

2012

LMIP WORKING PAPER 8

National Database Sets Available for Post School Sector (Supply Side)

Mariette Visser

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LABOUR MARKET
INTELLIGENCE PARTNERSHIP

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Preface

One of the gravest economic challenges facing South Africa is high unemployment, but at the same time, a skills mismatch. The market demand for skilled labour is greater than the number of individuals completing post-school education and training. Prospective employers often complain that the education system does not give individuals the necessary skills to be productive in the workplace, or to start their own enterprises.

Government acknowledges that the unemployment crisis is a systematic problem and cannot be addressed by ad hoc interventions scattered across line departments. With this 'big picture' thinking in mind, DHET aims to create broad and equitable access to a full spectrum of post-school opportunities and lifelong learning encompassing adult education and training, workplace training, the FET college system, artisan and technical training, higher education and innovation.

DHET's ability to create these learning opportunities requires a network of partners to gather and maintain a labour market intelligence system. Such a system can provide analytical insights to support policies and intervention programmes.

In February 2012, therefore, DHET commissioned a HSRC led research consortium to support its capacity to create and maintain a labour market information and intelligence system, guided by the national Delivery Agreement 5. The primary focus is the development of a 'strategic intelligence capability' towards the establishment of 'a credible institutional mechanism for skills planning'. The HSRC coordinated research project is organised in terms of six interlocking research themes, two which focus on labour market information and four which focus on labour market intelligence:

- Theme 1. Establishing a foundation for labour market information systems in South Africa
- Theme 2. Skills forecasting: the supply and demand model (*a Wits EPU project*)
- Theme 3. Studies of selected priority sectors
- Theme 4. Reconfiguring the post-schooling sector
- Theme 5. Pathways through education and training and into the workplace
- Theme 6. Understanding changing artisanal occupational milieus and identities

The consortium made a strategic decision that their research must not duplicate or repeat existing research about the challenges facing South Africa's education and training system and labour markets. Their research must address gaps, promote synergies and explore complementarities.

Hence, as a first step, working papers were commissioned to inform the research agenda for each theme. Although the working papers cover different issues, each has four common dimensions: policy challenges to institutionalise and build a post-school education and training system in South Africa, lessons from seminal national and international research, conceptual frameworks, methodological issues and data challenges raised by this research, and potential research gaps.

One of the HSRC led consortium's goals is to create a living community of practice that researches and debates education, skills and labour market issues. These working papers were presented at a conference in May 2012 to start building such a research network.

The dissemination of these working papers is intended to encourage more individuals to join the research community. We look forward to individuals' comments. They can be emailed to agoldstuck@hsrc.za.za. Welcome to the research community!

Theme 1:	Theme 3:	Theme 4:	Theme 5:	Theme 6:
Establishing a foundation for labour market information system in South Africa	Studies of selected priority sectors	Reconfiguring the post-schooling sector	Pathways through education and training into the workplace	Understanding changing artisanal occupational milieus and identities
Simon McGrath Some international reflections on developing VET indicators	Haroon Bhorat and Morne Oosthuizen Studies of Selected Priority Sectors in the South African Labour Market: A Proposed Research Programme	Andre Kraak Private post-school education in South Africa	Michael Cosser Pathways through education and training and into the labour market	Angelique Wildschut Conceptualising the study of artisans
Phil Toner Establishing a foundation for labour market information systems in South Africa	Peter Jacobs and Tim Hart A critical review of the research on skills development in rural areas	Andre Kraak Differentiation in the post-school sector	Pundy Pillay Pathways through education and training and into the workplace: a concept paper	Jeanne Gamble Models and pathways to institutionalise apprenticeships
Anthony Gewer Developing a framework for institutional planning and monitoring in FET Colleges	Shirin Motala A critical review of research on skills development and labour market demand in the early childhood development sector	Joy Papier et al Contemporary issues in public FET colleges	Sharlene Swartz Navigational capacities for youth employment: A review of research, policies, frameworks and methodologies	
Carmel Marock Developing a framework for understanding SETA performance: Monitoring and evaluating their role in skills planning, steering and enabling a supply within their sector	Theminkosi Twalo A comparative review of skills development in cooperatives	Veronica McKay A critical review on Adult Basic Education (ABET) in South Africa	Fiona Lewis Traffic jams or trees – how are South African youth progressing through the higher education sector? And what lessons can we learn from current studies?	
Bongiwe Mncwango Towards a demand side firm level survey of labour information in South Africa	Margaret Chitiga and Stewart Development of a national skills forecasting model	Thenjiwe Meyiwa and Nolutho Diko The state of graduate teacher transitions to the labour market	Stephanie Alais Jobs? What jobs? Skills? What skills? An overview of studies examining relationships between education and training and labour markets	

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Michael Cosser and Fabian Arendse Education and labour market indicators	Imraan Valodia Conceptualising skills development in the informal sector	Felix Maringe An overview of studies exploring systemic issues related to the South African post-school sector		
Joan Roodt National database sets and research on labour market demand		Peliwe Lolwana Is post-school education adult education and training? The shape and size of post-school education		
Mariette Visser National database sets available for post school sector (supply side)		Michelle Buchler A critical review of research on skills development qualifications structures		
Michael Gastrow Innovation, skills development and South African labour market intelligence		Volker Wedekind Towards responsiveness and employability in the post-school sector		

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ACRONYMS

ABET	Adult Basic Education and Training
AET	Adult Education and Training
AgriSETA	Agricultural Sector Education and Training Authority
BankSETA	Banking Sector Education and Training Authority
CASE	Community Agency for Social Enquiry
CATSSETA (new)	Culture, Arts, Tourism, Hospitality and Sport Sector Education and Training Authority
CEPD	Centre for Education Policy Development
CETA	Construction Sector Education and Training Authority
CHE	Council on Higher Education
CHE	Council on Higher Education's Higher Education Quality Committee
CHET	Centre for Higher Education Transformation
CHIETA	Chemical Industries Sector Education and Training Authority
CTFL	Clothing, Footwear and Leather Sector Education and Training Authority
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoL	Department of Labour
DPRU	Development Policy Research Unit
DPSA	Department of Public Service and Administration
DST	Department of Science and Technology
DTI	Department of Trade and Industry
E(W)SETA	Energy and Water Sector Education and Training Authority
EMIS	Education Management Information System
ETDP	Education, Training and Development Practices Sector Education and Training Authority
ETQA	Education and Training Quality Assurance body
FASSET	Financial and Accounting Services Sector Education and Training Authority
FET	Further Education and Training
FETMIS	Further Education and Training Management Information System
FIETA	Forestry Industry Sector Education and Training Authority

FOODBEV	Food and Beverages Sector Education and Training Authority
FP&MSETA (new)	Fibre Processing Manufacturing Sector Education and Training Authority
HE	Higher Education
HEMIS	Higher Education Management Information System
HEQC	Higher Education Quality Committee
HEQF	Higher Education Qualifications Framework
HETMIS	Higher Education and Training Management Information System
HPCSA	Health Professions Council of South Africa
HSRC	Human Sciences Research Council
HWSETA	Health and Welfare Sector Education and Training Authority
ILO	International Labour Organisation
INDLELA	Institute for the National Development of Learnerships Employment Skills and Labour Assessments
INSETA	Insurance Sector Education and Training Authority
ISETT	Information Technology Sector Education and Training Authority
JET Education Services	Joint Education Trust Education Services
KILM	Key Indicators of the Labour Market
LFS	Labour Force Survey
LGSETA	Local Government Sector Education and Training Authority
LMI	Labour Market Information
LMIRP	Labour Market Intelligence Research Programme
LMIS	Labour Market Information System
LURITS	Learner Unit record Information and Tracking System
MAPPP	Media, Advertising, Publishing Sector Education and Training Authority
MERSETA	Mechanical Engineering and Related Services Sector Education and Training Authority
MICT SETA (new)	Media, Information and Communication Technologies Sector Education and Training Authority
MIS	Management Information System
MQA	Mining Qualifications Authority
NAMB	National Artisan Moderating Body
NBI	National Business Initiative

NLRD	National Learners' Records Database
NQF	National Qualifications Framework
NSC	National Senior Certificate
NSF	National Skills Fund
NSFAS	National Student Financial Aid Scheme
PAB	Professional Accreditation Body for Health and Skincare
PERSAL	Personnel Salary System
PSETA	Public Service Sector Education and Training Authority
QCTO	Quality Council of Trade and Occupations
SABPP	South African Board of People Practices
SADI	South African Development Index
SAICA	South African Institute of Chartered Accountants
SAIRR	South African Institute of Race Relations
SAMAT	Southern African Multidisciplinary Advisory Team
SANC	South African Nursing Council
SAPC	South African Pharmacy Council
SAQA	South African Qualifications Authority
SARS	South African Revenue Service
SASSETA	Safety and Security Sector Education and Training Authority
SERVICES	Services Sector Education and Training Authority
SETA	Sector Education and Training Authority
SITA	State Information Technology Agency
StatsSA	Statistics South Africa
TETA	Transport Sector Education and Training Authority
UKCES	UK Commission for Employment and Skills
UMALUSI	Council for Quality Assurance of General and Further Education
UMALUSI	Council for Quality Assurance of General and Further Education
W&R SETA	Wholesale and Retail Sector Education and Training Authority

EXECUTIVE SUMMARY

DHET is currently working with delivery partners on three strategic systems: the Higher Education and Training Management Information System (HETMIS), the Labour Market Intelligence Research Programme (LMIRP), and the Career Development System. While each system has its core functionality and purpose, the plan is that the three systems will interface to provide the total solution envisaged as an integrated mechanism for skills planning for the country. In the framework of this integrated skills mechanism the necessary core data and indicators essential for skills planning have been identified. Although the essential data sources and indicators have been identified in the framework, the institutional locations and availability of the data variables of some of the different data sources still have to be identified. A summary of this framework is given in Annexure A.

In the light of the fact that a framework for an integrated skills mechanism in which relevant labour supply data sources and indicators has already been identified, this paper proposes research that builds on this foundation and focusses on identification of government departments and institutions where the relevant data sources are located. It also proposes to identify gaps and inefficiencies in the different relevant institutional datasets and systems with regard to labour supply data, respectively.

This concept paper therefore proposes the establishment of a multi-disciplinary research team who would have to endorse a methodology of close consultation and collaboration with DHET, SETAs and other stakeholders to identify relevant labour market supply data sources. The paper also proposes a review of international labour market supply indicators which would enable the research team to advise DHET on best practises internationally and on the completeness of the suggested indicators contained in the HETMIS framework. The paper thus proposes to investigate inter alia the following:

- location of relevant labour market supply datasets;
- identification of networks or linkages with partners (government departments, institutions and entities) who are housing labour market supply data (qualitative and quantitative);
- review of existing national and international labour supply indicators;
- review of actual data and variables ((in)/sufficient in terms of international best practices);
- suggestions on efficient and effective working procedures;
- review of survey instruments and output report templates with the aim of contributing to internal capacity enhancement.

Thus, the main research question proposed to be addressed in this research is:

What recommendations can be suggested to DHET in support of the production of labour market supply intelligence towards enhancing labour market supply data sources, networks and practises?

