quality and in its consistent representation of medical-staff interests, while its chief constraints were an unclear strategic vision, limited risk assessment, and an authority imbalance vis-à-vis the chief executive. Four recommendations follow: first, formally separate the Board's strategic-oversight role from the chief executive's operational authority through a written decision-rights charter; second, build Board members' capacity in strategic planning, risk assessment, and clinical governance through structured training aligned with WHO and European practice [3], [9], [19]; third, require Boards to use annual performance and risk reports for forward-looking oversight rather than retrospective sign-off; and fourth, strengthen transparency by requiring hospitals with a Board of Trustees to publish governance and financial information on a regular schedule. Implemented together, these measures would strengthen the institutional foundation on which Mongolia's progress toward SDG-3 ultimately rests, linking hospital-level governance reform to the country's broader commitment to healthy lives and well-being under the 2030 Agenda [22].

Author Contributions

Ureltsetseg Batdelger: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing original draft, Writing – review & editing.

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Conflict of Interest Statement

The author declares no conflict of interest.

Data Availability Statement

The data underlying this study are classified as confidential under agreements with the participating hospitals, whose identities have accordingly been withheld and coded (Hospital A, Hospital B, Hospital C) throughout this article. The data are not publicly available and cannot be shared beyond what is reported in this article.

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