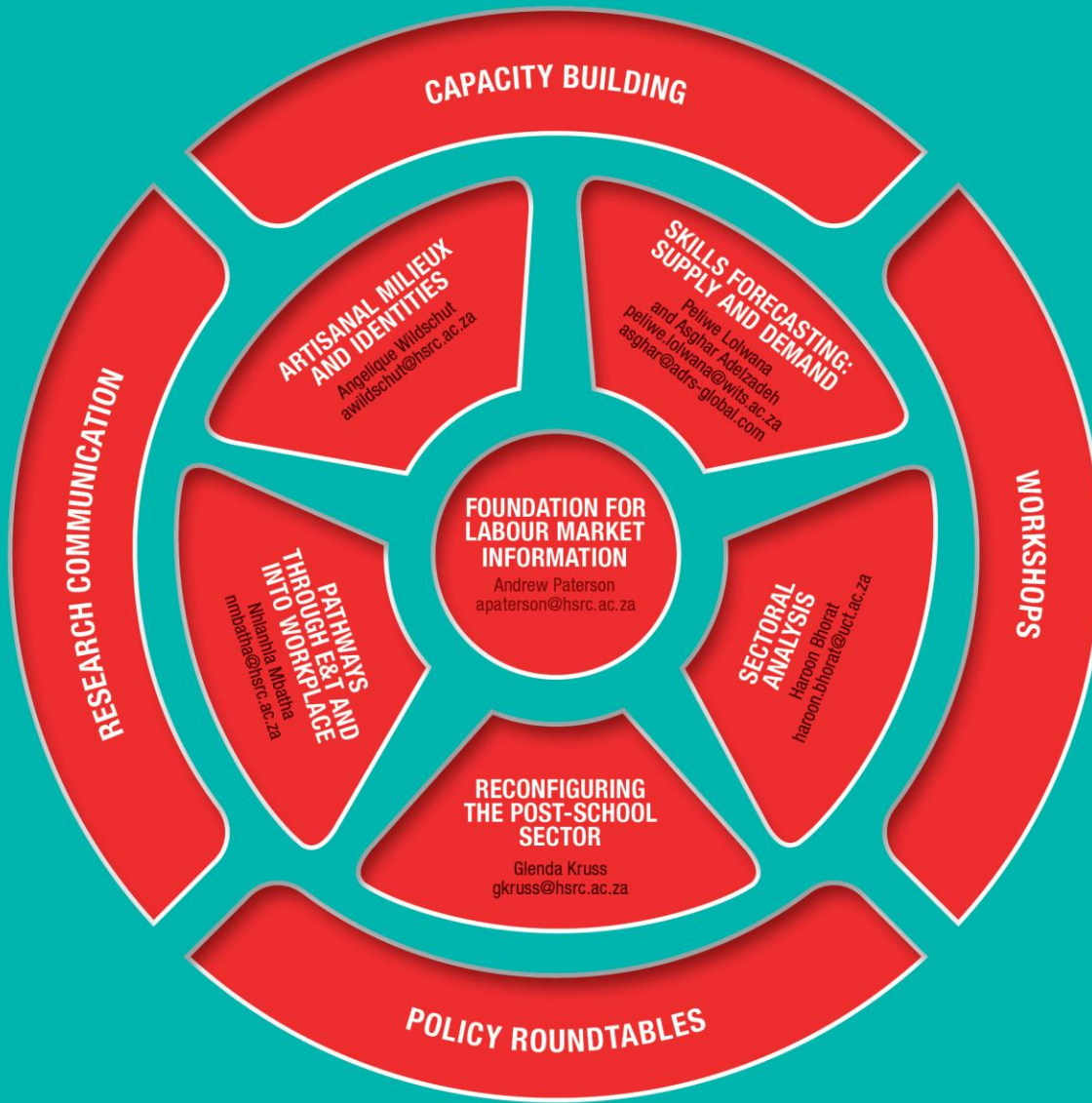




LABOUR MARKET
INTELLIGENCE PARTNERSHIP

Understanding interactive capabilities for skills development

**Centre for Research on Higher Education and Development seminar
20 August 2014**



The challenge

How do we address skills gaps in South Africa to improve alignment between what the E&T system produces, and the needs of the public and private sectors?