The following sub-research questions have to be investigated in order to address the main research question:

- Which institutions are housing labour market supply data sources (primary and/or secondary data)?
- What data is contained in the identified supply data sources?
- Which labour market supply indicators exist for labour market intelligence?
- Are the available data sources and variables adequate and comprehensive enough to enable calculation of recognized and standardized labour market supply indicators?
- (Indirectly: What are enabling mechanisms or barriers to achieve good data sources?

In this concept paper, sections on the following topics are presented:

- findings on a preliminary scan of institutions where labour market supply data is located
- examples of national and international labour market supply indicators found in the literature
- suggestions for further research.

BACKGROUND

Government has agreed on 12 outcomes as key focus of work until 2014 namely, outcomes for basic education, health, safety and security, employment, skills, infrastructure, rural development, human settlements, local government, environment, international relations and public service. Each outcome has a limited number of measurable outputs with indicators and targets. Each indicator is linked to a set of activities that will help achieve the targets and contribute to the outcome. Each of the 12 outcomes has a delivery agreement, which in most cases, involves all spheres of government and a range of partners outside government. Combined, these agreements reflect government's delivery and implementation plans for its foremost priorities (DHET, 2012a).

The fifth outcome namely on *skills*, 'Delivery Agreement 5: A skilled and capable workforce to support an inclusive growth path' consists of three separate delivery agreements for outputs:

- Output 5.1 – Establish a credible institutional mechanism for skills planning
- Output 5.2 – Increase access to programmes leading to intermediate and high level learning
- Output 5.3 – Increase access to occupationally-directed programmes in needed areas and thereby expand the availability of intermediate level skills (with special focus on artisan skills).

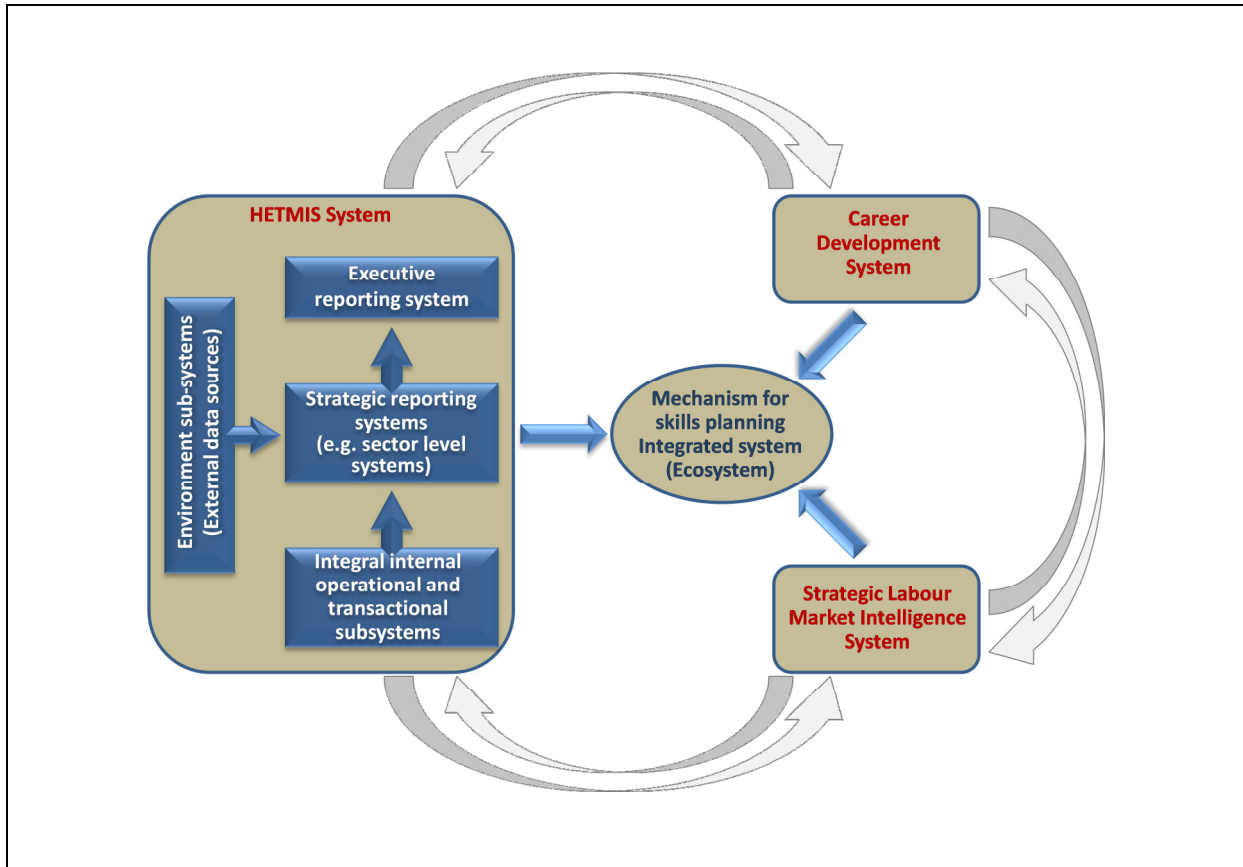
The Department of Higher Education and Training (DHET) has commissioned the Human Sciences Research Council (HSRC) to lead a consortium of research organisations in conducting research for the purpose of addressing Output 5.1. This research would enable the post-school sector to establish a credible mechanism for skills planning (HSRC Review, 2012). Such a mechanism would assist the government in achieving its national priority of a skilled and capable workforce to achieve inclusive economic growth for the country. Thereby also addressing one of the key structural challenges of the economy namely bottlenecks and backlogs in skills, which constrains economic growth and raises costs (Presidency, 2010).

The consortium of research organisations identified main research themes which need to be investigated to significantly address Outcome 5.1 and named the programme composed of the collection of research themes: 'Labour Market Intelligence Research Programme (LMIRP)'. This paper fits in the research theme: 'Theme 1: Labour market analysis framework, data and information systems', and provides a concept for research in the field of: available national database sets for the post-school sector (supply side) which can contribute to labour market intelligence.

1. INTRODUCTION

The Department of Higher Education developed a framework for cooperation in the provision of information on skills supply, skills demand and skills flow for an integrated skills mechanism for South Africa. Figure 1 illustrates the envisaged ecosystem which relies on a data supply chain from different systems for its functionality (DHET, 2012b, 2012c, 2012d, 2012e).

Figure 1: Conceptual framework of the data supply chain for the mechanism for skills planning



This concept paper aims to respond to the quest for the required labour market supply data sources that need to be fed into the illustrated ecosystem to achieve the desired labour market supply indicators which will finally inform the mechanism for skills planning. Therefore it attempts to provide a preliminary picture of the labour market supply environment in South Africa by identifying institutions that are hosting labour market supply data sources. Further in-depth investigation into the different data sources will be needed to be able to assess the potential of the different sources and forms part of the proposed research design. A synthesis of international and national examples of published labour market supply indicators (intelligence) is also provided to serve as a benchmark for the evaluation of the variables of existing data sources for completeness. The paper therefore proposes research to identify gaps with regard to supply data for the labour market intelligence system, measured against DHET's proposed and developed framework for an integrated information ecosystem.

2. CONCEPTUAL FRAMEWORK

DHET is currently working with delivery partners on three strategic systems: the Higher Education and Training Management Information System (HETMIS), the Labour Market Intelligence Research Programme (LMIRP), and the Career Development System (Figure 1). While each system has its core functionality and purpose, the plan is that the three systems will interface to provide the total solution envisaged as an integrated mechanism for skills planning for the country. In the framework of this integrated skills mechanism the necessary core data and indicators essential for skills planning have been identified. Although the essential data sources and indicators have been identified in the framework, the institutional locations and availability of the data variables of some of the different data sources still have to be identified. A summary of this framework is given in Annexure A.

In the light of the fact that a framework for an integrated skills mechanism in which relevant labour supply data sources and indicators has already been identified, this paper proposes research that builds on this foundation and focusses on identification of government departments, organisations, entities and institutions where the relevant data sources are located. It also proposes to identify gaps and inefficiencies in the different relevant institutional datasets and systems with regard to labour supply data, respectively.

This concept paper therefore proposes the establishment of a multi-disciplinary research team who would have to endorse a methodology similar to the approach followed in Marock (2010) of ‘thinking ‘out the box’ by thinking ‘in the box’ – that is by exploring what has been put in place and considering how strengthening this could assist in the provision of quality labour market supply information to feed into the integrated ecosystem. The team will have to work in close consultation and collaboration with DHET, SETAs and other stakeholders to identify relevant labour market supply datasets. This paper also proposes a review of international labour market supply indicators which would enable the research team to advise DHET on best practises internationally and on the completeness of the suggested indicators contained in the framework for the mechanism for skills planning. The paper thus proposes to investigate inter alia the following:

- location of relevant labour market supply datasets;
- identification of networks or linkages with partners (government departments, institutions and entities) who are housing labour market supply data (qualitative and quantitative);
- review of existing national and international labour supply indicators;
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- What data is contained in the identified supply data sources?
- Which labour market supply indicators exist for labour market intelligence?
- Are the available data sources and variables adequate and comprehensive enough to enable calculation of internationally recognized and standardized labour market supply indicators?
- (Indirectly: What are enabling mechanisms or barriers to achieve good data sources?

This study will have to investigate all data available in institutions in the post-school system relevant to labour market supply data, including data from universities, colleges (e.g. FET, nursing and agriculture colleges) and adult education facilities, levy-grant institutions (SETAs and NSF), the Quality Councils (UMALUSI, HEQC, QCTO), the South African Qualifications Authority (SAQA), and the National Student Financial Aid Scheme (NSFAS). In addition, existing systems for analysing and using these data sources on an on-going basis and output reports from the systems will have to be investigated and evaluated. According to DHET officials, a number of committees have already been established to facilitate collaboration between different departments and institutions.

In the proposed research, interviews (face-to-face and telephonic), literature and internet searches and document reviews will be used extensively as data gathering methodologies. Therefore appropriate protocols will have to be set before officials and institutions can be accessed.

In order to establish a credible national institutional mechanism for skills planning, the envisaged integrated DHET data system, as proposed in the 2012 Green Paper for post-school education and training, needs to be further integrated with data from other government departments, such as the Departments of Labour (DoL), Home Affairs, Trade and Industry (DTI), Science and Technology (DST), Basic Education (DBE), Public Service and Administration (DPSA), Rural Development and Economic Development, as well as Statistics SA (StatsSA), through a specialist information system (DHET, 2012b). The South African Revenue services should also be included in the list of departments since valuable information on skills levy paying enterprises which is the foundation for research on training and skills development (up-skilling of the employed, learnerships and apprenticeships) in the labour market (small, medium and large enterprises) is situated in this department.

RELEVANT CONCEPT DEFINITIONS

3. LABOUR MARKET INFORMATION AND LABOUR MARKET INTELLIGENCE

The terms *Labour Market Information* and *Labour Market Intelligence* were mostly used interchangeably in the past, but are increasingly seen as distinct entities, each having different but complementary strengths.

