

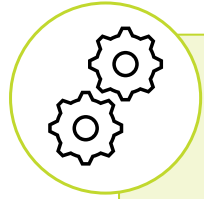
Cenfri's AI Value Framework

Considerations to assess use case value, feasibility & risks

October 2026

Policymakers face two overarching questions when assessing AI adoption

How can AI be implemented?



What are the factors to consider when implementing AI?

What methodology of implementation can be considered?

*This requires **understanding** implementation **options***

Should AI be implemented?



What are the costs, benefits, risks and feasibility of different use cases?

Are they worth implementing?

*This requires **evaluating** implementation **options** against specific criteria.*



This presentation focus on the second question

Cenfri's AI value frameworks

Provide insight on the kind of value that is created and its impact

Framework 1: Value Magnitude (Financial, Social and Economic Value)

Captures **the scale of financial, social and economic value generated by AI adoption.**

It distinguishes between three channels through which AI investments can create value:

1. **Fiscal value:** Captures the fiscal value generated by AI investments, including cost savings, efficiency gains, or revenue improvements that directly affect government budgets.
2. **Social value:** Captures improvements in welfare and public outcomes such as better service delivery, improved health or education outcomes, increased resilience, and broader societal benefits.
3. **Economic value:** Captures the extent to which AI enables productivity improvements, sector expansion, job creation, innovation, or structural economic development that strengthens national competitiveness.

Framework 2: Value Realisation (Cost, Risk, Feasibility)

Assesses the **likelihood that the value generated by an AI use case can realistically be realised.**

Even when AI appears valuable, its impact may not materialise if costs are too high, risks are unacceptable, or institutions lack the capability to implement it. The framework therefore evaluates AI use cases across three dimensions:

1. **Cost** – the scale and nature of financial commitment required
2. **Risk** – the operational, institutional, or systemic exposure created by the AI system
3. **Feasibility** – the degree of institutional, ecosystem, and user readiness required for implementation

Criteria informing whether an AI use case should be implemented

Value Magnitude

Criteria	Criteria explanation
Fiscal value	Captures the fiscal value generated by AI adoption , including cost savings, efficiency gains, or revenue improvements that directly affect government budgets and operational expenditure.
Social value	Captures improvements in public welfare and service delivery , including better health, education, safety, resilience, and expanded access to government services for citizens.
Economic value	Captures the broader impact on economic development , including productivity growth, sector expansion, innovation, job creation, and the creation of new markets or economic capabilities.

Value Realisation

Criteria	Criteria explanation
Cost	Captures the scale and nature of financial commitment required. Progresses from incremental, reversible spending to structural fiscal exposure and long-term capital commitments tied to infrastructure, operations, and institutional change.
Risk	Captures the depth and scope of exposure created by AI adoption. Progresses from contained operational risks to structural dependence, fiscal exposure, and ultimately systemic or sovereignty vulnerabilities.
Feasibility	Captures the degree of institutional, ecosystem, and user readiness needed for successful implementation and adoption. Progresses from “ready now” use cases to those requiring capability build, structural reform, and whole-of-state and ecosystem transformation.

Progression of Value Magnitude criteria

Value Magnitude

Fiscal value

Negative or no meaningful savings

AI produces negligible cost savings or revenue impact relative to expenditure.

Break even

Small efficiency gains or cost reductions that roughly offset implementation costs.

Clear operational savings

Clear operational savings or revenue improvements exceeding the cost of implementation (approx. 1–3×).

Structural operational savings

Large operational savings, productivity improvements, or revenue increases that significantly exceed implementation cost (approx. 3–10×).

Major fiscal efficiency gains

AI unlocks major financial value for government (greater than 10× implementation cost).

Social value

Negative or marginal welfare improvement

Small convenience or time savings for a limited group of users.

Meaningful service improvement

Noticeable improvements in access, quality, or reliability of public services for a defined group.

Significant welfare gains

Large improvements in outcomes such as health, education, safety, or resilience affecting many people.

System-level public value

AI materially strengthens public systems or service delivery across institutions or regions.

Structural societal impact

AI fundamentally improves access to services, inclusion, or national resilience at scale.

Economic value

Negative or no measurable impact

No measurable impact on economic activity or productivity.

Limited productivity improvement

Limited productivity improvement within organisations or small groups of firms.

Sector productivity gains

AI enables noticeable improvements in efficiency, innovation, jobs, or competitiveness within a sector.

Market expansion

AI enables new products, services, firms, jobs, or investment within the economy.

