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The MR³ Framework

Measure, Rebuild, Resist: a financial systems architecture and AI-governed decision framework for small and mid-sized enterprises.

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Abstract

Most small and mid-sized enterprises do not fail for lack of effort or customers. They fail because large decisions are made without a structure that shows, in time, what is happening to their money.

MR³ (Measure, Rebuild, Resist) is a standardized financial systems architecture that replaces experience-based financial management with documented diagnostics, forward-looking scenario models, rule-based decision gates and early-warning monitoring. It adapts the discipline of commercial aviation, where decisions are calculated before they are needed and alarms sound before emergencies, to the finances of organizations that cannot afford a full corporate finance department.

The framework integrates artificial intelligence as a decision-support instrument under explicit governance: defined uses, mandatory human validation and full traceability. AI accelerates analysis; accountability stays with leadership.

This document sets out the framework as a formal methodology: its components, its scoring index, its decision rules, its AI governance protocol (Annex A) and the documented implementations on which it is based. It is published to fix the method's definition, authorship and version, and to make it teachable and replicable by other practitioners.

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1 The problem: decisions without instruments

There are more than 36 million small businesses in the United States. They represent 99.9% of all businesses and employ 45.9% of private-sector workers. Yet only about half of new establishments are still operating five years after opening. In the most recent Federal Reserve survey of employer firms, 77% reported financial challenges from rising costs of goods, services or wages, or from tariffs.

In practice, the same structural gaps appear again and again:

1. **No standard diagnostic.** Each analysis is done differently, so no one can say whether the company is better or worse than six months ago.
2. **No scenarios.** Expansions, hires and loans are decided without knowing what happens if sales fall 10% or 20%.
3. **Expected revenue treated as confirmed.** Irreversible costs are committed against income that has not yet been contracted or received.
4. **Late signals.** Cash is reviewed when there is already a problem, not before.
5. **Ungoverned AI.** Analytical tools are adopted with no rules on what they are asked, who validates the answer or where it is recorded.

None of these gaps is closed by better advice. They are closed by architecture: processes, models and indicators that keep working when people change.

2 Origin: aviation-grade discipline

The author spent several years leading finance, planning and operations in commercial airlines. Commercial aviation offers a mature model of how to manage high-stakes decisions under uncertainty. Several of its principles translate directly to enterprise finance:

Aviation principle	MR³ equivalent
Pre-flight checklist	Standardized diagnostic (MR³ Index) before any major decision
Takeoff decision speed (V1), calculated on the ground	Execution gate: the condition that must be met before an irreversible commitment
Flight plan with alternate airports	12–24 month scenarios with a defined fallback for each major initiative
Point of no return in flight	The date from which a commitment can no longer be recovered, and the alternate plan beyond it
Cockpit instruments and master caution	Dashboards and early-warning thresholds that trigger before an emergency
Safety Management Systems (proactive risk identification, continuous monitoring, documented procedures)	Documented governance: committees, approval thresholds, audit trails

The common thread is that critical decisions are calculated in advance, under calm conditions, and written down, so that no one has to improvise them under pressure.

3 The framework: Measure, Rebuild, Resist

PHASE 1

Measure

A standardized financial diagnostic producing the MR³ Index: liquidity, capital structure, governance, operational efficiency and adaptive capacity, always measured with the same yardstick.

PHASE 2

Rebuild

A rule-based plan: budget formulation, cost architecture, debt renegotiation, 12–24 month scenario models and explicit decision thresholds for investment and commitment.

PHASE 3

Resist

Durable infrastructure: KPIs, self-updating dashboards, documented processes, governance bodies and early-warning alarms with concrete thresholds.

Each phase produces documented outputs that remain with the organization. Success is defined as the point at which the organization makes sound financial decisions without depending on the consultant.

4 The MR³ Index

The MR³ Index is a 0–100 composite score that gives the organization a measurable baseline and a way to track progress over time. It weights five dimensions:

Dimension	Weight	What it assesses
Liquidity stability	30%	Months of fixed costs covered by cash; cash-flow volatility; working-capital cycle
Capital structure	25%	Debt relative to operating profit; cost rigidity; covenant and refinancing exposure
Governance discipline	20%	Budget process, approval thresholds, committees, documentation, traceability
Operational efficiency	15%	Margin trends, fixed-cost ratio, budget variance accuracy
Adaptive capacity	10%	Scenario readiness, speed of corrective action, use of governed analytical tools

Scores place the organization in one of four bands (see Annex B):

Score	Band	Typical priority
80–100	Structurally resilient	Maintain monitoring; prepare for growth decisions
65–79	Stable but vulnerable	Strengthen scenarios and early warnings
50–64	Governance weaknesses	Install budget rules, thresholds and controls
Below 50	Structural fragility	Liquidity protection and restructuring first

A self-assessment version of the Index is publicly available at consultingmm.net/indice-mr3. The full diagnostic uses the organization's financial statements and is validated by a practitioner.