Windmill (2010:51) provides the following definitions:

Labour Market Information, as its name implies is the raw data collected from various sources using a range of techniques. It is information that is purely descriptive and can be either qualitative or quantitative information. The primary use of this information is to describe the interaction between employers and occupations as well as how the labour market is functioning and the subsequent identification of available resources and employment opportunities. There are three major components of Labour Market Information:

- Economic and labour force information (e.g. numbers in employment/ unemployment across industries/sectors, salary information)
- Occupational information (e.g. descriptions of occupations and job roles)
- Demographics (e.g. age, gender, race, location of general population in relation to employment).

Labour Market Intelligence is the interpretation and analysis of the Labour Market Information to enhance its practical application to skills issues. While the two concepts are separate, in practice they are used simultaneously, with data (Labour Market Information) reported in a context (Labour Market Intelligence) relevant to the understanding of the needs of the sector to identify the problem that needs to be solved (Windmill, 2010:51, UKCES, 2009).

The following definition provides a clear summary: “Whilst labour market information is data found in original sources, labour market intelligence is a term that is used to refer to information that has been interpreted and analysed, with insights and conclusions drawn from it. It might look for example at trends over time and the implications of these trends for employers and government, and often involves bringing together information from several sources. It also points to possible recommendations and action. In other words, labour market information is used as a tool in creating labour market intelligence.” (UKCES, 2009:7)

Labour Market Information and Intelligence draw on a range of inputs and processes gives us the analytical insights to use across the skills, qualifications and employment systems to support the

development of policies and programmes that meet the needs of individuals, employers, and the wider economy (Cardozo, 2010:3, UKCES, 2009).

4. SUPPLY AND DEMAND

The term labour market supply is defined as the availability of suitable human resources in a particular labour market (Murcko, 2012). Furthermore, the current supply of labour includes all people who are either working or looking for work, that is, all those who are participating in the labour force. Unemployed people with qualifications relevant to the profession under review may point to an oversupply of skills or to a mismatch in the provision of skills. The supply of skills can also be derived from graduation trends and availability. The number of graduates that have accumulated over the years provides an indication of the current availability of the number of people with qualifications in a particular occupation (Mukora, 2008).

The balanced situation where the supply of potential employees is equal to the demand, i.e. labour market equilibrium occurs, neither a labour excess nor a labour deficit is observed in the labour market, and usually pay scales tend to remain constant as a result. However, it needs to be acknowledged that this represents an ideal situation and would probably never exist in reality. There are two temporal considerations in calculating an occupational supply/demand ratio:

- a current measure of the existing equilibrium situation (the stock), and
- a projection of both occupational supply and demand conditions (flows).

It is proposed in this study, to investigate the current stock in terms of available data sources which informs labour market supply, their integration, articulation potential and limitations.

5. STOCK TAKING VERSUS AUDIT

In this study stock-taking or inventory checking refers to the physical verification of the quantities and condition of labour market supply database sets held in post-school and other relevant institutions. The study should also include some of the activities of an audit. Examples of these activities include a conceptual analysis of the frameworks that underpin the databases; the original purpose of the database – why and for what has it been designed and developed; compared to the purpose of the database, what does it entail, what does it allow or constrain?

Audits are generally performed to ascertain the validity and reliability of information; also to provide an assessment of a system's internal control. Usually the goal of an audit is to express an opinion of the person or organisation or in this case a database system in question, under evaluation based on work done. Due to constraints, an audit usually seeks to provide only reasonable assurance that the statements are free from material error. Thus, statistical sampling is often adopted in audits.

LABOUR MARKET SUPPLY INDICATORS

6. MEASURE AGAINST WHAT?

In this section a preliminary framework against which the existing databases and variables can be evaluated is provided. Five sets of indicators found in the literature have been identified to assist in the development of a conceptual framework against which evaluation of labour market supply indicators can be done. Each set of indicators includes themes which further contains specific indicators. The analysis in this section endeavours to establish if the themes and to a lesser extent type of indicators proposed by DHET are sufficient and correlate with other international practices. Further in-depth investigation will be needed to establish if the available datasets in South Africa meet the needs for the calculation of specific key indicators and also to establish a standardised definition for the calculation of specific indicators. The five sets of indicators are the following:

- The 18 Key Indicators of the Labour Market (KILM) developed by the International Labour Organisation (ILO) (cf. Annexure B)
- A framework of required indicators developed and provided by the DHET (cf. Annexure A)
- The South African development Index (SADI) developed by the South African Institute of Race Relations (SAIRR) (cf. Annexure C)
- Labour supply indicators of the Canadian labour market information system
- An example of a basic labour market information system presented in an ILO/SAMAT policy paper (Sparreboom, 1999).

Each of these sets is briefly described below. A synthesis of the DHET, Canadian and ILO sets of indicators is provided in table 1 and serves as a conceptual framework for required labour market supply indicators. Further investigation into the meaning (definition) of each indicator and the required data (underlying data variables) for indicator calculation will be needed to ensure that indicators are internationally comparable. In addition, one should keep in mind that the final product will depend solely on the quality, accuracy and relevancy of the data and methodologies used to process the data.

6.1. *Key Indicators of the Labour Market (KILM)*

The 18 key labour market indicators are developed and published by the ILO, cover the following topics: employment (status, sector, hours, etc.), the lack of work and the characteristics of jobseekers, education, wages and compensation costs, labour productivity and working poverty. Taken together, the indicators provide a strong foundation from which to address key questions related to productive employment and decent work (ILO, 2011b). Annexure B provides a list of tables on indicators available through an interactive web-based tool from the ILO's website. The ILO uses two data sources for data on South Africa namely: the Labour Force Survey (LFS) and Statistics South Africa data (StatsSA) (ILO, 2011a).

6.2. HET required indicators

As already described, the Management Information Support (MIS) unit of DHET proposed an integrated mechanism for skills planning by mapping and comparing core information areas of three systems. The systems include the Higher Education and Training Management Information System (HETMIS), the Labour Market Intelligence System (LMIS) and the Career Development System. The unit further proposes a list of 29 core indicators which cover eight themes. These indicators are seen as core indicators for the proposed integrated mechanism for skills planning and include labour market supply indicators. Following the proposed mechanism the unit has further identified core data essential for the HETMIS. Information as provided by the unit is given in Annexure A. The shaded indicators in table 1 are relevant to labour supply.

6.3. South African development Index (SADI)

The South African Institute for Race Relations publishes the SADI on a quarterly basis. The index covers indicators on the following themes: economic, education, health, living conditions, gender and crime. A copy of the SADI for the second quarter of 2011 is provided in Annexure C. The last two economic indicators, the education and the gender indicators are relevant to labour supply. This index is an example of a nationally published set of indicators that are developed by using data from different institutions such as the labour force survey and data from Stats SA.

6.4. Labour Supply indicators used in Canadian LMI system

Canada is widely recognised as a world leader in LMI development and delivery (Woods & O'Leary, 2006). According to the authors occasional reviews of LMI are beneficial to keep in line with the changing information requirements and methodologies of a country. Theory suggests that markets themselves generate information sufficient for effective decisions, but the complexities of the market make it almost impossible for all or even most relevant information to be generated and made available through normal market transactions. The authors states therefore that governments must play a major role in ensuring that there exists a public LMI system, which produces reliable and relevant information, and that the LMI is disseminated in a user friendly way to increase the likelihood of improving the efficiency of markets (Woods et.al., 2006).

The Canadian Department of Human Resources (2007) identified the following labour market supply indicator themes in their different country reports (Department of Human Resources, 2007): the labour force; commuting trends and workflow areas; the working age population; migration; immigration; the aging workforce; education levels of the labour force; future labour supply; and finally those not in the labour force and under-represented groups. These themes with their underlying indicators are incorporated in the synthesis of indicators presented in table 1.

6.5. A basic labour market information system

In his paper Sparreboom (1999) provides concepts and definitions for key themes and indicators needed for a basic LMI system. It is obvious that the suggested LMI system includes both quantitative

data and qualitative narratives for the purpose of explaining the quantitative indicator values. The following themes and indicators (in brackets) are presented in this basic LMI system:

- Socio-demographic data (population over time by age, gender and region; literacy rates by gender, age and region; migration patterns; main social/ethnic groupings by size and location)
- Educational data (enrolments by gender in primary, secondary and tertiary levels; numbers completing each level by age, gender and as a proportion of enrolments; educational attainments by qualification and gender; regional variations of previous indicators)
- Employment and labour market information (macro level economic trends – projected growth by sectors by region including informal sector; size of labour force – projected growth overall and by sector; size of any migrant labour groups, their origins by region; distribution of workers between modern wage employment, formal and informal, and projected growth; wage employment by occupational sector; skill level workers by occupation/sector; levels of unemployment and under-employment by age, gender, educational/training attainment and region; levels of youth unemployment and under-employment by gender and region; identification of training needs as reported by sector)
- Analysis of labour market policies
- Analysis of training policies and programmes
- Content and quality of training programmes and facilities
- Training system costs and financing
- Assessment of training response to employment needs.

6.6. *Synthesis of three sets of indicators*

Table 1 provides a synthesis of the DHET, KILM and the Canadian LMI indicators. Labour market supply indicators have been identified based on the Canadian LMI system and are indicated by shaded blocks in the table. Although this is an initial scan and more in-depth research on this topic is suggested, one could detect some gaps in the DHET proposed set of indicators. The most prominent supply indicators that could be added to the DHET indicator set are inter alia the following: indicators on migration patterns within and between regions or provinces (total migrants, by region, gender, highest level of education, occupation); indicators on immigrants (by region, gender, highest level of education, occupation); more clear indicators on the labour force with disabilities, youth in labour force, older people in labour force; commuting patterns (by region, gender, highest level of education, occupation); and indicators on grant and income support recipients (by region, gender, highest level of education, occupation).

Table 1: Synthesis of the DHET, KILM and the Canadian LMI indicators.

(Note: Themes and indicators relevant to labour supply data are shaded.)

