

# **PRGDAI-SD 360+ Decision Architecture: Integrating Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution**

*A Universal KPI-Governed, Evidence-Based, and AI-Ready Meta-Architecture for Strategic Decision-Making and Governance*

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## **Abstract**

The PRGDAI-SD 360+ Decision Architecture is proposed as a universal, KPI-governed, evidence-based, and AI-ready meta-architecture for decision-making in complex governance environments. The model integrates seven dimensions of decision quality: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. It addresses a recurring gap in contemporary organizations and institutions: many possess KPIs, dashboards, risk registers, and strategic plans, yet lack an integrated architecture that converts fragmented indicators, risks, data streams, and governance signals into auditable, data-driven, ethically bounded, and action-oriented decisions.

Methodologically, the model follows a design science research logic supported by systems thinking, KPI engineering, data governance, AI governance, maturity modelling, early-warning design, scenario analysis, and decision-execution protocols. Its purpose is not merely to measure performance, but to transform evidence into a structured decision chain: diagnosis, indicator design, data validation, scoring, risk sensing, governance review, decision execution, learning, and recalibration.

PRGDAI-SD 360+ consolidates the author's prior KPI-governed, data-driven, and civilizational decision frameworks into a higher-order meta-architecture. These prior

frameworks are treated as domain-specific modules rather than competing models. The architecture is designed for three application families: organizational and sectoral governance, including airline strategy, logistics, maintenance, repair, and overhaul (MRO), tourism, and supply-chain resilience; digital and technological governance, including data governance, AI governance, cybersecurity, and digital transformation; and civilizational and theological governance, including Taqrīb, comparative Kalām, interreligious dialogue, Christian ecumenism, and civilizational studies.

The main contribution of PRGDAI-SD 360+ is the construction of a 360-degree decision architecture that integrates performance intelligence, risk intelligence, governance accountability, data trustworthiness, AI readiness, sustainability impact, and decision execution into one auditable model for evidence-based strategic governance. The model is intended for executives, policymakers, researchers, data leaders, AI strategists, governance boards, dialogue councils, and institutional decision-makers who require a structured method for converting complex evidence into responsible decisions and corrective action.

**Keywords:** PRGDAI-SD 360+; Decision Architecture; KPI-Governed Framework; Evidence-Based Governance; Decision Intelligence; Performance Management; Risk Intelligence; Data Governance; AI Governance; Sustainability Governance; Strategic Governance; Design Science Research.

**Application Domains:** Airline Strategy; Airline Logistics and MRO; Tourism Governance; Digital Transformation; Civilizational Studies; Taqrīb; Comparative Kalām; Christian Ecumenism; Interreligious Dialogue.

## 1. Introduction

Contemporary decision-makers increasingly operate in environments characterized by volatility, data overload, regulatory pressure, AI disruption, sustainability expectations, and multi-stakeholder accountability. This condition is consistent with contemporary systems-thinking, risk-management, AI-governance, and data-governance perspectives, which emphasize interconnected uncertainty, evidence quality, and accountable decision-making (DAMA International, 2017; International Organization for Standardization, 2018; Meadows, 2008; Tabassi, 2023). In such environments, the central challenge is no longer the absence of indicators, but the absence of an integrated decision architecture capable of translating indicators, risks, evidence, governance signals, and sustainability concerns into auditable and executable decisions.

This problem appears differently across domains. Airlines must govern operational performance, safety, logistics, customer experience, MRO reliability, revenue performance, fuel efficiency, digital resilience, and compliance. Civilizational and theological institutions face a different but structurally comparable challenge: translating normative ideals such as unity, dialogue, convergence, trust, reconciliation, and institutional responsibility into measurable, governable, and ethically responsible action.

Many organizations and research programmes already possess large KPI inventories, dashboards, risk registers, and strategic plans. However, such instruments often remain fragmented. They may report performance without clarifying decision implications; collect data without ensuring data quality and lineage; apply AI without sufficient governance; or define strategic objectives without connecting them to accountability, corrective action, and learning. The 7S-360 Strategic Indicator Architecture addresses part of this problem by distinguishing operational, diagnostic, impact, capacity-building, strategic progress, crisis-warning, and composite performance indicators. This indicator logic builds on the author's prior 7S-360 and IKEF-360+ work while also aligning with broader performance-management and strategy-execution traditions such as the Balanced Scorecard (Kaplan & Norton, 1996; MoghadasNian, 2025a, 2025b). However, a wider meta-architecture is required to connect such indicators with data governance, AI governance, sustainability, risk intelligence, decision rights, execution governance, and institutional learning.

The PRGDAI-SD 360+ Decision Architecture is proposed as that integrative meta-architecture. It does not replace prior models; rather, it consolidates them into a higher-order decision logic based on Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. Its purpose is to help decision-makers move from isolated metrics to structured, evidence-based, ethically bounded, and action-oriented governance.

## **2. Conceptual Lineage and Model Ecosystem**

PRGDAI-SD 360+ is positioned as a capstone meta-architecture that consolidates a broader ecosystem of KPI-governed, data-driven, AI-ready, and civilizational governance frameworks developed across the author's previous research. These earlier frameworks are not treated as competing models; rather, they function as modular knowledge components that provide domain

depth, while PRGDAI-SD 360+ provides the universal decision logic. In this sense, the architecture separates two levels: the universal layer, which integrates performance, risk, governance, data, artificial intelligence, sustainability, and decision execution; and the domain layer, which enables adaptation to airline strategy, logistics and MRO, digital transformation, tourism, Taqrīb, comparative Kalām, Christian ecumenism, and civilizational governance.

## **2.1 Performance and Indicator Governance Lineage**

The first lineage consists of IKEF-360+ and 7S-360. IKEF-360+ contributes the airline-specific and role-based KPI governance foundation, particularly in relation to executive decision-making, operational performance, customer experience, logistics, MRO, sustainability, and digital transformation. It supports the translation of strategic objectives into role-specific and function-specific KPI systems for aviation and service-based organizations. This lineage is grounded in the author's prior work on role-based airline KPI governance and integrated strategic indicator architecture (MoghadasNian, 2025a, 2025b).

7S-360 contributes the indicator taxonomy and measurement grammar of the wider architecture. It distinguishes several complementary indicator families, including Key Performance Indicators (KPIs), Diagnostic Indicators (DIs), Impact Indicators (IIs), Capacity-Building Indicators (CBIs), Strategic Progress Indicators (SPIs), Crisis or Critical Warning Indicators (CWIs), and Master Composite Performance Indicators (MCPIs). Within PRGDAI-SD 360+, this taxonomy provides the basis for converting fragmented performance measures into structured, decision-ready indicator systems (MoghadasNian, 2025b).

## **2.2 Ontological and Civilizational Lineage**

The second lineage consists of Civilizational Algorithm Theory (CAT), UCTA, UCTA-PA, DDRNIC, and ICRA/MCPI. CAT provides the upstream ontology-to-governance translation logic. It enables normatively dense, theological, or civilizational concepts to be analysed through semantic structuring, systems translation, governance mapping, and bounded indicatorization. In PRGDAI-SD 360+, CAT is not used to reduce sacred or civilizational meanings to numbers; rather, it provides disciplined translation rules for moving from meaning to governance, from governance to indicators, and from indicators to responsible decisions (MoghadasNian, 2025c, 2025d, 2026; MoghadasNian et al., 2025a, 2025b).

UCTA and UCTA-PA extend this civilizational logic by defining goal architectures, performance architectures, strategic progress indicators, and crisis-warning indicators for civilizational renewal and measurable rapprochement. DDRNIC and ICRA/MCPI further contribute data-driven roadmap logic, institutional renewal pathways, and composite measurement for unity, convergence, and civilizational performance. Together, these frameworks provide PRGDAI-SD 360+ with its civilizational, institutional, and long-horizon governance dimension (MoghadasNian, 2025c, 2025d, MoghadasNian et al., 2025a, 2025b).

### **2.3 Diagnostic and Dialogue Governance Lineage**

The third lineage consists of TDDM, IHF, and ITDF. These frameworks contribute diagnostic-decision logic for Islamic intra-faith rapprochement and theological dialogue. TDDM provides a structured method for classifying rapprochement contexts, diagnosing divergence, identifying intervention thresholds, and selecting context-appropriate decision pathways. IHF contributes dialogue governance, institutional accountability, and intra-faith engagement logic. ITDF contributes structured theological dialogue evaluation and interfaith-readiness assessment (MoghadasNian, 2025e, 2025f, 2025g).