Structural economic transformation

AI relaxes a major constraint to growth or creates new national capabilities that improve long-term growth, jobs & competitiveness.

(See 2 examples further below)

AI Value Creation Factors: Fiscal value

How value to government budgets and financial performance gets realised

Factors	Illustrative examples
Cost efficiency & savings: Reduction in government expenditure through improved efficiency.	Automation of administrative processes; reduced fraud, leakage & manual processing; lower service delivery costs.
Revenue mobilisation: Increased ability to generate or collect public revenue.	Improved tax compliance, customs optimisation, detection of underreporting.
Spending effectiveness: Better allocation and targeting of public resources.	Targeted subsidies, optimized procurement, data-driven budgeting.
Operational productivity: More output delivered per unit of government input.	Faster case processing; higher throughput in public services; reduced backlogs; quicker permit approvals.
Fiscal multiplier effects: Broader financial gains unlocked beyond direct savings.	Freeing up budget for priority sectors, improved medium-term fiscal sustainability.
Loss avoidance / risk mitigation: reduces government losses or liabilities	Fraud prevention, reduced disaster response costs, lower insurance or contingency spending.

AI Value Creation Factors: Social Value

How value to citizens, welfare, and public outcomes get realised

Factors	Illustrative examples
Service access & inclusion: Expanded reach of public services to more people.	Digital access in remote areas; inclusive service delivery for underserved groups.
Service quality & reliability: Improved consistency and quality of public services.	Reduced errors; faster response times; more reliable service provision.
Outcome improvement: Tangible improvements in welfare outcomes.	Better health diagnostics; improved education outcomes; enhanced safety.
Equity & fairness: More equitable service delivery and reduced bias.	Fairer eligibility assessments; reduced discrimination in public systems.
Trust & institutional legitimacy: Increased public confidence in government.	Transparent decision-making; consistent service experiences; perceived fairness.
Risk reduction & resilience: Improved citizen safety and resilience to shocks.	Disaster early warning systems; crime prevention; health risk detection.

AI Value Creation Factors: Economic Value

How value to the broader economy and productivity gets realised

Factors	Illustrative examples
Firm-level productivity: Efficiency gains within firms or sectors.	Automation in SMEs; improved logistics; reduced operational costs.
Sector competitiveness: Strengthened performance of key industries.	Smarter agriculture; optimised manufacturing; improved service sector efficiency.
Market creation & expansion: New products, services, and business models.	AI-enabled startups; new digital services; platform-based markets.
Labour market effects: Changes in employment, skills, and job quality.	New high-skill jobs; reskilling pathways; shifts in job composition.
Structural economic transformation: Long-term changes to growth and economic structure.	Movement up value chains; digital economy expansion; increased global competitiveness.
Economic resilience / stability: Improved stability and reduced economic risk.	Reduced business risk; improved credit risk assessment; supply chain risk reduction.

Degrees of separation from realising value

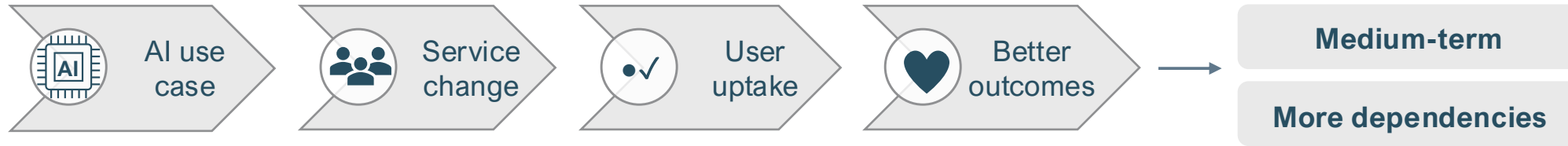
Distance to realising value increases going from fiscal value to social value to economic value

More steps = more conditions that must hold before impact is realised.

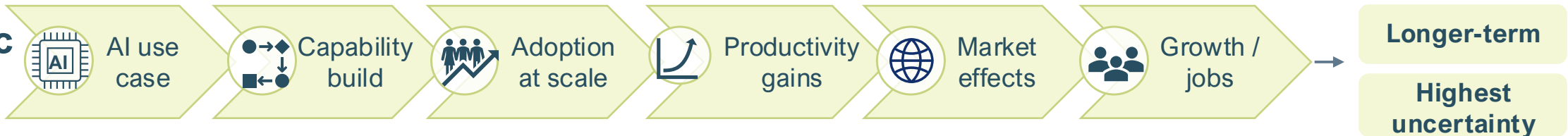
Fiscal value



Social value



Economic value



Implication for sequencing

- Start with use cases where value is clearest and easiest to realise.
- Fiscal-value use cases often provide the best early learning opportunities, helping institutions build the capabilities needed for more ambitious social and economic value use cases later.

