SUSTAINING INNOVATION VIA EFFECTIVE EXECUTION AND MEASURING IMPACTS

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BIENNIAL CONFERENCE

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OUTLINE

1. Innovation
   • Definition
   • Effective innovation

2. Government’s Role in Innovation
   • Concept to realisation
   • Strategies in Implementing Innovation
   • Social Innovation and Its Impact

3. Measuring Impacts of Innovation
   • Efforts In Implementing And Measuring Impacts of Innovation In Malaysia

4. Issues and Challenges

5. Conclusions
1. DEFINITION OF INNOVATION – OSLO MANUAL (2005)

Cont...

Products:
• Goods
• Services

Methods:
• Processes
• Business Practices

• New
• Significantly improved
Factors influencing successful implementation of innovation:

- organisational context
- user needs and demand
- project complexity
- the framework for support
- evidence of potential effectiveness

(Barlow et al., 2006).
2. GOVERNMENT’S ROLE IN INNOVATION

11th Malaysia Plan : **INNOVATION**

**Game Changer**
Unlocking the potential of productivity

<table>
<thead>
<tr>
<th>Approach</th>
<th>Fragmented productivity initiatives, typically at national level</th>
<th>Focused and comprehensive strategies at all levels – national, industry, and enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Champion</td>
<td>Led by Government</td>
<td>Spearheaded by industry champions and industry associations, and supported by Government via the National Productivity Council</td>
</tr>
<tr>
<td>Industry focus</td>
<td>Focused on manufacturing sector and selected services subsectors</td>
<td>Covers all sectors, including agriculture, construction and the public sectors</td>
</tr>
<tr>
<td>Program design</td>
<td>Generic programmes without clear targets</td>
<td>Programmes closely aligned with industry needs as per relevant industry master plan</td>
</tr>
<tr>
<td></td>
<td>Incentives not linked to performance</td>
<td>Programme incentives linked to outcomes</td>
</tr>
<tr>
<td>Regulation revamp</td>
<td>Little to no linkages between regulations or policies with productivity</td>
<td>Linkages established between government regulations or policies with productivity</td>
</tr>
<tr>
<td>Oversight</td>
<td>Oversight only at the national level</td>
<td>Increased oversight across enterprise, industry, and national level</td>
</tr>
</tbody>
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**Strategy canvas: Social innovation**

Source: 11th Malaysia Plan
CONCEPT TO REALISATION

Strategies in Implementing Innovation

SOCIETAL LEVEL:
- a. Communities provide input into social service delivery; and
- b. Take part in determining innovative solutions to their problems.

ENTERPRISE LEVEL:
- a. Government works with private sector to increase information sharing; and
- b. Strengthen the role of private sector in service delivery.

INDUSTRY LEVEL:
- a. Appointing productivity champions; and
- b. Customizing industry-level productivity programmes.

NATIONAL LEVEL:
- a. Key Performance Indicators (KPI);
- b. Accelerating regulatory reforms; and
- c. Rationalising government institutions.
A) NATIONAL LEVEL: Public sector productivity targets are being set via:

- key performance indicators (KPIs);
- accelerating regulatory reforms; and
- rationalising government institutions.

The Initiatives

1. Encouraging up-skilling and re-skilling

2. Targeted skills training programmes

3. Research through industry-academia collaboration

4. Support for industrial & social innovation
B) INDUSTRY LEVEL: Productivity is pushed across industries by:
• appointing productivity champions; and
• customising industry-level productivity programmes.

Source: SME Corp.
B) ENTERPRISE LEVEL: The Government works with the private sector to:
- increase information sharing; and
- strengthen the role of the private sector in service delivery.
3. (a) SOCIAL INNOVATION AND ITS IMPACTS

C) SOCIETAL LEVEL: Communities will be encouraged to:
- provide input into social service delivery mechanisms; and
- take part in determining the best innovative solutions that address their problems and elevating their socio-economic status. (Ministry of Higher Education)

**TERATAK SEMAI @ PUTRA BAKTI**

**OUTPUT**
- 3 Phases project
- 96 volunteers

**IMPACT**
- Better homes for selected community member
- Knowledge transfer
- Community involvement
- Practical exposure

**COST & DURATION**
- RM111,000 vs RM277,000 (3 Phases)
- 6 Months / phase

Teratak Semai_version 4 (short).mp4
3. MEASURING IMPACTS OF INNOVATION

TANGIBLE (BUSINESS VALUE)
• New (hard) Products
• Profits
• Efficiency

INTANGIBLE (SOCIAL VALUE)
• Soft Products
• Happiness
• Services
• Well-being
• Customers’ Satisfaction

NO ONE SIZE FITS ALL

MEASURING IMPACTS

BUSINESS VALUE
- Direct, Short-Term Business Returns
- Incremental Business Returns

SOCIAL VALUE
- Inputs
- Activities/Processes
- Outputs
- Systems
- Outcomes
- Wider Socio-Economic Impact

Innovation: the forgotten investment?