Within PRGDAI-SD 360+, these frameworks operate as diagnostic and dialogical modules. They are especially relevant where the decision problem involves trust, disagreement, doctrinal sensitivity, institutional dialogue, conflict prevention, or structured reconciliation. Their contribution is to ensure that decision-making in religious and civilizational settings remains context-sensitive, ethically bounded, and institutionally accountable (MoghadasNian, 2025e, 2025f, 2025g).

### **2.4 Comparative Theological and Interreligious Lineage**

The fourth lineage consists of GKSF, TPF-CJ, IDDF, and ECKF. These models provide the comparative theological and interreligious modules of the architecture. GKSF contributes comparative Kalām and doctrinal convergence logic. TPF-CJ contributes jurisprudential comparison and legal-convergence analysis across Islamic legal schools. IDDF contributes Abrahamic interfaith dialogue architecture, while ECKF contributes Christian ecumenical benchmarking and institutional dialogue logic. Within PRGDAI-SD 360+, these models allow the universal decision architecture to be applied to sensitive theological and interreligious contexts

without collapsing doctrinal difference into simplistic metrics. They support structured comparison, boundary-aware dialogue, convergence assessment, disagreement management, and institutional learning across religious traditions (MoghadasNian, 2025h, 2025i, 2025j, 2025k).

## **2.5 Integrative Position of PRGDAI-SD 360+**

The contribution of PRGDAI-SD 360+ is not the creation of another isolated KPI model. Its contribution is the integration of prior frameworks into a unified decision architecture. The model functions as a meta-architecture because it organizes multiple forms of evidence, risk, performance, governance, data, AI readiness, sustainability, and execution into one decision-support logic.

This integrative position can be summarized as follows:

- IKEF-360+ supplies the airline and executive KPI-governance foundation.
- 7S-360 supplies the indicator taxonomy and measurement stack.
- CAT supplies ontology-to-governance translation.
- TDDM, IHF, and ITDF supply diagnostic and dialogue-governance logic.
- UCTA, UCTA-PA, DDRNIC, and ICRA/MCPI supply civilizational governance, renewal, and composite-performance logic.
- GKSF, TPF-CJ, IDDF, and ECKF supply comparative theological, jurisprudential, Abrahamic, and ecumenical modules.

Therefore, PRGDAI-SD 360+ should be understood as a cross-domain decision meta-architecture. Its universal layer is stable: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. Its domain layer is adaptable: airline strategy, logistics, tourism, digital transformation, AI governance, Taqrīb, Kalām, ecumenism, and civilizational renewal can each activate the relevant modules without requiring the whole ecosystem to be used simultaneously.

This modular structure is essential for avoiding conceptual confusion. An airline logistics user does not need the theological modules; a Taqrīb institution does not need airline-specific indicators; and an AI governance board does not need the full civilizational framework. What remains common across all domains is the decision logic: evidence must be validated, indicators must be interpreted,

risks must be sensed, governance must be assigned, AI must be controlled, sustainability must be considered, and decisions must lead to accountable action.

### **3. Model Definition, Boundary, and Modular Use Principle**

#### **3.1 Definition of PRGDAI-SD 360+**

The PRGDAI-SD 360+ Decision Architecture is a universal, KPI-governed, evidence-based, and AI-ready decision meta-architecture that integrates Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution into a single 360-degree model for strategic decision-making and governance.

The model is designed to transform fragmented indicators, risk signals, data streams, AI-enabled insights, sustainability measures, and governance inputs into auditable, ethically bounded, and action-oriented decisions. Its central purpose is not only to measure performance, but to connect measurement with diagnosis, risk sensing, accountability, corrective action, institutional learning, and model recalibration.

In this architecture, indicators are not treated as isolated reporting tools. They are treated as decision-enabling instruments that must be linked to data quality, governance ownership, risk thresholds, decision rights, implementation pathways, and post-decision learning.

#### **3.2 Core Formula**

The conceptual formula of the model is:  $\text{PRGDAI-SD} = \text{Performance} + \text{Risk} + \text{Governance} + \text{Data} + \text{Artificial Intelligence} + \text{Sustainability} + \text{Decision Execution}$

The formula synthesizes performance-management logic, risk-management logic, data-governance logic, AI-governance logic, and design-science artefact construction into one decision architecture (DAMA International, 2017; Hevner et al., 2004; International Organization for Standardization, 2018; Kaplan & Norton, 1996; Tabassi, 2023).

Each component represents a necessary dimension of decision quality:

- Performance evaluates whether objectives, outputs, outcomes, and value targets are being achieved.

- Risk identifies threats, vulnerabilities, disruptions, early-warning signals, and potential failure modes.
- Governance clarifies authority, accountability, ownership, compliance, escalation, ethics, and decision rights.
- Data assesses evidence quality, source reliability, lineage, completeness, timeliness, validity, and dashboard readiness.
- Artificial Intelligence evaluates AI-enabled analytics, model risk, explainability, human oversight, bias control, and responsible automation.
- Sustainability examines long-term financial, operational, environmental, social, institutional, and civilizational viability.
- Decision Execution converts insight into action through protocols, owners, resources, timelines, corrective actions, review cycles, and learning loops.

The model therefore moves beyond a conventional KPI framework. It is a decision architecture in which performance indicators, risk indicators, governance signals, data quality measures, AI governance controls, sustainability indicators, and execution metrics are integrated into one structured decision logic.

### **3.3 Model Identity**

PRGDAI-SD 360+ should be understood as:

- a Decision Architecture;
- a Methodological Framework;
- a KPI-Governed Strategic Governance Model;
- an Evidence-Based Decision System;
- an AI-Ready Decision Intelligence Framework;
- a Cross-Domain Meta-Architecture.

It should not be reduced to:

- a simple KPI list;
- a dashboard template;
- an airline-only model;



- an AI-only model;
- a theological measurement model;
- a generic management framework.

Its distinguishing feature is the integration of measurement, risk, governance, data, AI, sustainability, and execution into one decision-support architecture.

### **3.4 Boundary of the Model**

PRGDAI-SD 360+ is not designed to replace domain-specific expertise, executive judgment, theological reasoning, scholarly interpretation, legal review, or contextual decision-making. Rather, it provides a structured architecture for organizing evidence, indicators, risks, governance signals, and execution pathways.

The model supports decision-makers by making the decision process more explicit, traceable, comparable, and accountable. However, it does not claim that every strategic, organizational, civilizational, or theological issue can be fully reduced to numerical scores.

In sensitive civilizational and theological contexts, the model must be applied with particular caution. It may support structured reflection, dialogue governance, institutional accountability, and early-warning assessment, but it must not reduce sacred meaning, doctrinal truth, religious authority, human dignity, or moral wisdom to numbers. In these domains, indicators function as decision-support instruments, not as substitutes for theology, ethics, tradition, interpretation, or human judgment.

Therefore, the model requires:

- explicit claim-boundary statements;
- qualitative interpretation alongside quantitative scoring;
- expert review where doctrinal, ethical, or civilizational meanings are involved;
- safeguards against reductionism;
- transparency about uncertainty, assumptions, and limitations;
- ethical review when the model is used in sensitive institutional or religious settings.

### **3.5 Modular Use Principle**

PRGDAI-SD 360+ is modular. Users do not need to activate all domains or indicators simultaneously. The universal layer of the model is the decision logic; the domain layer is adaptable.

For example:

- An airline may activate the performance, risk, governance, data, AI, sustainability, and decision-execution modules for route performance, MRO reliability, logistics resilience, customer experience, safety, finance, and digital transformation.
- An AI governance team may activate the data, AI, risk, governance, sustainability, and decision-execution modules for model-risk control, explainability, human oversight, bias monitoring, and responsible automation.
- A Taqrīb or dialogue institution may activate the governance, risk, data, sustainability, and decision-execution modules for dialogue quality, trust-building, doctrinal convergence, institutional cooperation, conflict early warning, and ethical safeguards.
- A civilizational or theological research project may activate the interpretive, governance, data, risk, and sustainability modules without using airline-specific or operational indicators.