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
Population and Labour Force	Population Size and Shape (Age, Gender, Geographic Location and Urban/Rural)	Labour force	Labour force growth	Labour force	Labour force participation rate (ILO estimates: by sex and age group)
	Population Growth Rate (Age, Gender, Geographic Location and Urban/Rural)		Women in labour force – Labour force by gender (Annual average, labour force status, distribution by occupation, highest level of education)		Labour force participation rate (national estimates; by sex and age group)
	Labour Force Participation Rate (Age, Gender, Geographic Location and Urban/Rural)		Labour force by region and by location (by provinces and economic regions)		
	Labour Force Size and Shape (Age, Gender, Geographic Location and Urban/Rural)		Working age population by region		
	Projected Labour Force (Age, Gender, Geographic Location and Urban/Rural)		Aging Workforce (total and by region)		
			Labour market indicators for persons with disabilities (total population, labour force status, distribution by occupation, highest level of education)		
			Labour market indicators for immigrants (total population, labour force status, distribution by occupation, highest level of education)		
			Labour market indicators for older workers (total population, labour force status, distribution by occupation, highest level of education)		
			Labour market indicators for youth (total population, labour force status, distribution by occupation, highest level of education)		

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
and Employment Unemployment	Employment by Industry, Occupation, Geographic Location, Educational Level and Gender				Employment-to-population ratio (ILO estimates, by sex and age group)
	Number of Hours Worked by Industry, Occupation and Gender				Employment-to-population ratio (national estimates, by sex and age group)
	Projected employment by Industry and Occupation				Status in employment (by sex)
	Number of Unemployed by Educational Level, Gender, Location and Age				Employment by sector (by sex)
					Employment by 1-digit sector level (ISIC-Rev.4, 2008; by sex)
					Employment by 1-digit sector level (ISIC-Rev.3, 1990; by sex)
					Employment by 1-digit sector level (ISIC-Rev.2, 1968; by sex)
					Employment by occupation (ICSO-88; by sex)
					Employment by occupation (ICSO-68; by sex)
					Part-time workers (by sex, age group)
					Employment by hours worked per week (by sex, age group and status)
					Annual hours worked per person
					Total unemployment (by sex)
					Youth unemployment (by sex)

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
					Long term unemployment (by sex and age group)
					Time-related underemployment (by sex and age group)
Wages and Salaries	Average Earnings by Industry, Occupation, Gender, Location and Educational level				Average monthly wages
					Hourly compensation costs of employees in manufacturing
					Hourly compensation costs of production workers in manufacturing
Skills Demand	Number of Job Openings by Occupation, Industry, Location, Gender and Educational Level				
	Projected Job Openings by Occupation, Industry, Location, Gender and Educational Level				
Skills Supply	Number Job Seekers by Gender, Educational Level and Location	Education and labour supply	Proportion of population (25-54 years) with less than high school	Labour force	Labour force by level of educational attainment (by sex and age group)
	Number Job Seekers by Educational Level, Gender, Previous Job (Occupation) and Experience		Proportion of population (25-54 years) with a post-secondary certificate or diploma		Unemployment by level of education attainment (distribution; by sex)
	Number of Education/Training Institutions by Courses offered		Proportion of population (25-54 years) with a university degree		Unemployment by level of education attainment (rate; by sex and age group)
	Number of Students Enrolled by Course and Gender		Distribution of population (25-54 years) by highest level of schooling		Illiteracy (by sex and age group)

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
	Expected Output by Gender, Educational Level and Occupation				
Skills Movement and Flow	Placement rate of graduates per industry and occupation by education level, gender and location	Commencing trends and workflow areas	Proportion of people who live and work in different communities		
	Projected number of placement opportunities per industry and occupation by education level, gender and location		Regional commuting trends		
	Placement rate of work seekers per industry and occupation by education level, gender and location		Natural workflow areas		
	Number of people issued visa/employment permit by duration, by occupation, education level and gender		Population within commuting distance of selected workflow areas by region		
	Number of people issued permanent residence permit by duration, by occupation, education level and gender	Migration	Net migration by region		
			Average annual distribution of inter-provincial Out-migrants by province of destination		
			Average annual distribution of inter-provincial In-migrants by province of origin		
			Net intra-provincial migration		
			Intra-provincial and Inter-provincial Out-migration		
			Interprovincial out-migration and in-migration by age		

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
			Five-year out-migration and in-migration by highest level of schooling		
			Distribution of inter-provincial out-migrants by occupation		
			Immigrant population as a proportion of total population		
		Future labour supply	Ratio of younger workers (15-24 years) for every potential retiree (55-64 years) by region		
			Those not in the labour force and under-represented groups		
			Employment insurance beneficiaries (distributions and by region)		
			Distribution of income support recipients by region		
			Proportion of income support recipients in population by region		
Informal Sector	Estimated Employment by Type of Business, Region, Gender, Education Level and Activity (Industry)			Informal economy	Employment in the informal economy (by sex)
	Average Wages by Type of Business, Region, Gender, Education Level and Activity (Industry);				
	Projected Growth in Employment by Type of Business and Activity (Industry)				

DHET ecosystem requirements		Canadian LMI system – supply indicators		KILM of the International Labour Organization (ILO)	
Theme	Indicator	Theme	Indicator	Theme	Indicator
Industrial Relations	Number of Trade Unions and Employers' Organisations by Industry				
	Number of Disputes resolved/unresolved <i>i.e.</i> strikes and lockouts by industry				
	Number of Collective bargaining agreements by industry				
	Number of Recognition Agreements by Industry				
				ILO estimates	Inactivity (ILO estimates, by sex and age group)
					Labour productivity
					Poverty and income distribution
					Working poverty (national estimates, by sex and age group)

LABOUR MARKET SUPPLY DATA SOURCES

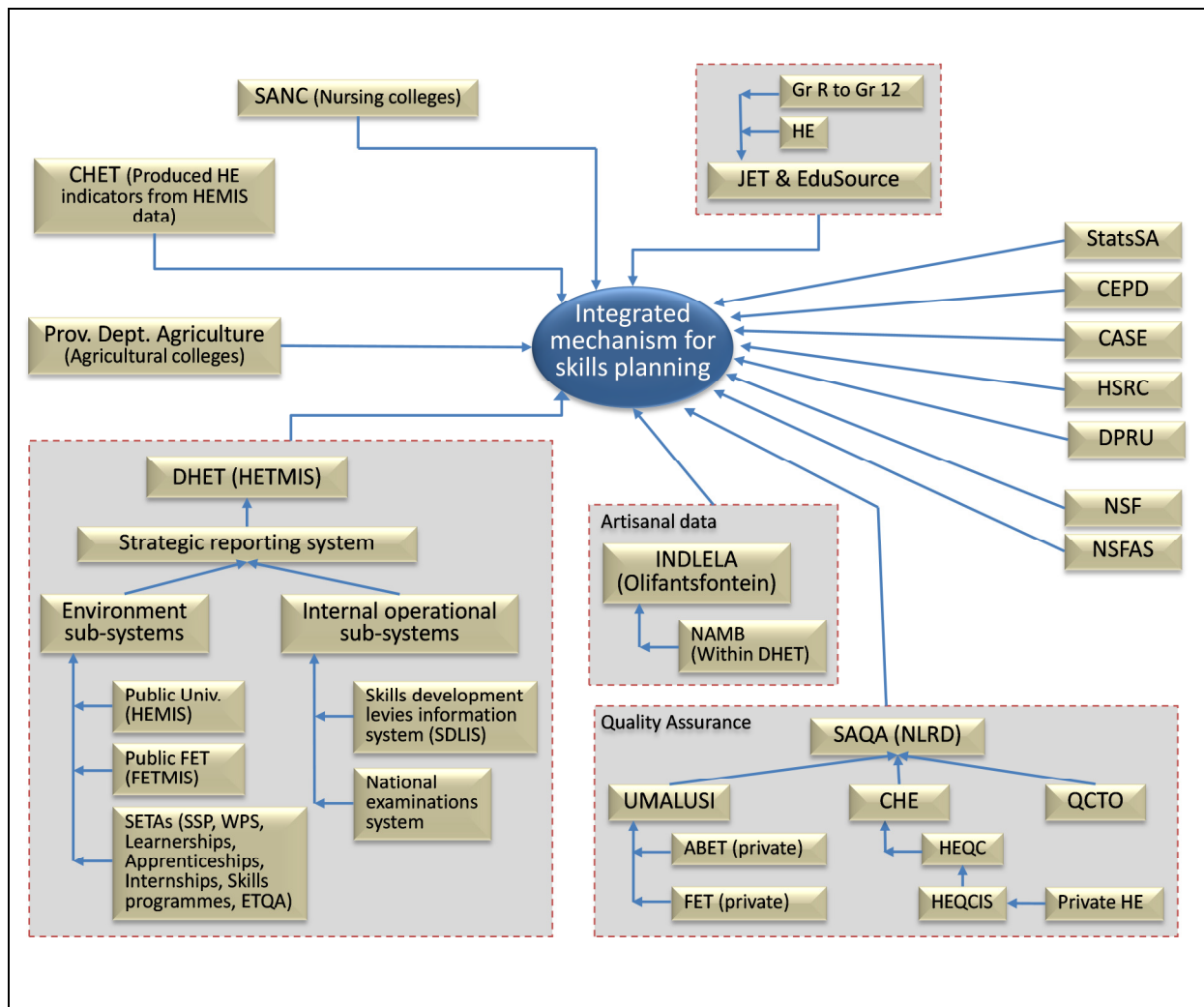
The DHET is now after it has been formed in 2009, positioned to advance the vision of a truly comprehensive and differentiated post-school system, which is capable of contributing to the lives of individuals, to the economy and to broader society (Blom, 2011, DHET, 2010). The broad mandate stated by the minister of DHET in the revised strategic plan, on the supply side was given as follows: the system must serve a growing number of both young people and adults; it must provide different entry points into, and pathways through the learning system; it must provide quality learning wherever learning takes place – be it at a college, a university or in the workplace; and, importantly, it must provide easy pathways across the different learning sites (DHET, 2010).

Initial literature screens, internet searches and preliminary interviews and meetings with DHET officials and stakeholders in the field confirmed highly fragmented database sets which do not communicate with each other. The fragmented nature of the datasets makes calculation of important post-school and labour market supply indicators difficult. It furthermore complicates the tracking and tracing of individuals or groups of individuals within and across the different type of education sections of the post-school sector.

It is furthermore important to keep in mind that the focus of the study is on labour market supply data, which directly points to database sets of people in training for employment in as well as people upgrading their skills for the labour market. These people can receive their training at public or private institutions or providers and the qualification level could be any of the ten qualification levels on the national qualifications framework (NQF). Although quantitative data on records of participants is initially important to construct labour market supply indicators, qualitative in-depth data is essential to be able to explain the value of the indicator. Therefore research institutions where interpretive and value-added research methodologies are being applied should be included in the profile of role players.

As illustrated in table 1, information such as socio-economic and demographic characteristics of the people, type of qualification and performance of individuals, movement, progression and pathways of individuals through the post-school system is important features for skills planning.

An effort was made to identify the most important and relevant role players in the provision of labour market supply data. Figure 2 provides a schematic illustration of a preliminary scan of institutions, organisations and entities where post-school labour supply data sources can be found. A brief description of the data sources housed at each partner and how they can contribute to the integrated ecosystem are also provided.

Figure 2: Organisations, institutions, councils, entities that can contribute to the ecosystem

As illustrated in figure 2 the formally structured labour market supply data sources on public provision are located within DHET and its underlying institutions and entities. The two quality councils: Council for Quality Assurance in General and Further Education and Training (UMALUSI) and the Higher Education Quality Committee (HEQC) hold information on private adult basic education and training, private FET and private HE providers. Information on training providers among enterprises is contained within the different SETAs' education and training quality assurance (ETQA) bodies which are in turn accredited by SAQA. Each ETQA maintains a learner management system compatible with the National Learner Record Database (NLRD) which is administered by SAQA. The South African Nursing Council provides detailed summarised information on nursing college participants and the provincial departments of agriculture provide contact details of agricultural colleges. Each role player's role in labour market supply data sources is briefly discussed below.

7. DEPARTMENT OF HIGHER EDUCATION AND TRAINING (DHET)

The DHET has established and is managing a number of post-school database sets. The database sets include the following:

7.1. HEMIS database (*Higher Education and Training Management Information System*)

HEMIS database (Higher Education and Training Management Information System) contains unit record data on students in universities, comprehensive universities and universities of technology. The system is stable and collects unit record data on student headcount enrolments, graduates, full-time equivalent enrolments and staff details. The information is used, among other aims, for calculation of university subsidies. This is an important source for labour supply.