Innovation investment

R&D
- Brand-building & marketing
- Process improvement
- Design
- ...and many more

Revenue
Costs
Profits

Innovation is not just an expense: it is an investment in future profitability
MEASURING IMPACTS OF INNOVATION

CLEAN WATER FOR ORANG ASLI IN SUNGAI SIPUT (Ministry of Higher Education, MoHE)

PARTNERS

COST & DURATION

RM160,000 16 days

OUTPUT

Access of clean water
Construction of water system
Maintenance of water supply
Awareness Workshop

IMPACTS

150 Orang Asli resident benefitted
Practical exposure
Knowledge transfer
Community involvement
MEASURING IMPACTS OF INNOVATION

THE FISH SITE IDENTIFICATION SYSTEM:
Through FSI system, fishing site is identified based on sea surface temperature and phytoplankton parameters, which were extracted from remote sensing satellite images.

PARTNERS

| LKIM | National Fishermen Association |

IMPACTS

- Increased fisherman’s catch and income
- Reduce diesel consumption
- Reduce fish import to the country
MEASURING IMPACTS OF INNOVATION

HONEY EXTRACTION PROJECT (Ministry of Higher Education, MoHE)

- Combines bee cultivation technique with nanotechnology coating of the bee cultivation wood block
- Local community in Tioman Island, Johore and Tamparuli, Sabah.
- Recently won first prize of the Enactus National Award and will represent Malaysia in the upcoming international competition in Canada.

<table>
<thead>
<tr>
<th>PARTNERS</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIVERSITY MALAYA</td>
<td>a fast, hygiene and cheaper way to breed stingless bee and extract its honey.</td>
</tr>
<tr>
<td>MOSTI</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITI TENAGA NASIONAL</td>
<td></td>
</tr>
<tr>
<td>MARDI</td>
<td></td>
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<tr>
<td>NANO MALAYSIA</td>
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IMPACT
This project is measured in terms of increased income of the participating community as well as the recognition of the multi-partied collaborative initiative.
Cont...

MEASURING IMPACTS OF INNOVATION

NATIONAL LEVEL MONITORING

**NKRAs**
- **6 Ministers**
  - Areas identified as most important priorities for the country
  - National Level KPIs: Dedicated focus by PM

**MKRAs**
- **23 Ministers**
  - Areas identified as the Key responsibilities for ministries
  - Ministry Level KPIs: Dedicated focus by Minister

Eight (8) Strategic Reform Initiatives (SRIs)
All SRIs have cross-cutting impact over all sectors

MINISTERIAL/ AGENCIES MONITORING

- ✓ Leadership
- ✓ National Competitiveness - innovation
- ✓ Accountability
- ✓ Service Delivery
- ✓ Governance
EFFORTS IN IMPLEMENTING INNOVATION AND MEASURING IMPACTS IN MALAYSIA

NATIONAL SURVEY OF INNOVATION

Percentage of Innovative and Non-Innovative Companies according to Business Sectors (2012)
4. issues and challenges

- Culture
  - Getting organization aligned on the right measurement of innovation
  - Demonstrating value-for-money
  - Shifting economic and social conditions
  - Different sets of shared value measurement across sectors
  - Turning data and analytics into actionable decision-making tools

**Key Challenges in Ensuring Impacts of Innovation**

- Towards demand driven activities amongst researchers, scientists & engineers
- The power of “quadruple helix” players: public, private, civil and academic to align.
- Increased pressure from the public to demonstrate value-for-money of public funds
- World-wide interconnectedness in all aspects of life, affects economic and social outcomes

To gain the most insight by connecting the dots, data, analytics and from business or social growth.

To have the right combination of portfolios where the shared value and its measurement brings out better outcomes.
- Needs to operate swiftly and effectively to allow free flow of creation & generation of ideas.

- Cooperation between government, industry, universities and community need to be beefed up to bridge the gap between scientific & technological knowledge from research institutions with the industry.

- Sharing of information & facilities need to be encouraged would provide opportunities to develop analytical tools in measuring impact.

- Funding options & mechanisms need to be streamlined to enhance its efficiencies and effectiveness.

- Invest in human capital development
5. CONCLUSIONS

- Policy-driven innovation, which can respond to economic and social challenges should first define the intended results with cost-effective measurement approach that yields valuable insights.
- The innovation ecosystem should comprise of framework of delivery, which are paramount to the success of any given programme.
- Public sector personnel must equip themselves with lifelong learning to become more resourceful. Further improvements to ensure sustained innovation impacts should include strengthening the ecosystem and streamlining the innovation value chain and processes.
THANK YOU