5 Decision architecture

The central idea of MR³ is that the conditions for a decision are defined before the decision is needed. Four elements make this operational:

5.1 Three scenarios with explicit break-even

Every major initiative is modeled under conservative, base and expansion cases, each with its own break-even point. The question shifts from "is this profitable?" to "how much must be sold, and confirmed, to avoid a loss in each case?"

5.2 Confirmed versus expected revenue

Revenue is classified as **confirmed** (signed contract or cash received), **probable** or **expected**. Only confirmed revenue can release irreversible spending.

5.3 Execution gates and the point of no return

For each commitment, the framework records the amount and the date from which it can no longer be recovered. Spending is released in blocks, each one only when confirmed revenue covers it. Each initiative has a defined decision date, condition and owner. If the condition is not met by that date, the format is reduced or the initiative is postponed, as decided in advance.

5.4 Alternates after crossing

Once an irreversible threshold is crossed, the relevant question is no longer whether to go back but where to go if conditions change. Each initiative defines its alternate (scale down, postpone a phase, renegotiate) and the cash required to reach it.

6 Early-warning system

In the Resist phase, four primary alarms are installed with concrete thresholds. An alarm is not a crisis; it is time to decide.

Alarm	Plain-language question	Triggers when
Cash	If sales stopped tomorrow, could the company cover two months?	Cash covers less than 2 months of fixed costs
Debt	Is debt growing faster than earnings?	Debt exceeds 4.5 times operating profit (EBITDA)
Payroll	Does the operation generate enough to cover payroll?	Operating cash flow covers less than 90% of payroll
Margin	Is the company earning less per sale than six months ago?	Margin falls more than 8% over two consecutive quarters

Thresholds are reference values and are calibrated to each sector during the Rebuild phase. Each alarm has a documented response protocol and a responsible person.

7 AI governance

MR³ uses AI to analyze scenarios, review variances and simulate decisions faster. It does so under five non-negotiable rules:

1. **Defined uses.** AI is applied only to documented, approved tasks.
2. **Human validation.** Every material output is reviewed and approved by a named person before it informs a decision.
3. **No autonomous execution.** AI never executes payments, restructurings or capital allocations.
4. **Traceability.** Inputs, outputs, reviewer and decision are logged.
5. **Data minimization and confidentiality.** Only the data needed for the task is used, under access controls.

The full protocol, mapped to the four functions of the NIST AI Risk Management Framework (Govern, Map, Measure, Manage), is set out in Annex A.

8 Documented implementations

The framework was developed and refined through implementations in aviation, media and education, nonprofit, professional services and event organizations. The outcomes below are those attested in writing by leaders of each organization. Organizations are not named here to protect confidentiality; documentation is available on request.

Context	What was implemented	Attested outcome
Commercial airline, new branch in Argentina (2018–2022)	Branch built from no local presence; weekly forward-looking cash-flow control; fuel and supplier payment monitoring	On-time performance from 68% to 95%; full commercial route certification; systems still operating after the author's departure
Regional airline group, planning and budget (2015–2017)	Capital-allocation and route-evaluation models with demand, fuel and leasing sensitivity	Forward-looking evaluation of new international routes before committing resources
Media and education company, United States (2022)	Finance committee; diagnostic protocols; Power BI dashboards; 12–24 month scenario models	More than $400,000 in vendor liabilities restructured; fixed costs down 23% in six months; three digital units with over $1.5 million in revenue in one year; supported the $1.9 million acquisition and later refinancing of the company headquarters; models still in use years later
International events, budgets above $500,000 per edition	Multi-scenario models, explicit break-even, execution gates tied to confirmed revenue, point of no return per initiative, BI dashboards	Events executed within defined financial limits; margins protected; no cost overruns; model reused in later initiatives

Context	What was implemented	Attested outcome
International foundation, programs in more than 15 countries	Three-year forecasting model; BI dashboards for capital allocation; threshold-based budgeting	Budget accuracy above 90%; models still used by the finance team
Certified B Corporation consultancy, United States	First formal budget process; financial review committee; approval thresholds; governed use of analytical tools	Operational efficiency improved by approximately 15%; models remain the basis of strategic planning
Professional services firm, Florida (2023–present)	Integrated digital workflow across 11 case stages; Power BI management dashboards	Standardized, traceable process from intake to filing

> **Common pattern.** In every case, the result that mattered most was not the first-year figure but that the systems kept running after the author's involvement ended. Four of the attesting organizations state explicitly that the models, dashboards or procedures remained in use after the engagement.

9 Dissemination and replication

MR³ is designed to be taught, not only applied. Since 2022 the author has presented the framework as a guest facilitator in four editions of the MBA International Week at San Ignacio University in Miami, where graduate students work through a structured case: diagnostic baseline, multi-scenario modeling, liquidity thresholds and execution gates, before committing hypothetical capital.