7.2. FETMIS database (*Further Education and Training Management Information System*)

Since the early 1990s the research on technical and vocational education and training has been dominated by the Human Sciences Research Council (HSRC) and a few other NGOs and individuals. There are very few FET researchers based in universities. While the people working in the field have been highly productive, it was a very small grouping and the research agendas have been driven by the funding imperatives (Wedekind, 2008). Since the FET sector became the focus of DHET to address the skills shortage in intermediate, critical and scarce skills in the South African economy, research in this field increased. An example of recent research is a study of the factors that contribute to the employability of young FET college learners in South Africa (Gewe, 2010). The study built on a research base which began in 2001, this study traces a cohort of FET college students from 2003 and compares this cohort to a sample of college learners from 2009 with the focus on factors that impact on the transition of young people from school to work.

In terms of databases, currently DHET collects data in a summarised and aggregated fashion from most of the public FET colleges. FET colleges report their data for FETMIS on predefined, prescribed, formatted tables. Each of the 50 public FET colleges had different management information systems in the past. The systems ranged from manual paper-driven system to fragmented computer-driven systems. The DHET is currently in the process of implementing a new integrated management information system in the FET college sector. The integrated system is being maintained by the South African State Information Technology Agency (SITA) and the DHET has access to all records through a share point view (SITA, 2012, Cosser et.al, 2011, Visser, 2011). Eleven of the 50 FET colleges are already using this system. Unit records on student level are being recorded on this computerised system. SITA manage and maintain database sets for DHET and the Department of Basic Education (DBE) such as the FET integrated management information system for DHET and the national learner unit record information and tracking system (LURITS) for DBE (SITA, 2012).

7.3. ABET database (*Adult Basic Education and Training*)

All registered public adult education and training (AET) centres provides summarised, aggregated data on predefined, prescribed, formatted tables to DHET. Collecting private AET data is problematic. There is currently no national register for private AET centres. Despite much activity in respect of Adult Basic Education and Training (ABET) in the economic (SETA) sectors, the only data readily available, albeit only partial information, is from UMALUSI and the DHET's Management Information Support unit. A further limitation is the fact that none of the data sources provides a full picture of

even their own datasets. Umalusi's dataset, for example only covers a small sample of all accredited AET and FET institutions (Blom, 2011).

7.4. *Private Higher Education Institutions*

In accordance with section 54(2)(a)(i) of the Higher Education Act of 1997 (Act No. 101 of 1997) DHET publishes a register of private higher education institutions (DHET, 2012g). The information featured in the Register includes the registration status of institutions, their contact details, the certificate of registration and the auditor's report. The current report lists details of 89 registered institutions, 29 provisionally registered institutions and 6 institutions of which the registration was cancelled. This information is updated as necessary.

The Information regarding these institutions is very limited (cf. section 9). Only information on registered private higher education institutions is available. No information on institutions that are not registered at DHET is easily available. The literature indicates that only the peak of the iceberg is visible and that this sector might contribute immensely to the supply of the labour market in South Africa. Although the data is not reliable, with many possible duplications and /or gaps, it is clear that the private post-school system is substantial and is expanding (Blom, 2011).

7.5. *Private Further Education and Training*

In accordance with Regulation 15(3) of the Regulations for the Registration of Private Further Education and Training of 2007, the DHET publishes a list, which is regularly updated, that serves as the National Register of Private FET colleges. The list provides the public with information on the registration status of private FET colleges. Regulation 15(3) requires the Registrar to keep a national register of private colleges on the website of the Department of Higher Education and Training. The information contained in the list includes the registration status of private FET colleges, approved qualifications and their NQF Levels as well as the colleges' contact details (DHET, 2012f).

The 491 colleges in the currently published list are colleges that have been granted provisional registration in terms of Section 31(3) of the Further Education and Training Colleges Act, 2006 and Regulation 12(4)(b). Refer to section 9 for details on the type of information available.

7.6. *Institute for the National Development of Learnerships Employment Skills and Labour Assessments (INDLELA)*

The Institute for the National Development of Learnerships Employment Skills and Labour Assessments (INDLELA) is located at Olifantsfontein. This institute holds a database on all individuals who have applied to do the trade test and who were assessed and certificated through INDLELA. The National Artisan Moderating Body (NAMB) is part of INDLELA, established in terms of Section 26A (1)(a) of the Skills Development Act, Act 97 of 1998, as a body in the Department of Higher Education and Training with statutory functions (Louw, 2011).

The NAMB within DHET has established a database on certified artisans nationally. Details of artisans certified through INDLELA feed into the NAMB database. The functions of the NAMB are to: monitor the performance of accredited artisan trade test centres; moderate artisan trade tests; develop, maintain and apply a national data-bank of instruments for assessment and moderation of artisan trade tests; develop and maintain a national database of registered artisan trade assessors and moderators; record artisan achievements; determine appeals against assessment decisions; recommend the certification of artisans to the Quality Council for Trade and Industry (QCTO); and perform any other prescribed function (Gov, 1998, Prinsloo, 2012).

8. SECTOR EDUCATION AND TRAINING AUTHORITIES (SETAs)

Each SETA is responsible for the production of a sector skills plan (SSP). The main purpose of an SSP is to guide and inform skills development initiatives in each sector and provides important quantitative and qualitative information towards differentiated labour market supply information. SSPs are developed through a broad based consultative process. The consultation starts with a number of research processes in which information is collected on training priorities, skills needs and problems experienced. The preparation of a SSP document furthermore involves a series of workshops with stakeholders in the industry. In the preparation of the SSP achievements that resulted from the previous SSP as well as the weaknesses and lessons learned are taken into consideration and new processes are developed. Information on scarce skills is also included. One of the important resources of data for the SSP is the Workplace Skills Plans (WSP) and Annual Training Reports (ATR). Sector Skills Plans (SSPs) are being prepared in accordance with the guidelines included in the National Skills Development Strategies (NSDS), as well as the DHET Guide to the Process and Timeframes for Developing Sector Skills Plans and the NSDSs.

Furthermore, each SETA's ETQA is responsible for the development and maintenance of a management information system (in-house or by an external service provider) for capturing of information as recorded on contracts of individuals participating in skills development initiatives such as learnerships, apprenticeships, internships and skills programmes. Unit record data on learner level as well as summarised information on learnerships, apprenticeships and skills programmes (skills development programmes) according to NSDS II targets are being submitted to DHET on a quarterly basis. These databases contain information on registered and certified learners with regard to their contact details, demographic details, type and level of qualification, employment status, employers and training providers.

Marock (2008) provided a comprehensive picture of the SETA environment in a SETA review and argues that significant progress has been achieved by SETAs and the Skills Development system. But notes further that important challenges have emerged in the review with regard to the level of development of SETAs, the numerous complexities that persist in respect of implementation, effectiveness and efficiency, the shortcomings in the functioning of the training market, the underdeveloped capacity and functioning of the monitoring and evaluations systems, the lack of

effective management information systems, the effectiveness of quality assurance mechanisms in the system all combine to suggest that the SETAs and the Skills Development system are still at a critical stage of institutionalization.

9. DATA SOURCES AND CATEGORIES OF DATA ON PRIVATE PROVISION

In a study conducted by Blom (2011) data sources of private providers of education and training in South Africa have been identified. The study investigated the size and shape of private, post-school education and training provision in South Africa. A table on the available data sources and its content was produced (cf. Table2).

Table 2: Name of data source provider and categories of available private data sources

Name of authority ¹	Categories of data
AGRISSETA BANKSETA CATHSSETA (THETA) CETA CHIETA ESETA FPM (CTFL, FIETA, MAPPP) FOODBEV HPCSA HWSETA INSETA LGSETA MICT (ISETT) PAB PSETA SABPP SAICA SAPC SASSETA SERVICES SETA TETA	Number of providers/institutions per province

¹ For the full names of the ETQAs, please refer to the Acronyms.

Table 2: Name of data source provider and categories of available private data sources

Name of authority ¹	Categories of data
CHIETA ETDP SETA FASSET MERSETA MQA SANC ETDP SETA W&RSETA	Number of PRIVATE institutions as follows: <ul style="list-style-type: none"> • Higher education • Further education • Adult education (ABET) • Skills programmes Size of, and enrolment figures per PRIVATE institution: <ul style="list-style-type: none"> • Large, medium small <ul style="list-style-type: none"> o Number of learners per qualification Number of for-profit and not-for profit institutions Types and number of qualifications offered by PRIVATE institutions: <ul style="list-style-type: none"> • Unit-standards based • Exit level outcomes and assessment criteria (ELOAC)/curriculum and subject based • Apprenticeships Location of PRIVATE institutions (per urban/rural; per province)
CHE/HEQC	Data received from SAQA from the HEQCIS developed with the HEQC to capture data from private HE institutions and from the DHET register
UMALUSI	Data dealing with a sample of institutions in the category 'confirmed candidates' in AET and FET <ul style="list-style-type: none"> • College-qualification provision • Qualifications, skills programmes, short courses, learnerships • Providers • 2010 Monitoring report (in press)
SAQA	Achievements and enrolments by year and level (mix of public and private) Achievements and enrolments by year and level (private and 'unknown') Learner data Providers
DHET(FET)	List of registered colleges Colleges and campuses per province Staff Student data 2010 Monitoring and evaluation report

Table 2: Name of data source provider and categories of available private data sources

Name of authority ¹	Categories of data
	2010 private FET survey results 2011-03 Quarterly report Analysis of NLRD data
DHET(HET)	List of registered HE institutions 2008 and 2009 enrolment figures at private HE institutions Registration certificates – private HE institutions

Source: Blom (2011:15)

10. PRODUCTION OF LABOUR SUPPLY DATA BY OTHER GOVERNMENT DEPARTMENTS AND RESEARCH ORGANISATIONS

Much secondary and qualitative labour market supply information in the form of publications, planning and strategic reports which contain valuable qualitative information about the different existing datasets, targets and future strategic plans are located at DHET. Similarly, a vast amount of labour supply data and information have been collected, analysed and/or produced by other government departments and research organisations. Table 3 below lists the main contributors of labour supply information among these groups of institutions (as they were found in the literature review).

In this section brief mention has been made to each contributor but it will be necessary to investigate each role-player's contribution to labour supply in-depth to be able to identify specific data sources. Section 11 presents more details on the contribution of the Human Sciences Research Council (HSRC) as an example.

