NHIS GLOBAL FORUM 2025

Harnessing Artificial Intelligence and Big Data in Decision-Making

Creating a Balance Between Social and Health Welfare and Financial Sustainability

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صندوق الحماية الاجتماعية
SOCIAL PROTECTION FUND

Vision

Comprehensive social protection for a sustainable, dignified life for the community.

Mission

Providing equitable social protection for the community through efficient and effective institutional performance based on innovation and partnership.

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Introduction

(AI) based decision-making systems offer significant potential to improve efficiency, service delivery, and policy formulation, the high initial investment costs present a major barrier to adoption. Additionally, the financial benefits of AI typically take several years to materialize, creating pressure on institutions that operate within tight, annual budgets.

Introduction

A key issue highlighted is the misalignment between upfront costs, delayed returns, and the failure to reinvest savings back into AI systems. These structural challenges threaten the long-term sustainability of such initiatives.

National- Context 2040

- Oman’s Vision 2040 prioritizes innovation, digital government, and citizen-centric services.
- Rising demand for healthcare & welfare due to demographic and health trends.
- AI offers predictive analytics, automation, and smarter allocation.
- Financial challenges of sustainability in a budget-limited, oil-dependent economy.

Key Financial Barriers

High Upfront Costs: Software, integration, cybersecurity, training

Delayed Return on Investment: Benefits emerge over 3–5 years

Poor Reinvestment: Operational savings redirected elsewhere, limiting long-term support

Cost Estimates

AI Decision Support System Costs (Year 1):

- In-House: $585K–$3.6M
- Outsourced: $280K–$955K
- Ready-Made: $108K–$535K

Annual maintenance: up to $475K

High cost of entry and ongoing expense demand innovative funding.

Delayed Return on Investment

AI implementations, financial benefits ramp up gradually over time:

Year	% of Annual Benefit Realized
Year 1	10% (pilot/testing phase)
Year 2	40%
Year 3	70%
Year 4	90%
Year 5	100%

Delayed Return on Investment - Reasons

Key reasons of slow adoption, not scaling up AI in (AI) and based decision-making systems within healthcare and welfare goveremntal inistitutions:

- Due to regulation of AI using.
- System begins to support limited decision-making
- Change resistance and difficulties to scale AI system usage
- Bias and Fairness posing serious ethical risks.

Poor Reinvestment: Operational savings redirected elsewhere

Although AI systems can generate significant operational savings, these financial gains are often diverted to other institutional priorities rather than reinvested into maintaining or scaling the AI infrastructure. This lack of reinvestment undermines the long-term sustainability and effectiveness of the technology.

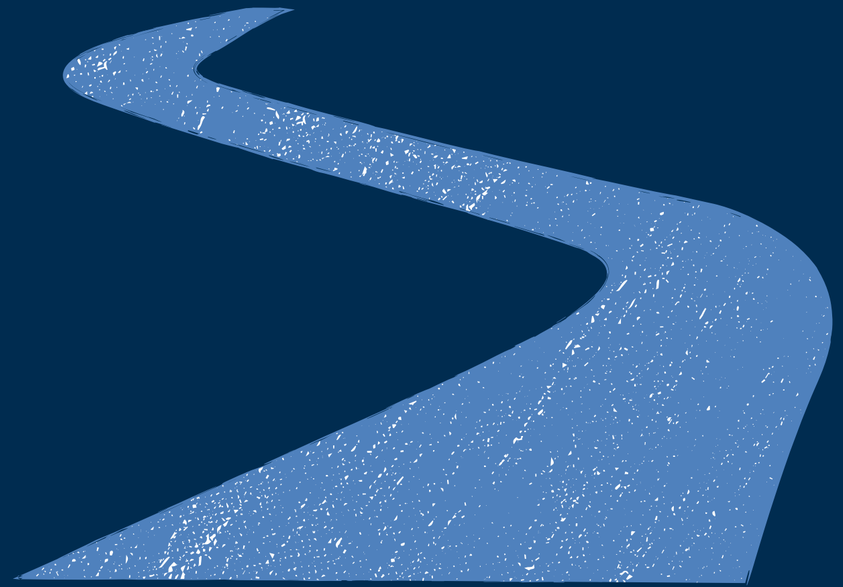
Strategic Financial Solutions

1. • Performance-Based Financing: Repay AI investments using future savings
2. • Phased Rollout: Start small, scale based on success
3. • Financial Innovation: New funding models to attract public-private partnerships

Conclusion – Path Forward

AI holds transformative potential for public welfare and healthcare.

Success requires flexible funding, phased implementation, and reinvestment culture.



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Thank You

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