The replication path has three components:

- **Public tools:** the MR³ Index self-assessment, bilingual articles and infographics.
- **Documented methodology:** this white paper and its annexes, with versioned updates.
- **Practitioner training:** workshops for business owners, accountants and consultants, with a planned practitioner certification so that the method can be applied without the author's direct involvement.

10 Scope and limitations

- MR³ is a management and governance methodology. It does not replace accounting, tax, audit or legal advice.
- Thresholds are reference values and must be calibrated by sector, size and business model.
- Outcomes reported in Section 8 depend on each organization's context and execution, and are not guarantees of future results.
- The Index self-assessment is indicative. A full diagnostic requires financial statements and practitioner review.
- AI outputs are inputs to human judgment, never substitutes for it.

11 Authorship, version and citation

Author	Mario Rodríguez Aguilera
Organization	Consulting M&M LLC, Florida, USA (founded 2022)
Method name	MR³ (Measure, Rebuild, Resist), also referred to as the MR³ Financial Recovery Framework
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Annex A. MR³ AI Governance Protocol

How artificial intelligence is used inside MR³ engagements: what it may do, what it may never do, who validates it and how it is recorded.

> **Principle.** AI is a decision-support instrument, never a decision-maker. Every material financial recommendation is validated by a named person, and no AI system executes financial transactions.

A.1 Scope of permitted uses

Permitted (with human validation)	Not permitted
Drafting scenario models and sensitivity tables	Approving or executing payments, transfers or restructurings
Variance analysis between budget and actuals	Making credit, hiring or capital-allocation decisions
Summarizing financial statements and trends	Processing personal or client data beyond what the task requires
Flagging threshold breaches and anomalies	Producing figures that enter official reports without review
Preparing first drafts of reports for review	Using tools not approved for the engagement

A.2 Validation workflow

1. **Request.** The task, data used and approved tool are recorded.
2. **Output.** The AI output is saved with date and version.
3. **Review.** A named reviewer checks figures against source data and assumptions.
4. **Decision.** The reviewer approves, corrects or rejects; the decision-maker is a person.
5. **Log.** Request, output, reviewer, changes and final decision remain in the engagement record.

A.3 Alignment with the NIST AI Risk Management Framework

NIST function	MR³ controls
Govern	Written AI-use policy per engagement; named owner and reviewers; approved-tools list; staff guidance on confidentiality; non-autonomous execution policy
Map	Each AI use is linked to a specific decision and its financial impact; data sources and limits are documented; high-impact decisions (debt, capital, payroll) are identified in advance
Measure	Outputs are reconciled with source figures; error and correction rates are tracked; periodic review of outputs for bias or systematic error
Manage	Threshold-based escalation to leadership; ability to suspend a tool or use; incident log and corrective actions; annual protocol review

A.4 Data protection

- Data minimization: only the data required for the task is shared with an AI tool.
- Client-identifying information is removed or masked whenever the analysis allows it.
- Access is role-based and protected with multi-factor authentication.
- Engagement records are retained for audit and traceability.

A.5 Roles

Role	Responsibility
Engagement lead	Approves AI uses for the engagement and owns the protocol
Reviewer	Validates each material output against source data before use
Decision-maker (client leadership)	Makes the final decision; never delegated to an AI system

A.6 Review triggers

The protocol is reviewed at least once a year and whenever a new tool is introduced, an output error reaches a decision, or applicable regulation or guidance changes.

A.7 Evidence of practice

Structured protocols for the governed use of analytical tools, preserving human accountability, have been implemented in prior engagements and attested in writing by client leadership (see Section 8 of the MR³ white paper).

Reference: National Institute of Standards and Technology, *Artificial Intelligence Risk Management Framework (AI RMF 1.0)*, NIST AI 100-1, January 2023. This protocol is aligned with the framework's functions; it is not a certification by NIST.

Annex B. MR³ Index scoring bands

Each dimension is scored from 0 to 100 using standardized questions and, in the full diagnostic, financial ratios. The weighted sum gives the composite Index.

Band	Characteristics	Recommended focus
80–100 Structurally resilient	Cash buffer above three months; debt within capacity; formal budget and approval thresholds; scenarios updated regularly	Keep alarms active; evaluate growth with execution gates
65–79 Stable but vulnerable	Healthy operation with gaps in forecasting or in reaction speed; partial documentation	Scenario models, early-warning thresholds, dashboard
50–64 Governance weaknesses	Decisions rely on individuals; budget not used to decide; limited traceability	Budget rules, committee, approval thresholds, controls
Below 50 Structural fragility	Short cash runway, high leverage or sustained margin erosion	Liquidity protection, debt renegotiation, cost architecture

Composite formula

> MR³ Index = 0.30 × Liquidity + 0.25 × Capital structure + 0.20 × Governance + 0.15 × Operational efficiency + 0.10 × Adaptive capacity

Band descriptions are indicative. Final classification considers sector benchmarks and the practitioner's review.