This modular structure prevents conceptual confusion. It clarifies that PRGDAI-SD 360+ is not trying to make airline logistics, AI governance, Taqrīb, comparative Kalām, and Christian ecumenism identical. Rather, it provides a common decision architecture that can be adapted to each domain through domain-specific indicators, data sources, thresholds, governance owners, and ethical safeguards.

### **3.6 Minimum Viable Model**

For practical adoption, PRGDAI-SD 360+ may begin with a Minimum Viable Decision Model consisting of seven core scores:

- Performance Score
- Risk Score
- Governance Score
- Data Quality Score

- AI Governance Score
- Sustainability Score
- Decision Execution Score

Each score may initially be supported by three to five indicators. This allows organizations or institutions to begin with a manageable version before expanding toward a full domain-specific dashboard.

A minimum viable deployment should define, for each score:

- operational definition;
- data source;
- indicator owner;
- decision owner;
- threshold;
- review frequency;
- corrective action;
- escalation rule;
- evidence-confidence level.

This staged approach reduces implementation burden and prevents the model from becoming overly complex at the beginning.

### **3.7 Full Model Expansion**

After the minimum viable model is established, PRGDAI-SD 360+ may be expanded into a full 360-degree architecture. This expansion may include:

- detailed KPI, DI, II, CBI, SPI, CWI, and MCPI structures;
- domain-specific indicator dictionaries;
- risk registers and early-warning thresholds;
- data lineage and evidence-provenance mapping;
- AI governance and model-risk controls;
- sustainability and impact indicators;
- maturity assessment;

- dashboard readiness;
- decision protocols;
- governance ownership;
- post-decision learning and recalibration.

In this expanded form, the model becomes a comprehensive decision-governance system capable of supporting strategic planning, operational control, institutional learning, and cross-domain comparison.

### **3.8 Decision Logic of the Model**

The decision logic of PRGDAI-SD 360+ follows a structured chain: Problem diagnosis → Indicator design → Data validation → Scoring → Risk sensing → Governance review → Decision selection → Execution → Monitoring → Learning and recalibration

This sequence ensures that decisions are not made only from raw data or isolated KPIs. Instead, each decision passes through a disciplined process of evidence validation, risk interpretation, governance accountability, and execution planning.

The model asks the following core questions:

- What is the current performance condition?
- What risks or early-warning signals are emerging?
- Is the data reliable enough for decision-making?
- Is governance ownership clear?
- Is AI being used responsibly and transparently?
- Is the proposed decision sustainable?
- What decision should be taken?
- Who is accountable for action?
- What corrective action is required?
- How will the system learn from the decision?

### **3.9 Positioning Statement**

PRGDAI-SD 360+ is best positioned as a cross-domain decision meta-architecture. Its novelty lies not in creating another sector-specific KPI list, but in integrating performance, risk, governance, data, AI, sustainability, and execution into a reusable architecture for evidence-based strategic governance.

Its universal layer provides the decision logic. Its modular layer allows adaptation across organizational, technological, civilizational, and theological domains. This makes the model suitable for executives, policymakers, researchers, data leaders, AI strategists, governance boards, dialogue councils, and institutional decision-makers who need a structured way to convert complex evidence into responsible decisions and measurable action.

#### **4. Research Gap**

Existing KPI and governance systems often fail in five ways.

First, they remain performance-heavy but decision-light. They report what happened but do not specify what decision should follow.

Second, they are often data-rich but governance-poor. They generate dashboards without clear decision rights, data ownership, escalation rules, RACI structures, or accountability pathways.

Third, they are increasingly AI-enabled but ethically under-governed. AI tools may support analytics and forecasting, but many frameworks lack model-risk controls, bias safeguards, explainability standards, and human-in-the-loop protocols.

Fourth, they are often sustainability-aware but execution-weak. They refer to sustainability, resilience, or impact, but do not consistently connect these concerns to measurable thresholds, corrective action, resources, and institutional learning.

Fifth, they are usually sector-bound. Airline KPI systems, AI governance frameworks, theological dialogue models, civilizational frameworks, and public-policy dashboards often remain separate. PRGDAI-SD 360+ addresses this gap by separating a universal decision layer from modular domain applications.

This gap is consistent with the broader literature on performance execution, risk management, data governance, design science, and AI risk governance, where decision quality depends not only on measurement, but also on data trustworthiness, governance accountability, risk control, and responsible system design (DAMA International, 2017; Hevner et al., 2004; International Organization for Standardization, 2018; Kaplan & Norton, 1996; Tabassi, 2023).

## **5. Core Architecture**

The PRGDAI-SD 360+ Decision Architecture is built around seven mutually reinforcing dimensions: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. These dimensions are not separate reporting categories; they form an integrated decision chain. A decision is considered robust only when it is supported by performance evidence, risk awareness, governance accountability, reliable data, controlled AI support, sustainability logic, and executable follow-through. This multi-dimensional interpretation draws on performance management, risk management, data governance, AI risk management, and systems-thinking traditions (DAMA International, 2017; International Organization for Standardization, 2018; Kaplan & Norton, 1996; Meadows, 2008; Tabassi, 2023).

The following indicators are illustrative rather than exhaustive. Each domain may operationalize them differently through domain-specific formulas, data sources, thresholds, ownership rules, and decision protocols. For example, an airline may translate the architecture into indicators such as OTP, AOG risk, MRO turnaround time, CASK, RASK, customer experience, and supply-chain resilience, while a Taqṛīb or ecumenical institution may translate it into indicators of dialogue quality, trust, doctrinal convergence, institutional cooperation, conflict early warning, and ethical accountability.

### **5.1 Dimension 1: Performance**

Performance refers to the extent to which a system, organization, programme, institution, or dialogue initiative achieves its intended objectives. In PRGDAI-SD 360+, performance is not limited to financial or operational output; it includes strategic progress, service quality, stakeholder value, institutional effectiveness, and mission fulfilment.

This dimension answers the question: Is the system achieving what it is supposed to achieve?

It includes:

- operational performance;
- strategic performance;
- service quality;
- productivity and efficiency;
- stakeholder value creation;
- customer, citizen, community, or institutional outcomes;
- project and programme delivery;
- mission fulfilment in organizational, civilizational, or theological contexts.

Representative indicators may include:

- KPI — Key Performance Indicator
- SPI — Strategic Progress Indicator
- VII — Value Impact Index
- TDI — Transformation Delivery Index
- VCI — Value Creation Index

In airline and logistics contexts, this dimension may measure punctuality, fleet utilization, MRO efficiency, route performance, cost efficiency, customer experience, and supply-chain performance. In civilizational, Taqrīb, Kalām, or ecumenical contexts, it may measure the quality of dialogue, institutional participation, joint outputs, trust-building, educational impact, and convergence-oriented outcomes.

## **5.2 Dimension 2: Risk**

Risk refers to the possibility that performance, legitimacy, continuity, safety, trust, or strategic objectives may be harmed by uncertainty, disruption, conflict, failure, or unintended consequences. In PRGDAI-SD 360+, risk is not treated as a separate compliance exercise; it is embedded directly into decision-making.

This dimension answers the question: What may fail, escalate, destabilize, or produce harm?

It includes:

- operational risk;
- strategic risk;
- financial risk;
- compliance and regulatory risk;
- safety and security risk;
- cyber and digital risk;
- AI model risk;
- supply-chain and disruption risk;
- reputational risk;
- social, theological, or dialogue-related risk;
- polarization, conflict, or institutional breakdown risk.

Representative indicators may include:

- KRI — Key Risk Indicator
- CWI — Crisis / Critical Warning Indicator
- DRI — Digital Resilience Index
- DisRI — Disruption Resilience Index
- ERI — Enterprise Risk Index

In airline contexts, this dimension may capture AOG exposure, supplier failure, safety incident trends, regulatory non-compliance, cyber vulnerabilities, disruption escalation, and operational fragility. In civilizational or theological contexts, it may capture rising sectarian tension, media escalation, breakdown of dialogue, misuse of religious language, institutional distrust, or violation of legitimate disagreement boundaries.

### **5.3 Dimension 3: Governance**

Governance refers to the structures, roles, rules, responsibilities, decision rights, accountability mechanisms, and escalation pathways through which decisions are made, implemented, reviewed, and corrected. In PRGDAI-SD 360+, governance ensures that indicators do not remain passive measurements but become linked to ownership and action.



This dimension answers the question: Who decides, who acts, who is accountable, and under what rules?