Table 3: Other government departments and research organisations producing labour supply data

Organisation	Name	Role	Contribution to labour supply information	Accessibility
National census statistics and data				
Stats SA (StatsSA, 2012)	Statistics South Africa	Stats SA includes statistics on economic, labour, utilities, tourism and transport. Also has access to census data and publications.	Rich source of data on SA's population and labour force indicators including CPI, PPI, GDP, unemployment population (census 2001, mid-year estimates). Important publications which are rich data sources such as the Annual Report and the Millennium Development Goals Report are available on Stats SA's website	Publicly available
Quality assurance bodies				
SAQA (SAQA, 2012)	South African Qualifications Authority	DHET, SAQA and the three quality councils namely, the CHE, the Council for Quality Assurance in General and Further Education and Training (Umalusi) and the Quality Council for Trades and Occupations (QCTO), are working together collaboratively to ensure that the work of each organisation upholds the objectives and values of the National Qualifications Framework (NQF).	SAQA maintains a National Learners' Records Database (NLRD) comprising registers of national qualifications, part-qualifications, learner achievements, recognised professional bodies, professional designations and associated information. The NLRD is an extremely important labour supply resource. Like many other databases, analyses of this database are not regularly done. Partnership with SAQA on behalf of DHET needs to be pursued to assist in the development of required labour supply indicators.	Not publicly accessible. The NLRD can be purchased from SAQA.
CHE (HEQC) (CHE, 2012)	Council on Higher Education (Higher Education Quality Council)	The CHE is an independent statutory body responsible for advising the Minister of Higher Education and Training on all HE policy issues, and for quality assurance in higher education and training. The CHE has one permanent committee, the Higher Education Quality Committee (HEQC). The HEQC has executive responsibility for quality promotion and quality assurance in higher education.	CHE holds information on public and private HE institutions, students and lecturers. The CHE conducted a survey at the end of 2010 to obtain amongst other information the headcount enrolments at private HE providers. A total of 94 private providers (obtained from the Register of Private Higher Education Institutions of DHET) responded to the survey. Information is collected annually. The CHE hosts a database called the Higher Education Quality Committee Information System (HEQCIS). The HEQCIS is a CHE information system that stores information about the qualifications that private higher education institutions may offer, and the learner enrolments and achievements against them. The HEQCIS in turn serves as a tool to populate the NLRD held and maintained by SAQA. The CHE is required to submit this information to the NLRD for all higher education institutions. The CHE/HEQC is also responsible for the recommendation of private higher institutions to DHET for	Access to database has to be negotiated.

Table 3: Other government departments and research organisations producing labour supply data

Organisation	Name	Role	Contribution to labour supply information	Accessibility
			registration.	
QCTO (Palama, 2012) (DoL, 2012)	Quality Council of Trade and Occupations	The QCTO manages and coordinates the qualifications in the occupational qualifications framework in terms of their development, provision, assessment and impact. Its scope is the development and quality assurance of fit-for-purpose occupational qualifications and unit standards as required by the labour market for work and employment purposes. The many role-players and structures active in the labour market, such as SETAs, SGBs, providers, assessors and professional bodies, have created a situation that is over complex and inefficient. The QCTO provides coordinating framework to support these role-players so that they can focus on what they do best and give coherence to these activities as a whole (Palama, 2012).	Both employers and trade unions need competent, employable workers (people in occupations) to grow business and the economy. SETAs must collect information on Labour Market needs in terms of occupations – who is needed? QCTO must ensure that there are fit for purpose occupational qualifications to respond to the labour market needs. (DoL, 2012)	Access to database has to be negotiated.
UMALUSI (UMALUSI, 2012, Blom, 2011)	Council for quality assurance in general and further education and training	Umalusi improves the quality of education provided in FET colleges and in public adult learning centres, as well as in private and community-based organizations that offer adult education. UMALUSI accredit private FET colleges and private adult education centres directly.	Umalusi approves the results of the National Senior Certificate (NSC) and the General Education and Training Certificate (GETC) ABET level 4. UMALUSI holds data on the number of private AET and FET institutions accredited by Umalusi. There are differences in the SAQA data compared with ETQA data. Umalusi's dataset only covers a small sample of all accredited private AET and FET institutions. There are discrepancies in the data on private FET institutions and the number of Adult Education and Training (AET) institutions accredited by Umalusi between SAQA and UMALUSI. Data from SETA ETQAs in respect of private AET institutions has even more discrepancies with both the SAQA and Umalusi data (Blom, 2011).	Access to database has to be negotiated.
Financial				
NSF	National Skills Fund	The NSF is a fund established under the National Skills Authority specifically aiming to assist in funding skills development in SA.		
NSFAS (NSFAS, 2012)	National Student Financial Aid Scheme	NSFAS seeks to impact on SA's historically skewed student, diplomate and graduate populations by providing a sustainable financial aid system that enables academically deserving and financially needy students to meet their own and SA's development needs.	NSFAS maintains a database on information about loans and bursaries provided to needy students. Summary statistics from the database is available on their website. Statistics on amounts paid out to students between 1991 and 2008; number of students assisted; number of students assisted through FUNZA Lushaka and through Department of	Summary statistics are available on NSFAS website. Access to unit

Table 3: Other government departments and research organisations producing labour supply data

Organisation	Name	Role	Contribution to labour supply information	Accessibility
			Social Development; number of students in FET colleges assisted; number of students with disabilities assisted; pass rate of assisted students; etc. are available on their website.	record data must be negotiated.
Government departments				
Provincial Departments of Agriculture			Reference to the names and contact details of agriculture colleges country wide.	
Research institutions				
CEPD (CEPD, 2012)	Centre for Education Policy Development	The CEPD provides services in the areas of education and training, with a particular emphasis on systemic issues related to schooling, further education and training, and higher education. Conducting evaluation and monitoring of education and training programmes and institutions. Research projects are both self-initiated (with funding sought from donors) and conducted on behalf of clients. In particular, the CEPD specialises in research which has policy implications or is aimed at systems development. Activities aimed at developing and analysing policy are undertaken for national and provincial governments as well as organisations of civil society.	CEPD's publications provide valuable insight to labour supply data. Information on systemic and institutional evaluations, especially to identify blockages, limitations and inefficiencies for example Blom's (2011) study on the size and shape of private, post-school education and training provision in SA.	Reports and papers are available on their website.
HSRC (HSRC, 2012)	Human Sciences Research Council	The HSRC primarily conducts large-scale, policy-relevant, social-scientific projects for public-sector users, non-governmental organisations and international development agencies in support of development nationally, in the Southern African Development Community (SADC) and in Africa.	Conducted many studies on HE, FET sectors and in skills development programmes. Research and knowledge production towards programme and institutional evaluations and impact studies. Contribution includes both data and methodologies (cf. section 11).	Quantitative and qualitative data available on website. Many of the studies conducted can be replicated to enable updated labour supply information.
JET Education Services & EduSource	Joint Education Trust	JET Education Services is an independent, non-profit organisation that works with government, the private sector, international development agencies and education institutions to improve the quality of education and the relationship between education, skills development	Research mainly focuses on evaluation of school and programme effectiveness. JET Education Services and EduSource Trust have joined forces to revive EduSource Data News, a newsletter previously distributed by The Education Foundation Trust. This new publication will cover annual reviews of key outcomes in provinces and across	Reports and papers are available on their website.

Table 3: Other government departments and research organisations producing labour supply data

Organisation	Name	Role	Contribution to labour supply information	Accessibility
(JET, 2012)		and the world of work.	South Africa; commissioned studies and reviews relating to the status of educational provision at all levels; set themes; and sector analyses. EduSource's Desember 2011 issue covers much information about FET colleges.	
DPRU (DPRU, 2012)	Development Policy Research Unit	University of Cape Town unit performing research into trade, industrial, labour and science and technology policy for South Africa.	DPRU has conducted many studies and research that contribute to labour market information such as studies on the effect of wages, impact of growth and redistribution on poverty and inequality, transformation and labour reform, a SETA review and many more.	Reports and working papers are available on their website.
SANC (SANC, 2012)	South African Nursing Council	SANC is serving and protecting health care users by regulating nursing and midwife professions.	Evidence of the existence of a rich database is available on their website.	Access to data sets has to be negotiated.
CHET (CHET, 2012)	Centre for Higher Education Transformation	CHET conducts research in higher education and further education and training sectors.	CHET developed three web published public database systems: one on HE in SA, one on FET in SA and the third on African HE performance indicators. Data for CHET's online HE performance indicators were obtained from the HEMIS of the DHET. The quality of the HEMIS data is dependent on the accuracy of the institutional data submissions. The data on the SA's FET sector presented is drawn from the 2012 CHET publication, <i>Shaping the Future of South Africa's Youth: Rethinking post-school education and skills training</i> .	Example of development of labour market intelligence from labour market information.
CASE (CASE, 2012)	Community Agency for Social Enquiry	C A S E is an Independent South African Research NGO, focusing on socio-economic and policy research in support of social and economic justice.	Qualitative research includes research on women and youth. In 2004, CASE was commissioned to conduct the first phase of a possible tracer study of Irish Aid-funded NSFAS beneficiaries. This earlier study included examination and analysis of the NSFAS database as well as statistical analysis as well as documentary review and analysis in respect of scarce skills. The latter element was included as Irish Aid was at the time considering whether it should require that its funding be targeted at students studying in areas categorised as scarce skills. The contemplated tracer study was not done, and this study thus in some ways constitutes a follow-on of the earlier CASE research.	Qualitative information in the form of narrative publications. Reports available on their website.

11. HUMAN SCIENCES RESEARCH COUNCIL (HSRC)

Many different post-school data sources are being/have been provided to the HSRC by clients for use in commissioned research projects. The HSRC has furthermore conducted many surveys in which primary data on the impact of skills development systems and the state of training in enterprises has been collected. A list of some databases which have recently been used or developed by the HSRC in research projects relevant to supply in the post-school system are given and briefly described in Table 1. Columns 2 to 4 in table 1 respectively identifies the project where the relevant database was used, the year of reference and some general comments on the database. Most of the studies can be repeated in order to acquire updated information in support of labour supply data.

Table 4: List of post-school database sets which have recently been used in HSRC projects

Data source	Project	Reference year	General comments
EMIS master list (DBE)	Trends in International Maths and Science Study (TIMSS) Student tracking study – tracking students from school to further study/labour market	2003, 2005/6, 2011	Used the database as sampling frame to select a sample of schools for inclusion – gathered primary data
National Senior Certificate database (NSC)			Receive data from national examinations annually and conduct data analysis for many reports and publications.
National learner record data base (SAQA - NLRD)			Bought an electronic copy of the NLRD database in 2005/6 – used as source in publications
South African Revenue Service (SARS)	National Skills Survey (NSS)	2003 2007 2011	Used the SARS database on skills levy paying enterprises as sampling frame for selection of small, medium and large firms to include in surveys.
NBI Report – Quantitative overview of the Further Education and Training college sector	HRD Review study 2003	2000	Created a database from the data published in the appendices and conducted data analysis for various reports and book chapters.
NBI Report – Quantitative overview of the Further Education and Training college sector	HRD Review study 2003	2002	Created a database from the data published in the appendices and conducted data analysis for various reports and book chapters.
Further Education and Training management information system (FETMIS)	Used some of the data tables in the FET Audit project in 2010/11	2007-2010	HSRC was involved in the initial design and structuring of the FETMIS system.
FET Audit primary data	FET Audit	2010/11	Conducted a comprehensive in-depth audit of all 50 public FET colleges and collected a huge amount of primary data on all aspects of the colleges – to establish colleges' readiness for

Data source	Project	Reference year	General comments
			autonomous functioning.
Higher Education and Training management information system (HEMIS)	Student tracking and graduate destination project Project on agriculture	2005/6	The HSRC uses HEMIS data extensively especially for studies on labour supply.
DHET database on learnership completions and registrations	Impact assessment of learnership and apprenticeship programmes in NSDS phase II	2009/10	The population databases received from DHET were analysed in detail and also served as sampling frames for selection of cases on which primary data has been collected.
DHET database on apprenticeship completions and registrations	Impact assessment of learnership and apprenticeship programmes in NSDS phase II	2009/10	The population databases received from DHET were analysed in detail and also served as sampling frames for selection of cases on which primary data has been collected.
INDLELA data	Impact assessment of learnership and apprenticeship programmes in NSDS phase II	2009/10	The population database received from INDLELA was analysed in detail.
MerSETA data on learnership completions and registrations	MerSETA study in 2008	2002 to 2008	Detailed data analysis of the database
MerSETA data on apprenticeship completions and registrations	MerSETA study in 2012	2002 to 2012	Detailed data analysis of the database
Sector Education and Training Authority databases on learnerships and apprenticeships (where applicable)	Learnership study in 2006/07 Learnership and apprenticeship study in 2009/10	2006/07 2009/10	Databases acquired from SETAs were analysed and also served as sampling frame for the selection of representative samples. The HSRC collected primary data on impact assessment of the skills development programmes.
Public FET colleges - FETMIS	Monitoring and Evaluation of DANIDA Support to Education and Skills Development (SESD) Programme	2005	Monitoring and evaluation of seven public FET colleges – primary data has been collected.
Personnel Salary System (PERSAL)	Teacher qualification project	2009	The Teacher Education Programme (TEP) was a bundle of twenty different research and development projects on the theme of teacher education in South Africa.
StatsSA	Used as reference and to compare with primary data in many projects.		