How can industry and education organisations work together to produce relevant graduates at all skills levels?

We can try to create projections for skills needed in specific sectors...

But these projections have limited policy utility without also having an understanding of how organisations *interact* to match the supply of and demand for skills...

An innovation systems approach?

- Framework builds on and informed by research on knowledge generation role of universities
 - institutional policies, structures and mechanisms that promote or constrain distinct forms of interaction, with their associated benefits for firms in a sector, and for **universities**
- What new kinds of questions and insights would be possible, if focus directly on skills development, and across the post-school system?
 - Alignment between knowledge, skills and capabilities for learning in firms, and those in the education and training sub-systems
 - Dynamic; historical trajectories and path dependence
 - Systems: interaction, mapping flows of knowledge and resources between actors, for learning and innovation
 - Identify mis/alignment between networks, gaps, missing organisations and critical blockages
- **Potential value** : provide a dynamic analysis of firms and their skills needs in relation to dynamic processes of technological upgrading, and of the interactive capabilities of education and training systems, which would enable us to move beyond static conceptions of supply and demand side matching

Four building blocks

1. Actors and networks
 - Identify main actors and networks of actors involved in skills development in the SSI (firms, E&T orgs, sectoral intermediaries)
2. Knowledge base and technology
 - Skills needs – routine and non-routine changes
 - Analyse the national and global drivers of technological change
 - Challenges/threats/constraints to growth and meeting skills needs
3. Institutions
 - Relevant national and sector-specific policies
 - Other formal and informal institutions impacting on the firm
4. Competencies, interactive capabilities and dynamic interactive capabilities
 - Mis/alignment between networks of skills supply and demand

The research approach

Theoretical stance: **innovation systems approach / dynamic interactive capabilities**

- What are the main components in the **SSI** addressing skills needs?
- How do **firms** meet routine and non-routine skills needs?
- How do **public and private sector intermediary organisations** build network alignment and address misalignment in relation to skills development in the SSI?
- What are the interactive capabilities of the **E&T system** to address the dynamic skills needs of firms?
- What is the nature of mis/alignment between skills supply and demand in the SSI?
- What are the challenges/constraints/threats to growth and skills development in the SSI?