It includes:

- decision rights and authority;
- RACI logic;
- policy alignment;
- regulatory and ethical compliance;
- institutional accountability;
- escalation pathways;
- audit and assurance;
- corrective governance;
- role clarity;
- review cadence;
- stakeholder participation;
- decision legitimacy.

Representative indicators may include:

- GAI — Governance Alignment Index
- CPI — Compliance Performance Index
- EGI — Enterprise Governance Index
- SGI — Strategy Governance Index
- SeGI — Security Governance Index

In airline and corporate contexts, governance may involve executive committees, data governance boards, AI governance boards, risk committees, safety boards, and compliance functions. In Taqrīb, Kalām, ecumenical, or civilizational contexts, governance may involve scholarly councils, dialogue authorities, institutional protocols, ethical review mechanisms, mediation bodies, and accountability structures for intergroup engagement.

#### **5.4 Dimension 4: Data**

Data refers to the quality, provenance, reliability, completeness, timeliness, lineage, and usability of the evidence used for decision-making. In PRGDAI-SD 360+, data is not treated merely as input; it is a governed asset whose quality determines the credibility of decisions. This view is aligned with data management and data-governance principles that treat data as a governed organizational asset rather than a passive technical input (DAMA International, 2017).

This dimension answers the question: Can the evidence behind the decision be trusted?

It includes:

- data quality;
- data lineage;
- evidence provenance;
- accuracy and completeness;
- timeliness and relevance;
- interoperability;
- source reliability;
- missing-data protocols;
- confidence scoring;
- audit trail;
- dashboard readiness;
- evidence validation and triangulation.

Representative indicators may include:

- DQI — Data Quality Index
- DII — Data Integration Index
- EPS — Evidence Provenance Score
- DashRI — Dashboard Readiness Index
- DCS — Data Confidence Score

In airline contexts, data may originate from systems such as PSS, DCS, OAG, GDS, AODB, MRO, ERP, CRM, OCC, finance, procurement, warehouse, safety, and compliance systems. In theological and civilizational contexts, data may include textual corpora, official declarations,

dialogue records, institutional documents, expert panels, survey evidence, media discourse, policy documents, and qualitative field evidence.

## **5.5 Dimension 5: Artificial Intelligence**

Artificial Intelligence refers to the controlled use of AI-enabled analytics, prediction, automation, decision intelligence, and agentic support within a governed and ethically bounded decision environment. In PRGDAI-SD 360+, AI is not treated as an autonomous substitute for judgment; it is a decision-support capability subject to governance, explainability, human oversight, and ethical constraint. This position is consistent with AI risk-management guidance that emphasizes governance, mapping, measurement, management, transparency, and human accountability in AI systems (Tabassi, 2023). AI governance may also be strengthened through management-system approaches that define organizational controls for responsible AI deployment (International Organization for Standardization, 2023; Tabassi, 2023).

This dimension answers the question: Is AI useful, reliable, explainable, ethical, and properly governed?

It includes:

- AI governance;
- model risk management;
- bias detection and mitigation;
- explainability and transparency;
- human-in-the-loop control;
- automation boundaries;
- agentic AI governance;
- RAG and LLM governance;
- predictive analytics;
- decision intelligence;
- model monitoring and recalibration;
- AI value realization.

Representative indicators may include:

- AIGI — AI Governance Index
- MRI — Model Risk Index
- XI — Explainability Index
- HOR — Human Oversight Ratio
- AIVRI — AI Value Realization Index

In airline and logistics contexts, AI may support predictive maintenance, spare-parts optimization, disruption forecasting, demand prediction, customer personalization, fuel efficiency, and risk sensing. In civilizational and theological contexts, AI may support text classification, discourse analysis, early-warning detection, knowledge-graph construction, semantic mapping, and decision support, but only under strong ethical, interpretive, and human-review safeguards.

## **5.6 Dimension 6: Sustainability**

Sustainability refers to the long-term viability, resilience, ethical acceptability, and value continuity of decisions. In PRGDAI-SD 360+, sustainability is broader than environmental performance; it includes financial, operational, social, institutional, technological, cultural, civilizational, and intergenerational sustainability. This broad interpretation is consistent with sustainability thinking that links economic, social, environmental, and institutional dimensions of long-term development (United Nations, 2015).

Where PRGDAI-SD 360+ is applied to organizational sustainability, environmental, social, and governance (ESG) reporting, tourism, airline sustainability, supply-chain responsibility, or institutional impact reporting, sustainability indicators may also be aligned with recognized reporting principles such as materiality, stakeholder inclusiveness, transparency, impact reporting, and accountability (Global Reporting Initiative, 2021). This allows the Sustainability dimension to connect long-term viability with measurable reporting practices and stakeholder-facing governance.

This dimension answers the question: Will the decision remain viable, responsible, and beneficial over time?

It includes:

- financial sustainability;

- environmental sustainability;
- social sustainability;
- institutional sustainability;
- technological sustainability;
- ethical sustainability;
- cultural and civilizational continuity;
- intergenerational transmission;
- capacity-building;
- resilience and adaptability.

Representative indicators may include:

- ESI — Environmental Sustainability Index
- NFI — Net Financial Index
- CBI — Capacity-Building Indicator
- ISIT — Institutional Sustainability Index for Taqrīb
- UFI — Ummah Flourishing Index

In airline contexts, sustainability may include emissions, fuel efficiency, cost resilience, workforce capability, supplier sustainability, and long-term operational viability. In theological and civilizational contexts, sustainability may include institutional continuity, intergenerational transmission, trust preservation, ethical legitimacy, cultural resilience, and the durability of dialogue-based cooperation.

## 5.7 Dimension 7: Decision Execution

Decision Execution refers to the conversion of evidence, indicators, risks, insights, and governance review into concrete decisions, accountable actions, corrective interventions, learning loops, and model recalibration. This is the closing dimension of PRGDAI-SD 360+. Without execution, indicators remain descriptive rather than transformative.

This dimension answers the question: What decision must now be taken, who will act, and how will the system learn?

It includes:

- decision protocols;
- decision ownership;
- action ownership;
- corrective action;
- intervention selection;
- budget and resource linkage;
- escalation;
- implementation timeline;
- post-decision review;
- institutional learning;
- feedback loops;
- model recalibration.

Representative indicators may include:

- ECI — Execution Capability Index
- DCR — Decision Conversion Ratio
- ICR — Implementation Completion Ratio
- CACR — Corrective Action Closure Rate
- DLI — Decision Learning Index

In airline and organizational contexts, this dimension may determine whether a performance deviation leads to route adjustment, maintenance intervention, supplier escalation, budget reallocation, process redesign, or safety review. In Taqrīb, Kalām, ecumenical, or civilizational contexts, it may determine whether a warning signal leads to dialogue activation, mediation, scholarly review, public clarification, curriculum correction, joint statement, institutional accountability, or temporary suspension of engagement.

## **5.8 Integrated Decision Logic**

The seven dimensions operate as an integrated decision chain rather than isolated categories. A simplified PRGDAI-SD 360+ decision logic may be expressed as follows:

- Performance identifies whether objectives are being achieved.

- Risk identifies what may fail or escalate.
- Governance identifies who is responsible and what authority applies.
- Data tests whether the evidence is reliable.
- Artificial Intelligence enhances analysis where appropriate, under governance control.
- Sustainability evaluates long-term viability and ethical impact.
- Decision Execution converts the assessment into action, accountability, and learning.

Thus, PRGDAI-SD 360+ moves from measurement to decision through the following chain: Evidence → Indicator → Risk Signal → Governance Review → Decision → Action → Learning → Recalibration

This chain is central to the model. It ensures that the architecture does not merely produce dashboards, but supports accountable, evidence-based, ethically bounded, and action-oriented governance.

## 5.9 Architecture-Level Interpretation

At the architecture level, PRGDAI-SD 360+ can be read in three ways:

- As a performance intelligence architecture, because it measures whether objectives are being achieved.
- As a risk and early-warning architecture, because it identifies threats, weak signals, and escalation points.
- As a governance and decision-execution architecture, because it links evidence to authority, accountability, action, and learning.

This integrated design allows the model to operate across different domains without collapsing them into one another. The same seven-dimensional logic can be used in airline strategy, logistics, MRO, tourism, AI governance, digital transformation, civilizational studies, Taqrīb, comparative Kalām, interreligious dialogue, and Christian ecumenism, while each domain retains its own concepts, evidence sources, ethical boundaries, and specialist expertise.