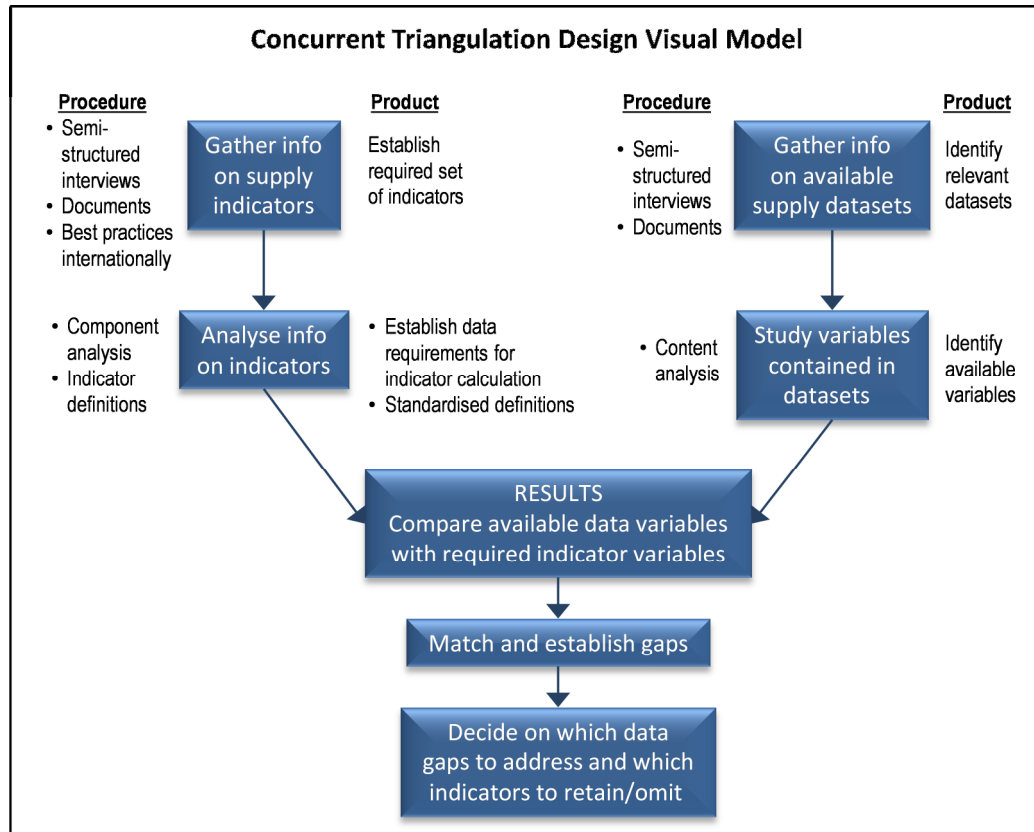
Source: Produced by author

CONCLUSION

To enable improved planning at sectoral and national levels for future investment in skills and human resources, DHET needs the existence of comprehensive, accurate, integrated and effectively analysed data. The DHET faces a number of challenges in this regard. The existing data on educational institutions with regard to labour supply as highlighted in this paper is not always accurate, is fragmented, has overlaps, has gaps, is not comprehensive and was not organised as part of an integrated system. These challenges suggest that collaboration between institutions and quality assurance of data inputs have to be strengthened. Support to DHET in this regard is advised.

An approach in support of DHET in its mission to establish a mechanism for skills planning in terms of labour supply data is proposed in the illustration in figure 3. A mixed methods approach called a concurrent triangulation approach based on one of the research design methodologies of Creswell (2009) is suggested. This methodology suggests that two quantitative and qualitative data collection activities are conducted simultaneously. These activities refer to two studies that should be conducted concurrently: a study on required labour supply indicators and another study on labour supply data sources together with the variables included within these data sources. Triangulation of the results of both studies should then be done to evaluate how well the required indicators are matched with the available supply data. Shortages and gaps can then be identified on a much more detailed level than the preliminary scan provided in this paper. Decisions on which indicators should be retained and which should be dropped and which data sources should be extended to include additional variables can then be made. After these activities have been completed, depending on the location of the relevant supply data, a production line from acquiring the raw data, to the calculation of indicators, to the incorporation of the indicator into the integrated ecosystem should be established.

Figure 3: Proposed methodology in support of the identification of supply indicators and data variables



SUGGESTION FOR FURTHER RESEARCH

Related to the information presented in this paper, the following area for future research is suggested: ***Success evaluation of management information systems.***

The South African education system has experienced many changes since 1994. Among these changes were the merging of public HE institutions and FET colleges. The lack of attention given to the role of information technology in mergers is ironic, because the period within which higher education mergers have taken place on a large scale across the globe overlaps with a phase characterised by extremely rapid take-up of information technologies in higher education (Paterson, 2005). These mergers necessitate change and adaptation of business management information system(s) employed at these institutions and poses therefore a threat to labour supply information. Management information systems are pivotal to the efficient and effective running of any modern business, organisation or institution, including FET colleges and HE institutions (Irani and Love, 2008). Apart from an extant MIS, it is also accepted that one of the key factors for successful IS planning and implementation is a close link between IS strategy and business strategy (Atkins, 1994, Baets, 1992, Paterson, 2005).

A model and tool have been developed to evaluate the success of the new integrated FETMIS at public FET colleges in South Africa (Visser, 2011). The conceptual model for the study is based on three internationally well-known IS success evaluation models and evaluates different facets of an information system namely: *information quality, system quality, service quality, individual impact, organisational impact, and end-user computing satisfaction*. Although the tool has been applied to an FET college it can be applied to any educational context and can also be used to develop an index of IS success for example in the FET sector or HE sector.

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ANNEXURE A: THE SKILLS PLANNING MECHANISM BY DHET

In order to build the integrated mechanism for skills planning for the country, the Department of Higher Education and Training is working with delivery partners on 3 strategic systems.

While each system has its core functionality and purpose, the 3 systems will interface to provide the total solution envisaged as a mechanism for skills planning for the country.

The following table matrix indicates the core areas of each system and indicates the cross-over datasets between the systems.

	Higher Education and Training Management Information System (HETMIS)	Labour Market Intelligence System (LMIRP)	Career Development System
Population demographics	Cross-over	Core	
Population estimates		Core	
Unemployment rates		Core	
Job vacancies		Cross-over	Core
Occupational employment estimates and projections	Cross-over	Core	Cross-over
Industry employment Estimates and projections		Core	Cross-over
Occupational distribution across industries		Core	Cross-over
Number of business establishments and size		Core	
Industry average earnings		Cross-over	Core
Occupational wages		Cross-over	Core
Unemployment by occupation	Cross-over	Core	Cross-over
Vacancies by occupation	Cross-over	Core	Cross-over
Unemployment by industry		Core	Cross-over
Enrolment and completion of education and training programs	Core	Cross-over	

	Higher Education and Training Management Information System (HETMIS)	Labour Market Intelligence System (LMIRP)	Career Development System
Estimates of supply per occupation and subject field	Core	Cross-over	Cross-over
Education outcomes including placement of graduates and flow of graduates	Core	Cross-over	
Estimates of work placement opportunities	Core		Cross-over
Learning pathways through the education and training system			Core
Skills flow between industries and occupations	Core	Cross-over	Cross-over
Occupational characteristics such as Tasks, Skills including essential skills, Abilities, Work activities, Work content, Education and training Requirements and certification requirements			Core
Education and training institutions	Core		Cross-over
Education and training programmes including programme descriptions and course descriptions	Core		Cross-over
Financial assistance sources, particularly public sources for education or employment training/ skills development programmes.	Core		Cross-over
Educational attainment of adults	Core	Cross-over	
Informal sector employment		Core	Cross-over
Mappings between industry, occupation and education programmes	Core	Core	Core

The integrated skills mechanism would therefore house at least the following information gathered from various sources and underlying datasets:

1. Population and Labour Force

- Population Size and Shape (Age, Gender, Geographic Location and Urban/Rural);
- Population Growth Rate (Age, Gender, Geographic Location and Urban/Rural);
- Labour Force Participation Rate (Age, Gender, Geographic Location and Urban/Rural);
- Labour Force Size and Shape (Age, Gender, Geographic Location and Urban/Rural);
- Projected Labour Force (Age, Gender, Geographic Location and Urban/Rural)

2. Employment and Unemployment

- Employment by Industry, Occupation, Geographic Location, Educational Level and Gender;
- Number of Hours Worked by Industry, Occupation and Gender;
- Projected employment by Industry and Occupation;
- Number of Unemployed by Educational Level, Gender, Location and Age.

3. Wages and Salaries

- Average Earnings by Industry, Occupation, Gender, Location and Educational level.

4. Skills Demand

- Number of Job Openings by Occupation, Industry, Location, Gender and Educational Level;
- Projected Job Openings by Occupation, Industry, Location, Gender and Educational Level.

5. Skills Supply

- Number Job Seekers by Gender, Educational Level and Location;
- Number Job Seekers by Educational Level, Gender, Previous Job (Occupation) and Experience;
- Number of Education/Training Institutions by Courses offered;
- Number of Students Enrolled by Course and Gender;
- Expected Output by Gender, Educational Level and Occupation.

6. Skills Movement and Flow

- Placement rate of graduates per industry and occupation by education level, gender and location;
- Projected number of placement opportunities per industry and occupation by education level, gender and location;
- Placement rate of work seekers per industry and occupation by education level, gender and location;
- Number of people issued visa/employment permit by duration, by occupation, education level and gender;
- Number of people issued permanent residence permit by duration, by occupation, education level and gender.

7. Informal Sector

- Estimated Employment by Type of Business, Region, Gender, Education Level and Activity (Industry);
- Average Wages by Type of Business, Region, Gender, Education Level and Activity (Industry);
- Projected Growth in Employment by Type of Business and Activity (Industry).