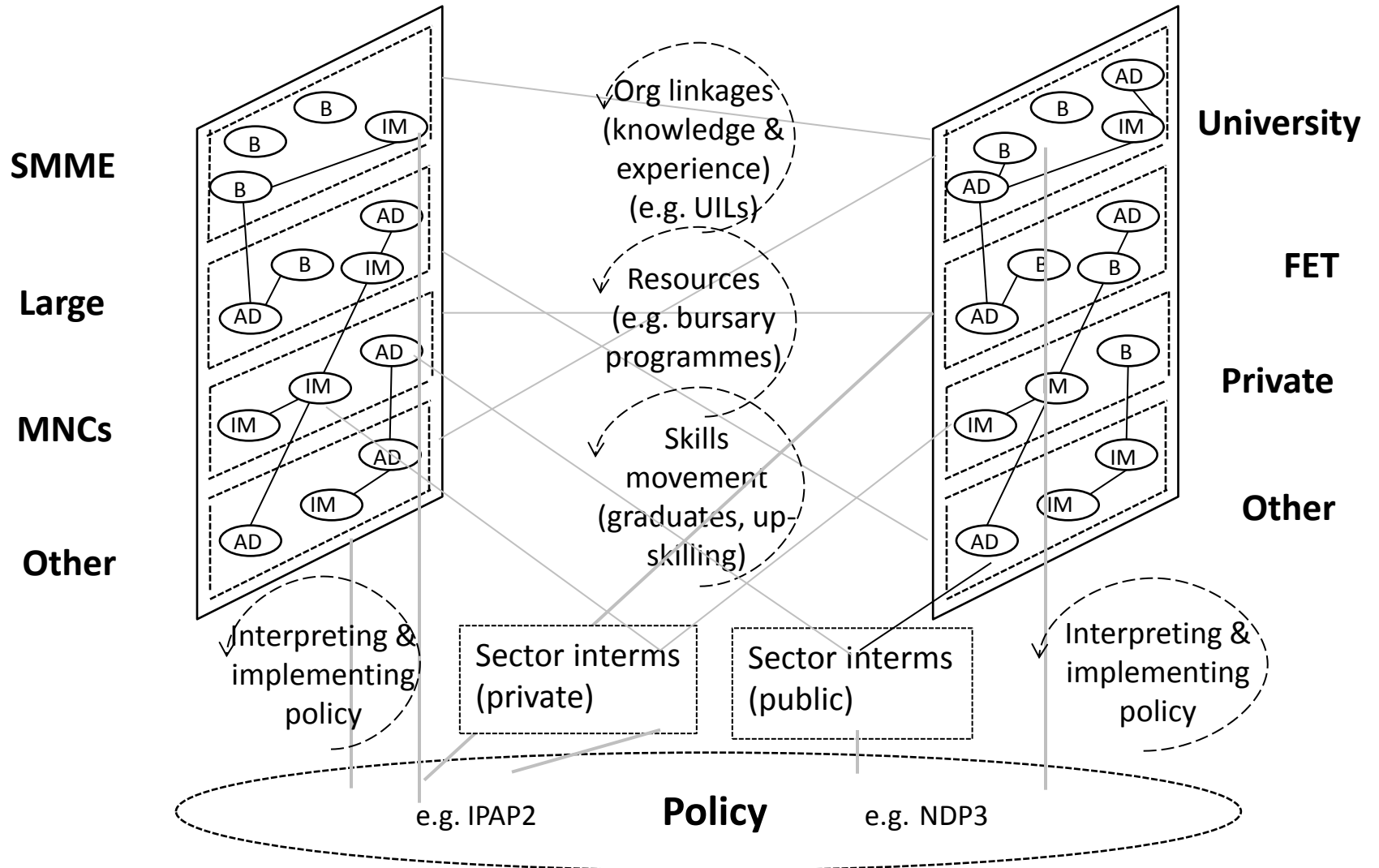
> Identify opportunities for improved interaction and system configuration

Main sector of economy	Specific sectoral innovation system	Geographical spread	Un/structured approach to skills development
Primary sector	Agro-processing: Forestry / sugar	KZN	Industry led schemes and ad hoc
Secondary sector	Automotive: OEMs	Eastern Cape	Government incentivisation schemes
High technology / big science	SKA	National / Western Cape	Foresight and planned skills development

SKILLS DEMAND

MECHANISMS/STRATEGIES

SKILLS SUPPLY



Capability building processes in the SSI

Capability building processes in the SUGAR SSI KZN

SKILLS DEMAND

MECHANISMS/STRATEGIES

SKILLS SUPPLY

CANE GROWERS

1. 25 200 Small-scale farmers
2. 1 570 Large scale growers (83.2% of crop)
3. 4 sugar cane growing companies

MILLERS IN KZN

1. Illovo Sugar (4)
2. Tongaat Hulett (4)
3. Tsb (1 in KZN, 2 Mpum)
4. Gledhow Sugar Company (PTY) (1)
5. Union Cooperative Limited (1)
6. Umfolozi (1)

PUBLIC INTERMEDIARIES

1. Dep of Agri & Environ Affairs KZN
2. DAFF
3. DHET
4. AgriSeta
5. MerSeta

Org linkages
(knowledge & experience)

Resources
(e.g. bursary programmes)

Skills movement
(graduates, upskilling)