## 6. Indicator Taxonomy

PRGDAI-SD 360+ adopts and extends the 7S-360 indicator taxonomy.

### **6.1 KPI — Key Performance Indicator**

Measures short-cycle operational performance.

Examples:

- OTP in airline operations;
- AOG spare-parts recovery time;
- customer complaint resolution rate;
- number of joint dialogue sessions;
- completion of curriculum modules.

### **6.2 DI — Diagnostic Indicator**

Explains the cause of KPI variance.

Examples:

- supplier delay ratio;
- data error source;
- governance bottleneck;
- dialogue breakdown cause;
- theological misunderstanding source.

### **6.3 II — Impact Indicator**

Measures final value delivered to stakeholders.

Examples:

- customer loyalty improvement;
- cost reduction;
- trust growth;
- reduction of social friction;
- institutional cooperation impact.



#### **6.4 CBI — Capacity-Building Indicator**

Measures capability, maturity and future readiness.

Examples:

- staff AI literacy;
- number of trained mediators;
- data governance maturity;
- cross-madhab scholarly capacity;
- MRO predictive analytics capability.

#### **6.5 SPI — Strategic Progress Indicator**

Measures long-term strategic progress.

Examples:

- digital transformation milestone achievement;
- civilizational maturity improvement;
- inter-institutional cooperation growth;
- strategy execution progress.

#### **6.6 CWI — Crisis / Critical Warning Indicator**

Functions as early-warning radar.

Examples:

- surge in divisive discourse;
- AOG event escalation;
- safety incident trend;
- supply disruption;
- drop in dialogue trust index.

#### **6.7 MCPI — Master Convergence and Performance Index**

Aggregates multiple dimensions into a system-level score.

In PRGDAI-SD 360+, MCPI becomes the top-level health score for a domain, organization, programme or civilizational project.

## **7. Methodology**

PRGDAI-SD 360+ follows a conceptual design science research (DSR) pathway, in which the central objective is the construction of a reusable artefact for a recurring class of practical governance problems (Hevner et al., 2004; Peffers et al., 2007). This approach is appropriate because the objective of the study is not merely to describe existing decision practices, but to develop a reusable decision artefact that addresses a recurring class of governance problems: the fragmentation of performance measurement, risk sensing, governance accountability, data quality, AI governance, sustainability assessment, and decision execution. The proposed architecture is therefore designed as a practical and normative model for future empirical testing, domain adaptation, and dashboard-based implementation.

The methodological logic of PRGDAI-SD 360+ rests on four assumptions. First, indicators become strategically meaningful only when they are connected to decisions, owners, thresholds, and corrective actions. Second, evidence-based decision-making requires explicit attention to data quality, lineage, validation, privacy, and interpretability. Third, AI-enabled insight must be governed through transparency, human oversight, model-risk controls, and ethical safeguards. Fourth, cross-domain application requires modularity: the universal decision logic remains stable, while indicators, evidence sources, thresholds, and governance protocols vary across airline strategy, logistics, tourism, digital transformation, AI governance, civilizational governance, Taqrīb, comparative Kalām, and ecumenical dialogue.

### **7.1 Stage 1: Problem Identification**

The first stage defines the decision problem addressed by the model. The core problem is the gap between indicator availability and decision readiness. Many organizations and institutions possess KPIs, dashboards, risk registers, and strategic plans, but these tools often remain disconnected from data validation, governance authority, AI oversight, sustainability impact, corrective action, and institutional learning.

Typical problems include airline logistics inefficiency, weak MRO reliability, fragmented KPI dashboards, AI governance gaps, poor data quality, rising sectarian tension, weak ecumenical cooperation, and low strategic execution. These problems differ by domain, but they share a common structural weakness: evidence is not consistently transformed into accountable decisions.

## **7.2 Stage 2: Domain Modelling**

The second stage identifies the domain and decision environment in which the architecture will be applied. PRGDAI-SD 360+ is designed for modular use across three application families.

The first is organizational and sectoral governance, including airline strategy, airline logistics and MRO, tourism, supply-chain resilience, customer experience, safety, finance, and operations. The second is digital and technological governance, including data governance, AI governance, cybersecurity, digital transformation, business intelligence, automation, and decision intelligence. The third is civilizational and theological governance, including civilizational studies, Taqrīb, comparative Kalām, Islamic unity, interreligious dialogue, and Christian ecumenism.

The universal layer of the model remains constant across domains: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. The domain layer is customized through context-specific indicators, data sources, thresholds, risks, decision authorities, and ethical safeguards.

## **7.3 Stage 3: Indicator Design**

The third stage converts each decision dimension into measurable indicators. PRGDAI-SD 360+ adopts and extends the 7S-360 indicator taxonomy, including:

- KPI for operational performance;
- DI for diagnostic explanation;
- II for stakeholder and system impact;
- CBI for capacity-building and future readiness;
- SPI for strategic progress;
- CWI for crisis and early-warning signals;
- MCPI for composite system-level performance.

Each indicator should be defined through an indicator card containing its name, definition, purpose, formula, unit of measurement, frequency, owner, data source, threshold, target, risk interpretation, and decision implication. This requirement prevents indicators from becoming descriptive metrics only; instead, each indicator becomes a decision-linked governance instrument.

#### **7.4 Stage 4: Data and Evidence Architecture**

The fourth stage establishes the evidence base of the model. Each indicator must be connected to a traceable data source, data owner, transformation logic, validation rule, lineage record, confidence score, privacy classification, and audit trail. This stage is essential because poor data quality can produce misleading scores, false warnings, weak decisions, or unjustified interventions.

In airline and logistics applications, data sources may include PSS, DCS, OAG, GDS, AODB, MRO systems, ERP, CRM, OCC reports, procurement systems, warehouse systems, finance systems, safety reports, and compliance records. In civilizational, theological, and interreligious applications, evidence may include textual corpora, institutional records, dialogue transcripts, official declarations, expert panels, surveys, media analytics, fatwa databases, policy documents, and comparative theological sources.

Before any score is used for executive, policy, or theological decision-making, the model requires a Data Quality Gate. This gate should assess completeness, accuracy, timeliness, consistency, traceability, relevance, and interpretive adequacy.

#### **7.5 Stage 5: Weighting, Scoring, and Composite Indexing**

The fifth stage transforms indicators into decision-ready scores. Indicators should be normalized, preferably on a 0–100 scale, and weighted according to domain relevance, strategic importance, risk sensitivity, and evidence quality. Weighting may be conducted through expert review, Delphi validation, AHP, or governance-board approval. Delphi methods are suitable for structured expert judgement, while AHP is widely used for deriving priorities in multi-criteria decision-making (Linstone & Turoff, 2002; Saaty, 2008). Sensitivity analysis should be used to test whether the results remain stable under alternative weighting assumptions.

A general architecture-level formula may be expressed as:  $\text{PRGDAI-SD Score} = \sum W_i \times D_i$

where  $W_i$  represents the validated weight of each dimension and  $D_i$  represents the normalized score of each dimension.

For higher-risk environments, the adjusted score should include penalty factors: Adjusted

$$\text{PRGDAI-SD Score} = \sum W_i \times D_i - \text{RP} - \text{DQP} - \text{GFP} - \text{EBP}$$

where RP is the Risk Penalty, DQP is the Data Quality Penalty, GFP is the Governance Failure Penalty, and EBP is the Ethical Breach Penalty. This adjustment prevents high performance scores from concealing severe risks, weak data quality, governance failure, or ethical violations.

Where the model is operationalized through survey-based or multi-item constructs, PCA, exploratory factor analysis, confirmatory factor analysis, Cronbach's alpha, Krippendorff's alpha, and bootstrapped confidence intervals may be used to assess dimensionality, reliability, inter-rater agreement, and uncertainty. PCA supports dimensionality reduction and construct exploration, while Krippendorff's alpha is appropriate for assessing inter-rater reliability in coded qualitative or mixed-methods evidence (Jolliffe & Cadima, 2016; Krippendorff, 2018).

## **7.6 Stage 6: Dashboard and Decision Logic**

The sixth stage connects scores to decisions. The dashboard must not merely display indicators; it must support governance action. Each dashboard output should specify current status, trend, risk level, data confidence, AI confidence, required decision, decision owner, deadline, escalation pathway, corrective action, and learning loop.