Example of overcoming binding constraints to growth & development

Binding constraint

Digital and English literacy

Digital and English literacy remain a significant barrier to engaging with the digital economy

For example: elderly and rural populations are more likely to be digitally excluded, or to have limited engagement with digital use cases.

How AI can unlock constraint

Local language LLM

Reduce the language and digital access barriers by enabling people to interact with services and information in their local language. These tools could help citizens navigate public services, health and financial information, and digital platforms more easily, and support learning and skills development.

Lack of skilled workforce

The majority of the workforce in African countries still has limited skills, which is a major constraint to economic development

For example: Limited medical specialist capacity constrain a country's ability to attract foreign patients and scale high-value healthcare services.

AI enabled specialist support

By augmenting skilled and unskilled labour to raise productivity, quality, and the consistency of work, without requiring a proportional increase in highly skilled labour, AI can act as a capability multiplier: allowing lower- and mid-skilled workers to perform tasks that previously required scarce professional expertise.

Progression of Value Realisation criteria

Value Realisation

Cost	Marginal / Incremental Cost AI as add-on with minimal fiscal exposure. Small pilots, subscription tools, reversible investments within existing IT budgets.	Programmatic cost AI as managed programme with defined budget lines. Department-level investments, integration work, workforce training, moderate infrastructure spend.	Structural operational cost AI becomes operational backbone. Dedicated infrastructure, recurring high inference usage, permanent MLOps teams, cross-agency redesign.	Capital-intensive strategic bet AI as industrial policy commitment. National compute investments, large-scale model training, long amortisation cycles, high sunk costs.	Systemic fiscal exposure AI becomes structural fiscal commitment. Macro-budget exposure, lifecycle replacement costs, political exposure to scaling volatility.
Risk	Operational risk Contained operational fragility. Minor technical failures, limited service disruption, contained data exposure.	Organisational risk Institution-level fragility. Accountability gaps, workforce displacement tension, public trust concerns.	Structural Dependence Risk Architecture-level exposure. Vendor lock-in, platform concentration, dependence in core systems.	Strategic & fiscal risk Macro-level risk exposure. Budget volatility, stranded capital, industrial misallocation.	Sovereignty & systemic risk State-level vulnerability. Geopolitical leverage, national infrastructure dependence, systemic vulnerability.
Feasibility	Ready Now Low institutional and user-side friction. Existing data, IT systems, workflows, and user capabilities sufficient; minimal change impact.	Organisational Readiness Required Moderate institutional friction. Requires governance improvement, workforce training, departmental integration, and basic change management.	System-Level Capability Build High institutional friction. Requires cross-agency coordination, interoperable data platforms, ML engineering capability, and workforce capability build for adoption.	Structural Reform Dependent Major institutional preconditions. Requires legal reform, institutional restructuring, foundational digital/data infrastructure, and significant shifts in incentives, skills, and adoption conditions.	State Capacity Transformation Required Whole-of-state and ecosystem readiness needed. Requires data ecosystem maturity, deep governance sophistication, broad workforce capability, and widespread user readiness.

AI Value Realisation: Cost factors

Cost of implementation and maintenance to government budgets

Factors	Illustrative examples
Technology & infrastructure: Costs of building and operating the AI infrastructure.	Cloud services; GPUs & servers; networking; storage; software licences.
Data & model development: Costs of acquiring, preparing, and improving data and models.	Data collection; labelling; model training or fine-tuning; testing & evaluation.
Human capital & organisation: Costs of building and sustaining AI capability.	Recruitment; staff training; change management; AI governance teams.
Implementation & operations: Costs of deploying, operating, and maintaining AI in production.	System integration; API/inference costs; monitoring; MLOps; maintenance & support.
Strategic & fiscal: Broader strategic and long-term public expenditure.	National AI infrastructure; shared platforms; digital public goods; ongoing fiscal commitments.

AI Value Realisation: Risk factors

Risks to users, institutions, the public sector, or Rwanda

Factors	Illustrative examples
Technical & operational: Risks arising from AI system performance and reliability.	Model errors; cybersecurity; poor data quality; system failures; weak explainability.
Governance, ethics & accountability: Risks related to oversight, responsibility, and institutional control.	Weak governance; unclear accountability; vendor management; limited auditability; ethical failures.
Social & public impact: Risks affecting citizens and society.	Bias, exclusion, hallucination; privacy harms; surveillance; workforce disruption; loss of public trust.
Economic & fiscal: Risks affecting budgets, markets, and value for money.	Cost overruns; vendor lock-in; stranded investments; budget pressure; market distortion.
Strategic, sovereignty & systemic: Risks affecting national resilience and long-term control.	Foreign dependence; platform concentration; data sovereignty; geopolitical exposure; systemic failures.