PRIVATE INTERMEDIARIES

1. SASA (incl. SASRI, Shukela)
2. SA Cane Growers Assoc
3. SA Sugar Millers' Assoc
4. SMRI

UNIVERSITIES

1. UKZN
2. U ZULULAND
3. MUT
4. DUT
5. Wits (Tongaat)
6. Pretoria
7. Stellenbosch

FET COLLEGES

1. Coastal
2. Elangeni
3. Esayidi
4. Majuba
5. Mnambithi
6. Mthashana
7. Thekwini
8. Umfolozi
9. Umgungundlovu

PRIVATE PROVIDERS

1. Shukela (STC)
2. AGB MATHE

AGRICULTURAL COLLEGES

1. Cedara College of Agriculture
2. Owen Sithole College of Agriculture

Interpreting & implementing policy

IPAP

NGP

NDP

Policy

Sugar Act

NSDS

Interpreting & implementing policy

Interactive capabilities

Competencies

Embodied/tacit

- ✓ Skills in specialised areas
- ✓ Willingness/motivation to interact
- ✓ Leaderships skills (social skill)
- ✓ Organisational planning
- ✓ etc.

Disembodied/codified

- ✓ Organisational structures (e.g. technology transfer office, research centres)
- ✓ Institutional policies (formal)
- ✓ Diversified funding base
- ✓ etc.

Capability building mechanisms/strategies

Internal interface

- ✓ Feedback systems (internal evaluations, rewards)
- ✓ Incentives for academic excellence
- ✓ Functional integration
- ✓ etc.

External interface

- ✓ Research collaboration (e.g. university-industry interaction)
- ✓ Consultancy and lab services
- ✓ Graduate placement
- ✓ Co-operative learning programmes
- ✓ Industry involvement
- ✓ Training courses
- ✓ Staff exchange
- ✓ etc.

Circumstance



Environmental turbulence



- ✓ Sensing
- ✓ Learning
- ✓ Integrating
- ✓ Coordinating

Dynamic interactive capabilities

Researching interactive capabilities inside education & training organisations

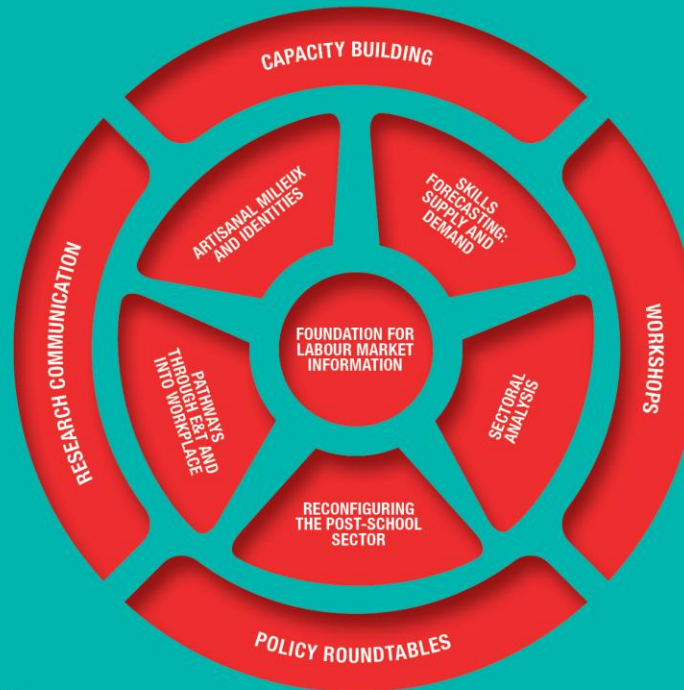
How can universities use this framework to inform strategic priorities?



- Understand economic dynamics and challenges in global context
- Analysis of skills development challenges across sectors at different occupational levels
- Map of key post-school E&T, firm and intermediary actors and networks in specific sectors
- The strength of relationships and alignment in networks
- Policies, structures and mechanisms that work in practice as models to develop interactive capabilities
- Identify practices that can be transferred / replicated /extended
- Identify misalignment and gaps for intervention
- Identify areas for capability building within PSET organisations and the system as a whole

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