Possible decision outputs include continuation, correction, escalation, redesign, pause, termination, funding, defunding, risk mitigation, human review, AI model review, mediation, crisis-protocol activation, or model recalibration. In this logic, the dashboard is not a reporting layer only; it is a decision-execution interface.

## **7.7 Stage 7: Validation and Recalibration**

The final stage concerns validation and continuous improvement. Because PRGDAI-SD 360+ is proposed as a meta-architecture, validation should occur at both conceptual and empirical levels. Conceptual validation examines internal coherence, construct clarity, indicator logic, ethical safeguards, domain fit, and consistency with the model's seven decision dimensions. Empirical validation may include expert validation, pilot testing, historical back-testing, cross-domain

comparison, sensitivity analysis, causal evaluation where possible, post-decision review, and dashboard-based performance monitoring.

The model should be recalibrated when indicators lose relevance, data quality changes, AI models drift, governance structures change, sustainability priorities evolve, or domain-specific risks intensify. Recalibration ensures that PRGDAI-SD 360+ remains an adaptive decision architecture rather than a fixed KPI catalogue.

## **7.8 Methodological Safeguard**

The methodological boundary of the model is especially important in civilizational, theological, and interreligious applications. PRGDAI-SD 360+ does not reduce sacred meaning, doctrinal truth, human dignity, or religious authority to numerical scores. Indicators function as decision-support instruments, not as substitutes for theological reasoning, scholarly judgment, ethical responsibility, or contextual wisdom.

This safeguard also applies to AI-enabled decision-making. AI outputs should support analysis, forecasting, and prioritization, but final decisions in high-impact contexts require human accountability, domain expertise, ethical review, and governance authorization.

## **7.9 Methodological Output**

The output of this methodology is a structured decision artefact consisting of:

- seven decision dimensions;
- a modular indicator taxonomy;
- indicator cards with formulas, thresholds, owners, and decision implications;
- data and evidence architecture;
- data quality, privacy, and audit controls;
- scoring, weighting, and penalty logic;
- risk and early-warning mechanisms;
- AI and data governance safeguards;
- dashboard and decision-execution protocols;
- validation, maturity, and recalibration mechanisms;
- ethical and claim-boundary controls.

Through this methodology, PRGDAI-SD 360+ is positioned as a reusable, auditable, modular, and adaptive decision architecture for evidence-based strategic governance.

## 8. Composite Score Interpretation and Decision Logic

The PRGDAI-SD 360+ composite score is an architecture-level decision-support score, not a fixed universal calculation. Its purpose is to summarize the overall condition of a decision domain across the seven dimensions of the model: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. The score should therefore be interpreted as a structured decision signal rather than as a purely numerical ranking. A general scoring model may be expressed as:  $\text{PRGDAI-SD Score} = \sum W_i \times D_i$

The use of weighted scores follows a multi-criteria decision logic in which different dimensions may have different levels of importance depending on domain context, strategic priority, and risk exposure (Saaty, 2008).

Where:

- $W_i$  = the validated weight of each PRGDAI-SD dimension;
- $D_i$  = the normalized score of each dimension;
- the total score is usually normalized on a 0–100 scale.

The seven core dimension scores are:

- Performance Score
- Risk Score
- Governance Score
- Data Quality Score
- AI Governance Score
- Sustainability Score
- Decision Execution Score

However, a simple weighted score may conceal critical weaknesses. For example, a programme may show strong performance while suffering from severe governance failure, poor data quality,

unmanaged AI risk, or ethical breach. For this reason, high-risk applications should use an adjusted score: Adjusted PRGDAI-SD Score =  $\sum W_i \times D_i - RP - DQP - GFP - AIP - EBP$

The penalty logic reflects the principle that decision-readiness should be constrained by risk exposure, data weakness, governance failure, AI-related uncertainty, and ethical breach, rather than being inferred from performance alone (International Organization for Standardization, 2018; Tabassi, 2023).

Where:

- RP = Risk Penalty;
- DQP = Data Quality Penalty;
- GFP = Governance Failure Penalty;
- AIP = AI Governance Penalty;
- EBP = Ethical Breach Penalty.

This adjusted score prevents strong performance results from masking serious structural weaknesses. A high score should not be considered decision-ready unless the supporting data are reliable, risk exposure is acceptable, governance ownership is clear, AI use is controlled, sustainability implications are understood, and decision execution is feasible.

For practical interpretation, the composite score should be read together with four supporting signals:

- Confidence Signal: the reliability of the evidence and data used in scoring;
- Risk Signal: the presence of critical or escalating risks;
- Governance Signal: the clarity of ownership, authority, accountability, and escalation;
- Execution Signal: the likelihood that the decision can be implemented, monitored, and recalibrated.

A suggested interpretation scale is:

- 85–100: Strong decision condition; proceed, monitor, and optimize.
- 70–84: Acceptable condition; proceed with targeted controls.
- 50–69: Caution zone; corrective action and governance review required.
- 30–49: High-risk condition; escalation, redesign, or mitigation required.



- Below 30: Critical condition; pause, intervene, or activate crisis protocol.

The composite score should never be used mechanically. It must be interpreted through domain expertise, contextual judgment, ethical safeguards, and governance review. In airline, logistics, AI, and digital transformation contexts, the score may guide operational or strategic intervention. In civilizational, Taqrīb, Kalām, and ecumenical contexts, it should support structured reflection and accountable action without reducing sacred, theological, or human meanings to numbers.

Thus, the PRGDAI-SD 360+ score functions as a decision-readiness indicator. It helps decision-makers determine whether to continue, correct, escalate, redesign, pause, terminate, fund, review, mediate, or recalibrate a programme. Its value lies not in producing a single number, but in connecting measurement with risk awareness, governance accountability, data trustworthiness, AI control, sustainability, and executable decision-making.

## **9. Domain Application Families**

The PRGDAI-SD 360+ Decision Architecture is designed as a cross-domain meta-architecture rather than a sector-specific KPI list. Its universal layer remains constant across all applications: Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution. Its domain layer, however, is adaptable. Each field activates the indicators, data sources, risk signals, governance actors, ethical constraints, and decision protocols relevant to its own context.

To avoid conceptual confusion, the model is organized into three application families: organizational and sectoral governance, digital and technological governance, and civilizational and theological governance. These families are not separate models; they are modular applications of the same decision architecture.

### **9.1 Organizational and Sectoral Governance**

The first application family covers institutional, executive, operational, and sector-specific decision-making. This includes airline strategy, airline logistics and MRO, tourism governance, supply-chain resilience, customer experience, safety, finance, operations, procurement, quality assurance, and sustainability management.

In these domains, PRGDAI-SD 360+ helps decision-makers move from fragmented operational KPIs toward integrated strategic decisions. For example, an airline may already monitor on-time performance, load factor, CASK, RASK, customer satisfaction, AOG events, spare-parts availability, supplier reliability, MRO turnaround time, safety events, and compliance findings. However, these indicators often remain dispersed across departments. The model connects them to risk exposure, data quality, governance accountability, AI-enabled forecasting, sustainability impact, and decision execution.

Typical use cases include:

- airline route and network performance governance;
- airline logistics and spare-parts decision support;
- MRO turnaround, AOG reduction, and predictive maintenance governance;
- tourism destination performance and visitor-experience governance;
- supply-chain resilience and supplier-risk monitoring;
- customer-experience improvement through KPI and CXI integration;
- operational safety, compliance, and quality assurance decision support;
- financial sustainability and resource-allocation decisions.

The value of the model in this family is that it prevents operational performance from being interpreted in isolation. A high-performing route, supplier, tourism product, or MRO process is not considered successful unless risk, governance, data quality, sustainability, and decision execution are also satisfactory. In this sense, PRGDAI-SD 360+ transforms sectoral performance management into governance-grade decision intelligence.

## **9.2 Digital and Technological Governance**

The second application family covers data governance, AI governance, cybersecurity, digital resilience, digital transformation, business intelligence, automation, predictive analytics, decision intelligence, and agentic AI-enabled systems.

In these domains, PRGDAI-SD 360+ ensures that digital and AI-enabled decisions are not driven only by technical capability, model accuracy, automation efficiency, or dashboard availability. Instead, the model requires that digital and technological decisions be evaluated through

governance, risk, accountability, data quality, cybersecurity, ethical acceptability, sustainability, and decision-execution readiness.