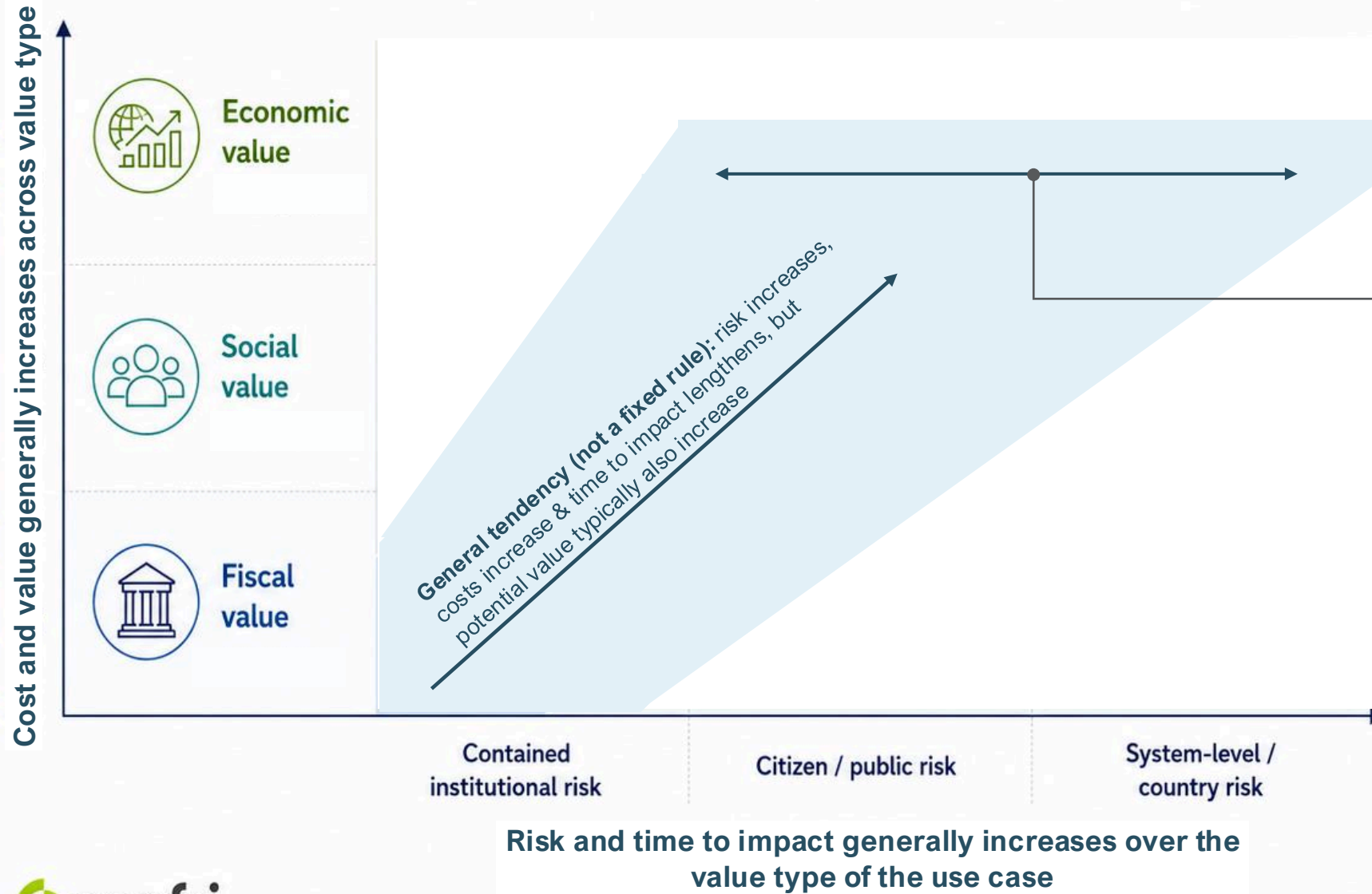
AI Value Realisation: Feasibility factors

Feasibility of implementation based on staff, institution and political readiness