8. Industrial Relations²

- Number of Trade Unions and Employers' Organisations by Industry;
- Number of Disputes resolved/unresolved *i.e.* strikes and lockouts by industry;
- Number of Collective bargaining agreements by industry;
- Number of Recognition Agreements by Industry.

²Improving Labour Market Information in Southern Africa. Theo Sparreboom. ILO/SAMAT Policy Paper no 10.

The framework identifies the following core data as essential to the **HETMIS**.

Category	Dataset required
General	<ul style="list-style-type: none"> Numbers in the country population Numbers in the labour work force Geographic location of work force
Education and Training Institutions	<ul style="list-style-type: none"> Comprehensive list of all registered education institutions in the country per sub-sector; Geographic location of each education institution in the country; Comprehensive list of the offerings of each education institution in the country; Comprehensive list of all registered qualifications in the country
Students/Learners	<ul style="list-style-type: none"> Comprehensive list of all students enrolled at each institution including basic demographic details and all course enrolment details; Comprehensive list of all graduates of each institution with qualification details (mapped to occupational categories on the OFO where relevant); Comprehensive list of all learners in skills development programmes including learnerships, short courses, internships and apprenticeships including basic demographic details and all course details; Comprehensive list of all learners successfully completing skills development programmes including learnerships, short courses and apprenticeships with qualification details where relevant
Occupational Outcomes	<ul style="list-style-type: none"> Numbers of people by qualification level and type Flows in the population and graduate numbers by qualification level and type Work placements of graduates within 12 months of course/qualification completion List of persons registered on the unemployment database with demographic and qualification details
Occupational Demand	<ul style="list-style-type: none"> Projected number of persons required per occupation per sector Current number of persons employed per occupation per sector Projected number of positions available for learnerships, skills courses, apprenticeships, internships (for graduate matching) Geographic location of demand
Geographic Location	<ul style="list-style-type: none"> All data to be related to geographic location where relevant

ANNEXURE B: TABLES PRESENTED IN THE 7TH EDITION OF THE KILM - 2011

The website: <http://kilm.ilo.org/kilmnet> provides an interactive tool that generates information as listed below by country, by year, by gender and by age group.

Table 1a. Labour force participation rate (ILO estimates; by sex and age group)
Table 1a. Labour force participation rate (ILO estimates; by sex and age group)
Table 1b. Labour force participation rate (national estimates; by sex and age group)
Table 13. Inactivity (ILO estimates, by sex and age group)
Table 2a. Employment-to-population ratio (ILO estimates, by sex and age group)
Table 2b. Employment-to-population ratio (national estimates, by sex and age group)
Table 3. Status in employment (by sex)
Table 4a. Employment by sector (by sex)
Table 4b. Employment by 1-digit sector level (ISIC-Rev.4, 2008; by sex)
Table 4c. Employment by 1-digit sector level (ISIC-Rev.3, 1990; by sex)
Table 4d. Employment by 1-digit sector level (ISIC-Rev.2, 1968; by sex)
Table 5a. Employment by occupation (ISCO-88; by sex)
Table 5b. Employment by occupation (ISCO-68; by sex)
Table 6. Part-time workers (by sex, age group)
Table 7a. Employment by hours worked per week (by sex, age group and status)
Table 7b. Annual hours actually worked per person
Table 8. Employment in the informal economy (by sex)
Table 9. Total unemployment (by sex)
Table 10. Youth unemployment (by sex)
Table 11. Long-term unemployment (By sex and age group)
Table 12. Time-related underemployment (by sex and age group)
Table 13. Inactivity (ILO estimates, by sex and age group)
Table 14a. Labour force by level of educational attainment (by sex and age group)
Table 14b. Unemployment by level of education attainment (distribution; by sex)
Table 14c. Unemployment by level of education attainment (rate; by sex and age group)
Table 14d. Illiteracy (by sex and age group)
Table 15. Average monthly wages
Table 16a. Hourly compensation costs of employees in manufacturing
Table 16b. Hourly compensation costs of production workers in manufacturing
Table 17. Labour productivity
Table 18a. Poverty and income distribution
Table 18b Working poverty (national estimates, by sex and age group)

ANNEXURE C: SOUTH AFRICAN DEVELOPMENT INDEX (SADI)

SOUTH AFRICAN DEVELOPMENT INDEX FOR SECOND QUARTER 2011							
INDICATOR	Previous Reading	Weighting points	Weighting proportion	Previous Score	Latest Reading	Change	Latest Score
ECONOMIC			20.00%				
GDP seasonally adjusted and annualised at constant 2005 prices — R million (Q3 2010 vs Q4 2010)	1 838 587	7.5		7.54	1 858 688	1.09%	7.62
GDP per capita 2010 (3rd Q 2010 vs 4th Q 2010 seasonally adjusted and annualised at constant 2005 prices)	R 37 278	5		5.02	R 37 180	-0.26%	5.01
Unemployment rate (Q1 2010 vs Q1 2011)	25.20%	5		4.86	25.00%	-0.79%	4.90
Youth unemployment rate (Q1 2010 vs Q1 2011)	49.4%	2.5		2.29	49.7%	0.60%	2.28
EDUCATION			20.00%				
Proportion of population, aged 15+, with no difficulty reading (2009 v 2010)	91.60%	4		4.09	97.4%	6.33%	4.35
Adults (aged 20+) with higher education (2009 v 2010)	5.01%	3		3.00	5.34%	6.58%	3.20
Adults (aged 20+) with grade 12 (2009 v 2010)	35.60%	3		3.27	36.3%	1.96%	3.33
Pupils per teacher (public schools — 2009 v 2010)	30	2		2.06	30	0.00%	2.06
Matric pass rate (2009 v 2010)	67.80%	3		3.37	67.80%	0.00%	3.37
University entrance passes (2009 v 2010)	23.50%	5		5.90	23.50%	0.00%	5.90
HEALTH			20.00%				
Life expectancy at birth (males 2009 v 2010)	53.3	2.5		2.50	53.3	0.00%	2.50
Life expectancy at birth (females 2009 v 2010)	55.2	2.5		2.50	55.2	0.00%	2.50
Infant mortality rate per 1 000 (2009 v 2010)	47	3		2.72	47	0.00%	2.72
Immunisation rate for children > 1 year (2009 v 2010)	90.0%	2		2.14	90.0%	0.00%	2.14
Total number of HIV infections (2009 v 2010)	5 813 088	2		1.97	5 813 088	0.00%	1.97
Proportion of population with HIV (HIV infection rate: 2009 v 2010)	11.8%	3		2.97	11.8%	0.00%	2.97
Public-sector doctors per 100 000 people (2009 vs 2010)	27.3	3		3.09	27.3	0.00%	3.09
Public-sector nursing assistants per 100 000 people (2009 v 2010)	84.2	2		2.03	84.2	0.00%	2.03
LIVING CONDITIONS			20.00%				
Households living in formal dwellings (2009 v 2010)	75.5%	5		5.10	76.9%	1.83%	5.19
Households with access to piped water (2009 v 2010)	89.3%	5		5.05	89.2%	-0.11%	5.04
Households using electricity for heating (2009 v 2010)	50.7%	5		4.87	45.6%	-10.06%	4.38
Access to flush lavatories (2009 v 2010)	59.5%	5		4.97	59.9%	0.67%	5.00
GENDER			10.00%				
Labour market participation rate Female (Q1 2010 vs Q1 2011)	48.0%	5		4.88	47.6%	-0.83%	4.84
Number of professional female employees (Q1 2010 vs Q1 2011)	321 000	5		5.02	328 000	2.2%	5.13
CRIME			10.00%				
Total serious crimes per 100 000 people (2009 v 2010)	4 298	5.0		5.02	4 298	0.00%	5.02
Murders per 100 000 people (2009 v 2010)	34	5.0		5.41	34	0.00%	5.41
TOTAL		100	100.00%				101.95
* The data provided in this index is gathered from the South African Institute of Race Relations (SAIRR) Surveys, Stats SA, the Department of Trade and Industry (DTI), the South African Reserve Bank, and the Health Systems Trust.							
South African Development Index (SADI) Second update for 2011 South African Institute of Race Relations							3

Source: The South African Development Index (SADI): Second update for 2011 (SAIRR, 2011b)

ANNEXURE D: SOUTH AFRICAN DEVELOPMENT INDICATORS

ECONOMIC GROWTH AND TRANSFORMATION		EDUCATION	
1 GDP growth	4	41 Educator - learner ratio	44
2 Real per capita GDP growth	5	42 Enrolment rates	45
3 Foreign direct investment (FDI)	6	43 National senior certificate pass rate	46
4 Gross fixed capital formation	7	44 No of candidates for the NSC with Mathematics passes	47
5 Budget surplus or deficit before borrowing	8	45 Adult literacy	48
6 Government debt	9	46 Graduating SET students	49
7 Interest rates: real and nominal	10	47 Educational Performance	50
8 Inflation measures: CPI and CPIX	11	48 Mathematics and Science Achievement	51
9 Bond points spread	12		
10 R&D expenditure	13	SOCIAL COHESION	
11 Patents	14	49 Strength of civil society	52
12 Balance of payments	15	50 Voter participation	53
13 SA's competitiveness outlook	16	51 Voters per province	54
14 Knowledge-based economy index	17	52 Women who are members of legislative bodies	55
15 BEE transactions	18	53 Confident in a happy future for all races	56
16 Black and female managers	19	54 Public opinion on race relations	57
EMPLOYMENT		55 Country going in the right direction	58
17 Employment	20	56 Identity based on self-description	59
18 Unemployment	21	57 Pride in being South African	60
19 Expanded public works programme (EPWP)	22	SAFETY AND SECURITY	
POVERTY AND INEQUALITY		58 Victims of crimes	61
20 Per capita income	23	59 Number of all crimes	62
21 Living standards measure	24	60 Contact crime	63
22 Inequality measures	25	61 Property crime	64
23 Poverty headcount index	26	62 Aggravated robberies	65
24 Poverty gap analysis	27	63 Detection rate	66
25 Social-assistance support	28	64 Charges referred to court	67
26 People with disabilities	29	65 Conviction rate	68
HOUSEHOLD AND COMMUNITY ASSETS		66 Inmates	69
27 Dwellings	30	67 Road accidents	70
28 Portable water	31	INTERNATIONAL RELATIONS	
29 Sanitation	32	68 Peace operations	71
30 Electricity	33	69 Democratically elected governments in Africa	72
31 Land restitution	34	70 Real GDP growth in Africa	73
32 Land redistribution	35	71 Sustainable Tourism	74
HEALTH		72 Mission operations and diplomats trained	75
33 Life expectancy	36	73 International agreements	76
34 Infant and child mortality rate	37	GOOD GOVERNANCE	
35 Severe malnutrition under five years	38	74 Tax returns	77
36 Immunisation coverage	39	75 Audits	78
37 Maternal mortality ratio	40	76 Corruption perceptions	79
38 HIV prevalence	41	77 Budget transparency	80
39 Tuberculosis (TB)	42	78 Public opinion on delivery of basic services	81
40 Malaria	43	79 Ease of doing business	82
		80 Green house gas emissions	83

Source: Development Indicators (The Presidency, 2011)