The model is especially relevant where organizations deploy dashboards, predictive models, RAG/LLM systems, AI agents, business intelligence platforms, automation tools, cybersecurity controls, or digital transformation programmes without a sufficiently integrated decision-governance structure. In such cases, PRGDAI-SD 360+ helps convert technological capability into accountable decision intelligence.

Typical use cases include:

- data-quality and data-lineage governance;
- AI model-risk management;
- AI governance and human-in-the-loop control;
- cybersecurity and digital resilience monitoring;
- digital transformation portfolio governance;
- business intelligence dashboard readiness;
- automation and agentic AI decision-boundary control;
- evaluation of AI value realization, ROI, risk, and ethical acceptability.

These controls may be aligned with cybersecurity governance frameworks that emphasize identify, protect, detect, respond, recover, and govern functions (National Institute of Standards and Technology, 2024). For organizations requiring formal information-security management alignment, cybersecurity and digital-resilience controls may also be connected to ISO/IEC 27001 requirements for information security management systems, including risk treatment, access control, incident management, continual improvement, and management accountability (International Organization for Standardization, 2022).

This strengthens the role of PRGDAI-SD 360+ as a governance architecture that links cybersecurity controls to data protection, AI governance, operational resilience, auditability, and decision execution. In PRGDAI-SD 360+, cybersecurity and digital resilience are therefore not treated as separate technical domains only; they are integrated into risk sensing, governance accountability, data protection, AI control, sustainability, and decision execution.

The model asks not only whether AI or digital systems are accurate, efficient, or innovative, but also whether they are trusted, governed, explainable, auditable, secure, resilient, sustainable, and decision-ready. In this application family, the Data and Artificial Intelligence dimensions become especially central. Data quality, evidence provenance, model transparency, bias control, explainability, privacy, cybersecurity, access control, incident response, escalation rules, and human oversight become prerequisites for responsible decision execution.

PRGDAI-SD 360+ therefore positions digital transformation and AI not as isolated technological projects, but as governed decision systems. The result is a structured connection between data trustworthiness, AI readiness, cybersecurity resilience, risk control, governance accountability, sustainability, and executable decisions. Its value in digital and technological governance lies in preventing organizations from adopting AI, automation, or digital platforms without sufficient evidence quality, risk control, ethical safeguards, and decision ownership.

### **9.3 Civilizational and Theological Governance**

The third application family covers civilizational studies, Taqrīb, Islamic unity, comparative Kalām, interreligious dialogue, Christian ecumenism, waqf governance, sacred-text-to-governance translation, institutional dialogue, and civilizational renewal.

In these domains, PRGDAI-SD 360+ must be applied with special methodological care. The purpose is not to reduce faith, doctrine, sacred meaning, theological truth, or human dignity to numerical indicators. Rather, the model provides a disciplined structure for organizing evidence, clarifying decision pathways, identifying risks, improving institutional accountability, and supporting ethically responsible action.

Typical use cases include:

- Taqrīb diagnostic-decision governance;
- early warning for sectarian tension or dialogue breakdown;
- evaluation of inter-madhab cooperation and institutional trust;
- comparative Kalām mapping of convergence, divergence, and legitimate disagreement;
- Christian ecumenical dialogue performance and institutional participation;
- interreligious dialogue governance;
- civilizational cohesion, resilience, and renewal assessment;

- waqf transformation, transparency, sustainability, and social impact governance;
- controlled translation of sacred or theological concepts into public, institutional, or policy language.

In this family, the model's Risk, Governance, Data, Sustainability, and Decision Execution dimensions are particularly important. The risk dimension helps identify polarization, misinterpretation, conflict escalation, takfir-related discourse, institutional fragmentation, or symbolic harm. The governance dimension clarifies who has authority to interpret, decide, mediate, intervene, or escalate. The data dimension requires careful evidence provenance, qualitative interpretation, expert validation, and triangulation. The sustainability dimension addresses long-term trust, institutional continuity, intergenerational transmission, and civilizational resilience. The decision-execution dimension connects analysis to responsible action, such as dialogue activation, mediation, curriculum correction, joint statements, institutional review, or crisis de-escalation.

The ethical boundary is essential: PRGDAI-SD 360+ supports theological and civilizational decision-making, but it does not replace theology, revelation, tradition, scholarly authority, spiritual wisdom, or human judgment. Indicators in these fields are decision-support instruments, not substitutes for truth or sacred meaning.

#### **9.4 Cross-Family Integration Logic**

The three application families are connected by a shared decision logic. In every domain, the model asks the same seven questions:

- Performance: What is happening, and are objectives being achieved?
- Risk: What may fail, escalate, or cause harm?
- Governance: Who owns the decision, the data, the risk, and the corrective action?
- Data: Is the evidence valid, timely, complete, traceable, and decision-ready?
- Artificial Intelligence: Can AI support the decision, and is it governed, explainable, and ethically controlled?
- Sustainability: Will the decision remain viable financially, institutionally, socially, environmentally, or civilizationaly?

- Decision Execution: What action must be taken, by whom, by when, and how will learning occur?

This cross-family logic is what makes PRGDAI-SD 360+ a meta-architecture. An airline, an AI governance board, a tourism authority, a Taqrīb institution, or an ecumenical dialogue council may use different indicators and data sources, but the underlying decision architecture remains the same.

## **9.5 Minimum Viable Application**

For practical use, each application family may begin with a minimum viable implementation rather than the full model. The recommended starting structure is:

- one Performance Score;
- one Risk Score;
- one Governance Score;
- one Data Quality Score;
- one AI Governance or Digital Readiness Score;
- one Sustainability Score;
- one Decision Execution Score.

Each score may initially be supported by three to five indicators. As the organization or institution matures, the model can expand into a full dashboard with weighted indicators, early-warning signals, maturity levels, scenario logic, governance ownership, and post-decision learning loops.

This staged use prevents the framework from becoming too complex at the beginning. It also allows decision-makers to adopt the model gradually, validate it in practice, and adapt it to their institutional context.

## **9.6 Summary of Application Value**

Across all application families, the contribution of PRGDAI-SD 360+ is the same: it converts fragmented information into structured, responsible, and executable decisions. In organizational and sectoral governance, it improves performance, resilience, and accountability. In digital and technological governance, it strengthens data trustworthiness, AI governance, and decision

reliability. In civilizational and theological governance, it supports ethical, evidence-informed, and institutionally accountable action without reducing sacred or normative meanings to numbers.

The model's value therefore lies not in applying one fixed KPI set to all domains, but in providing a common decision architecture that can be responsibly adapted across diverse fields.

## **10. Maturity Model**

The maturity model is proposed as a staged adoption pathway rather than a fixed universal scale. It reflects the idea that decision systems typically evolve from fragmented measurement toward structured governance, data-driven control, predictive capability, AI-enabled support, sustainability integration, and adaptive learning.

### **Level 1 — Fragmented**

- Indicators exist but are scattered.
- Data is inconsistent.
- Decisions are experience-based.

### **Level 2 — Structured**

- Indicators are categorized.
- Owners are partially identified.
- Dashboards exist but remain descriptive.

### **Level 3 — Data-Driven**

- Data sources are validated.
- Indicators have definitions and formulas.
- Decisions are supported by evidence.

### **Level 4 — Risk-Sensitive and Predictive**

- CWI and KRI are active.
- Early-warning thresholds exist.
- Scenario logic and risk dashboards guide decisions.

#### Level 5 — AI-Enabled and Governance-Controlled

- AI assists analysis and forecasting.
- AI governance is active.
- Human-in-the-loop safeguards exist.
- Model risk is monitored.

#### Level 6 — Sustainability and Impact-Oriented

- Impact, capacity and sustainability indicators are integrated.
- Long-term value is measured.
- Social, environmental, financial and institutional effects are tracked.

#### Level 7 — Adaptive, Civilizational and Cross-Domain

- The model learns from feedback.
- It is transferable across sectors.
- It can support organizational, civilizational, theological and interreligious decision-making.

This staged logic is consistent with the broader governance and systems-thinking view that complex decision capabilities mature through feedback, learning, adaptation, and institutionalization (Meadows, 2008).

## 11. Governance Requirements

For implementation, from a governance perspective, each indicator should be linked to ownership, accountability, review cadence, decision authority, and corrective action. This prevents indicators from remaining descriptive and connects them to institutional decision rights and execution responsibility (Kaplan & Norton, 1996).