Factors	Illustrative examples
Data & infrastructure: Availability of the technical infrastructure and data needed for AI.	Data quality; interoperability; cloud/on-prem infrastructure; connectivity; compute capacity.
Data governance & regulation: Readiness of data & AI governance, and data & AI regulation,.	Data governance; AI governance; Accountability; Legal frameworks;
Human capital & institutional readiness: Capability of people and institutions to implement and sustain AI.	AI skills; vendor management; workforce training; leadership buy-in; change management.
Implementation & operational integration: Ability to integrate AI into real government operations.	Workflow integration; process redesign; cross-agency implementation; monitoring & evaluation; scaling beyond pilots.
Strategic & political: Alignment with political priorities and long-term national objectives.	Political will; public trust; national AI strategy; fiscal prioritisation; institutional risk appetite.

Value type and implementation choices shape risk

Risks, costs and time to impact generally correlates with the type of value – but implementation choices also matter



However: Implementation choices determines actual outcomes



Implementation choices determines the actual risk, cost, time to impact, and value



Not a fixed rule

Value type gives a likely starting point, but implementation choices determine the final degree of risk, time to impact and likelihood of realising value.

Example AI use cases

Coding assistant for government teams

AI coding assistant to help public-sector developers to speed up and improve government software delivery (code, test, document).

Can be individual tool or embedded into shared dev workflows (repos, code review, CI/CD).

Automated grading of exam papers

AI-assisted marking to reduce exam backlogs and overtime costs by pre-scoring scripts & routing exceptions for human moderation.

Focus on faster turnaround with auditability and fairness checks to relieve pressure for end-of year and transition exams.

Weather forecasting + multi-channel alerts

Machine learning enhanced weather forecasting plus automated alerts via SMS/app and government channels.

Deployment can range from using external forecasts with local dissemination to locally calibrated or locally hosted models.

AI radiology triage in hospitals

AI radiology tool that analyses imaging (e.g. X-rays/CT scans) to detect fractures, TB, and pneumonia with decision support to clinicians.

Can run via cloud, in-country hosting, or on-site/edge in hospitals depending on connectivity and data controls.

Local language LLM (shared capability)

Shared local language LLM, locally hosted and fine-tuned on an open-source base for citizen and civil-servant interactions.

Positioned as enabling layer for multiple downstream applications (e.g., voice-enabled public services, or other interfaces/use cases).

Plotting example use cases across Value Magnitude

These 3 criteria guide a country's decision-making process by helping policymakers understand how large the potential impact of an AI use case may be, and where that value is likely to materialise.

	Coding assistant for government teams	Automated grading of exam papers	Weather forecasting + multi-channel alerts	AI radiology triage in hospitals	Local language LLM (shared capability)
Fiscal value					
Negative or no fiscal savings			x	x	x
Break even	x	x			
Clear operational savings					
Structural operational savings					
Major fiscal efficiency gains					
Social value					
Marginal service improvement	x				
Programmatic service improvement		x			
System-level public service improvement			x	x	
Major societal welfare improvement					x
Structural societal transformation					x
Economic value					
Marginal productivity improvement	x				
Organisational productivity gains		x		x	
Sector productivity expansion			x	x	
Market creation / ecosystem expansion			x		x
Structural economic transformation					x

Plotting example use cases across Value Realisation

These 3 criteria guide a country's decision-making process by helping policymakers understand the likelihood that this value can realistically be realised given cost, risk, and institutional readiness.

	Coding assistant for government teams	Automated grading of exam papers	Weather forecasting + multi-channel alerts	AI radiology triage in hospitals	Local language LLM (shared capability)
Costs					
Marginal / Incremental Cost	x				
Programmatic Cost		x	x	x	
Structural Operational Cost					
Capital-Intensive Strategic Bet					x
Systemic Fiscal Exposure					
Risks					
Operational Risk	x		x		
Organisational Risk		x		x	
Structural Dependence Risk		x		x	
Strategic & Fiscal Risk					x
Sovereignty & Systemic Risk					
Feasibility					
Ready Now	x				
Organisational Readiness Required		x	x	x	
System-Level Capability Build				x	x
Structural Reform Dependent					x
State Capacity Transformation Required					x

Thank you

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About Cenfri

Cenfri is a global think-tank and non-profit enterprise that bridges the gap between insights and impact in the financial sector. Cenfri's people are driven by a vision of a world where all people live their financial lives optimally to enhance welfare and grow the economy. Its core focus is on generating insights that can inform policymakers, market players and donors who seek to unlock development outcomes through inclusive financial services and the financial sector more broadly.



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