Governance requirements may also be aligned with established enterprise and IT governance perspectives that emphasize value delivery, risk optimization, resource optimization, accountability, decision rights, and management objectives (ISACA, 2018). In PRGDAI-SD 360+, this alignment is especially useful when the model is applied to digital transformation, AI



governance, cybersecurity, data governance, airline IT systems, dashboard governance, and enterprise-level decision architecture.

- indicator owner;
- data owner;
- decision owner;
- action owner;
- review cadence;
- escalation rule;
- threshold authority;
- corrective-action pathway;
- ethical review rule;
- audit mechanism.

The governance layer should include:

- Executive Steering Committee;
- Data Governance Board;
- AI Governance Board;
- Risk and Compliance Committee;
- Sustainability Committee;
- Domain Expert Panel;
- Ethics and Claim-Boundary Review Panel.

## **12. Ethical and Theological Safeguards**

PRGDAI-SD 360+ must not reduce faith, sacred meaning, dialogue, dignity or theology to numbers. In theological and civilizational contexts, indicators are decision-support instruments, not substitutes for truth, wisdom, revelation, tradition, human dignity or scholarly judgment.

This safeguard is consistent with the model's civilizational and theological lineage, especially CAT, TDDM, GKSF, IDDF, and ECKF, where indicators are treated as bounded decision-support

tools rather than substitutes for sacred meaning or doctrinal judgement (MoghadasNian, 2025c, 2025e, 2025h, 2025j, 2025k, 2026).

The model requires:

- claim-boundary statements;
- qualitative memos;
- expert theological review;
- anti-reductionist safeguards;
- protection of religious dignity;
- avoidance of surveillance misuse;
- privacy safeguards;
- bias audits;
- do-no-harm rules;
- human oversight.

In AI-enabled applications, these safeguards should be aligned with AI risk-management principles, including transparency, accountability, human oversight, and risk mitigation (Tabassi, 2023). This is especially important when applying the model to Taqrīb, Kalām, sacred texts and ecumenical dialogue.

## **13. Contributions**

### **13.1 Theoretical Contribution**

PRGDAI-SD 360+ provides a unified theory of decision architecture that links performance, risk, governance, data, AI, sustainability and execution.

### **13.2 Methodological Contribution**

It integrates design science, KPI architecture, data governance, AI governance, AHP, Delphi, maturity modelling, early-warning logic and dashboard-enabled decision intelligence.

### **13.3 Practical Contribution**

It gives executives, policymakers and institutional leaders a practical structure for turning complex evidence into decisions, actions and learning loops.

### **13.4 Cross-Domain Contribution**

It bridges airline management, logistics, tourism, AI, digital transformation, civilizational studies, Taqrīb, comparative Kalām and Christian ecumenism.

### **13.5 Ethical Contribution**

It introduces claim-boundary and sacred-to-application safeguards, preventing the misuse of metrics in sensitive theological and civilizational domains.

These contributions extend the author’s prior KPI-governed framework ecosystem while positioning PRGDAI-SD 360+ within wider design science, performance management, risk governance, data governance, and AI governance traditions (DAMA International, 2017; Hevner et al., 2004; International Organization for Standardization, 2018; Kaplan & Norton, 1996; MoghadasNian, 2025a, 2025b; Tabassi, 2023).

## **14. Limitations**

The model has several limitations.

First, it may become complex if implemented with too many indicators at once. A phased implementation is therefore necessary.

Second, it depends heavily on data quality. Without data validation, lineage and confidence scoring, the model may produce misleading decisions.

Third, weighting can introduce expert bias. Delphi, AHP consistency checks and sensitivity analysis are required.

Fourth, theological and civilizational indicators may be difficult to quantify. Mixed-methods triangulation and qualitative interpretation are essential.

Fifth, AI-enabled decision support may introduce bias, opacity or over-automation. AI governance and human oversight must be mandatory.

Sixth, cross-domain portability must be tested through pilots. A model that works in airline logistics may require adaptation before use in Taqrīb, Kalām or ecumenical governance.

These limitations also indicate the need for future empirical validation, expert review, reliability assessment, sensitivity analysis, and context-specific recalibration before the architecture is used as a high-stakes decision instrument (Hevner et al., 2004; Krippendorff, 2018; Saaty, 2008).

## **15. Implementation Roadmap**

### **Phase 1 — Model Registration and Conceptual Publication**

- Register PRGDAI-SD 360+ on ResearchGate.
- Publish as a methodological framework.
- Define the relationship to previous models.
- Prepare a journal-ready conceptual paper.

### **Phase 2 — Indicator Dictionary**

- Define all core indicators.
- Classify them into KPI, DI, II, CBI, SPI, CWI and MCPI.
- Create formulas, owners, data sources, thresholds and decision rules.

### **Phase 3 — Pilot Dashboards**

Recommended pilots:

- airline logistics and MRO dashboard;
- digital transformation dashboard;
- Taqrīb governance dashboard;
- ecumenical dialogue dashboard;
- AI governance dashboard.

### **Phase 4 — Validation**

Use:

- Delphi;

- AHP;
- PCA / factor analysis;
- reliability tests;
- sensitivity analysis;
- expert review;
- pilot comparison.

The validation phase should be supported by design science evaluation, expert judgement, AHP-based weighting, reliability assessment, sensitivity analysis, and AI/data governance review where relevant (Hevner et al., 2004; Krippendorff, 2018; Linstone & Turoff, 2002; Saaty, 2008; Tabassi, 2023).

#### Phase 5 — Journal Submission

Recommended article types:

- methodological article;
- design science article;
- framework article;
- decision intelligence article;
- aviation and AI governance article;
- civilizational governance article.

#### Phase 6 — Cross-Domain Scale-Up

Expand from one pilot to:

- airline industry;
- tourism;
- supply chain;
- AI governance;
- Taqrīb institutions;
- academic dialogue councils;
- ecumenical organizations.

## 16. Research Questions

### Primary Research Question

How can **Performance, Risk, Governance, Data, Artificial Intelligence, Sustainability, and Decision Execution** be integrated into a universal, evidence-based decision architecture for complex governance environments?

### Secondary Research Questions

- **SRQ1:** How can fragmented KPIs, risk signals, and data streams be transformed into decision-ready indicator systems?
- **SRQ2:** How can data governance and AI governance improve the reliability, accountability, and ethical quality of decisions?
- **SRQ3:** How can PRGDAI-SD 360+ remain portable across organizational, technological, civilizational, and theological domains without creating conceptual confusion or reductionism?
- **SRQ4:** How can the model be validated through expert review, weighting, pilot dashboards, maturity assessment, and post-decision learning?

## 17. Conclusion

The PRGDAI-SD 360+ Decision Architecture represents the final integrative point of a long research trajectory across airline KPI governance, digital transformation, AI strategy, civilizational studies, Taqrīb, comparative Kalām and Christian ecumenism. Its central innovation is the movement from isolated indicators to a complete decision architecture. It does not ask only, “What is the performance?” It asks:

- What is the performance?
- What is the risk?
- Is governance clear?
- Is the data reliable?

- Is AI controlled and useful?
- Is the outcome sustainable?
- What decision must now be taken?
- Who is responsible?
- What action follows?
- How will the system learn?

In this sense, PRGDAI-SD 360+ extends the author's previous KPI-governed, AI-ready, and civilizational decision frameworks while grounding them in wider design science, performance management, risk governance, data governance, and AI governance traditions (DAMA International, 2017; Hevner et al., 2004; International Organization for Standardization, 2018; Kaplan & Norton, 1996; MoghadasNian, 2025a, 2025b, 2025e, 2026; Tabassi, 2023).

For ResearchGate, PRGDAI-SD 360+ should be registered as a Research Tool / Methodological Framework / Decision Architecture. For journal development, it should be framed as a design science meta-framework for evidence-based strategic governance. Its strongest contribution is its 360-degree applicability to decision-makers across operational, strategic, technological, civilizational and theological domains.

## Recommended Citation

A recommended citation for the method is:

MoghadasNian, S. A. H. (2026). *PRGDAI-SD 360+ decision architecture: Integrating performance, risk, governance, data, artificial intelligence, sustainability, and decision execution*. University of Religions and Denominations. ResearchGate.  
<https://doi.org/10.13140/RG.2.2.17495.02729>

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