Anticipating tomorrow’s skill needs: Developing Integrated Labor Market Information Systems

*African Forum on Youth Skills and Enterprises in the Digital Age*

Tunis, April 18, 2018
• What jobs will be in demand in three years in Lomé?
• What trainings should be implemented in Mtwara?
• What are the requirements to become a veterinarian in Tunisia?
• What are the profiles of the top twenty firms located in Ouagadougou who are hiring?
• Do we need more plumbers in the Bizerte region?
• How do I find my new electrician, and how would I go about hiring him?
• What's the average salary of a laboratory technician?
1. What are Labor Market Information Systems? Why are they important to help us understand tomorrow’s Labor Market?
2. Types of LMIS
3. Building the integrated LMIS
Methodology: how we studied Labor Market Information Systems (LMIS)?

• Systems approach vs. System: to agree on a definition that covers all aspect of the labor market problematic
• Landscape review of LMIS: characteristics and performance, from Australia to Rwanda
• Construction of a typology to analyze the systems as a function of their ability to improve the workings of labor markets
• Identification of targeted and sequential interventions to improve LMIS
LMIS: For what, for who? And what are we talking about exactly?
Information on the labor market:

Input

Data on the labor market

Process

Analysis

Output

Labor market intelligence
**Data oriented LMIS**
- Descriptive data
- Present time capture
- Statistics

**Service oriented LMIS**
- Intermediation
- Advisory
- Training
- Financial support

- **Intervention oriented**
  - Decision makers

- **Observation oriented**
  - Researchers

- **Supply oriented**
  - Employees
  - Job seekers

- **Demand oriented**
  - Employers
Integrated LMIS

To the benefit of all actors
Dynamic and reactive

Betters services

Intervention oriented
Decision makers

Observation oriented
Researchers

Better data

Supply oriented
Employees
Job seekers

Demand oriented
Employers

Integrated LMIS

fhi360
THE SCIENCE OF IMPROVING LIVES
A definition of a Labor Market Information System

The set of institutional arrangements, procedures and mechanisms put in place to coordinate the collection, processing, storage, retrieval and release of labor market information

Nicholas Manghozo (ILO, 2003)
Landscape Review of LMIS

<table>
<thead>
<tr>
<th>South Africa</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Jamaica</td>
</tr>
<tr>
<td>Botswana</td>
<td>Rwanda</td>
</tr>
<tr>
<td>Cameroon</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Denmark</td>
<td>United States (California)</td>
</tr>
</tbody>
</table>
5 Key observations of an advanced LMIS

- LMIS are composed of several, most often interconnected, subsidiary information systems.
- Public interfaces of subsidiary systems are tailored to different types of users.
- LMIS all contain a well-developed public job matching component.
- Labor market information is detailed at the local level.
- Effective partnerships underpin the governance of LMIS.
Australia: myskills (director of training)
## Certificate III in Engineering - Fabrication Trade

MEM3030S

<table>
<thead>
<tr>
<th>Stream</th>
<th>Certificate II</th>
<th>Certificate III</th>
<th>Certificate IV</th>
<th>Diploma</th>
<th>Advanced Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>CNC Machine Operator Equipment Maintainer Equipment Repairer</td>
<td>Fitter - Metal Fitter &amp; Turner Fluid Power Mechanic Maintenance Mechanic/Motor Mechanic Mechanical Fitter Metal Fabricator (Boilermaker) Metal Machinist (First Class) - Engineering Plant Mechanic Tool and Die Maker Toolmaker</td>
<td>Advanced Mechanical Maintenance Technician Advanced Toolmaker Fluid Power Systems Technician</td>
<td>Advanced Engineering Tradesperson - Mechanical</td>
<td></td>
</tr>
<tr>
<td>Fabrication</td>
<td>Aluminium Anodising Production Worker Aluminium Fabrication Production Worker Die Casting (Production) Foundry Worker (General Fettling) Foundry Worker (General)</td>
<td>Boilermaker Boilermaker/Welder Foundry Tradesperson (Moulder) Pressure Welder - Engineering Sheetmetal Worker (First Class)</td>
<td>Advanced Metal Fabricator (Structural)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STUDENT OUTCOMES FOR CERTIFICATE III IN ENGINEERING - FABRICATION TRADE

These are the outcomes of graduates surveyed six months after completing their training for Certificate III in Engineering - Fabrication Trade.

**Employment Outcomes**

- **AVERAGE SALARY**
  - This course: $64,900
  - Similar courses (same field, same level): $60,000
  - All courses at this level: $48,600

**Top Industries**

- Manufacturing: 67.1%
- Construction: 9.8%
- Mining: 7.5%

**Destination After Training (of all graduates)**

<table>
<thead>
<tr>
<th>Destination after training</th>
<th>This course</th>
<th>Similar courses</th>
<th>All Certificate III courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed or in further study after training (%)</td>
<td>91.5</td>
<td>91.2</td>
<td>85.8</td>
</tr>
<tr>
<td>Employment outcomes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (%)</td>
<td>90.8</td>
<td>87.5</td>
<td>76.7</td>
</tr>
<tr>
<td>Full-time (%)</td>
<td>86.3</td>
<td>75.9</td>
<td>44.4</td>
</tr>
<tr>
<td>Part-time (%)</td>
<td>3.8*</td>
<td>11</td>
<td>31.4</td>
</tr>
<tr>
<td>Further study outcomes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled at University (%)</td>
<td>-</td>
<td>1.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Enrolled at TAFE (%)</td>
<td>8.8</td>
<td>9.3</td>
<td>14</td>
</tr>
<tr>
<td>Enrolled at Other provider (%)</td>
<td>4.4*</td>
<td>9.6</td>
<td>11.5</td>
</tr>
<tr>
<td>Satisfied with the training (%)</td>
<td>92.2</td>
<td>86.8</td>
<td>87.5</td>
</tr>
</tbody>
</table>
Overview

Structural Steel and Welding Trades Workers cut, shape, join and repair metal components of iron and steel structures, boilers, pressure vessels and pipes, ships and other vessels. The links below provide quick access to basic information for this occupation. Greater detail can be found using any of the page tabs above. A one page printable summary of the key statistics for this occupation can also be found under the Reports and Links tab above. Just click on the tab and follow the link for Occupational Bulletin.

- Job prospects
- Weekly earnings
- Occupation size
- Find Vacancies
- Find Training
- Browse Skills

Tasks

This occupation may include associated occupations with varying tasks.

- studying blueprints, drawings and specifications to determine job requirements
- selecting, cleaning and preparing metal stock
Statistics

Information for this occupation (presented as charts and tables), includes employment level and growth, age and gender profile, full-time and part-time work, earnings, hours of work, employment by State/Territory and main employing industries.

View Statistics

Select a graph Employment Level (thousands)

Employment Level (thousands)

These data show past and projected (to 2020) employment levels (thousands). Source: ABS Labour Force Survey, Department of Employment trend data to November 2015 and Department of Employment projections to 2020.
Knowledge, Skills and Abilities

This page provides data, sourced from the United States Occupational Information Network (O*Net) on skills, knowledge, abilities, interests, job environment, work values, activities and tasks for the best fit O*Net occupation.

View Knowledge, Skills and Abilities

Select an attribute Skills

Skills
Skills are developed capacities that facilitate learning and the performance of activities that occur across jobs. The most important skills for this occupation are shown below.

<table>
<thead>
<tr>
<th>Skill</th>
<th>Importance (%)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Monitoring</td>
<td>75</td>
<td>Watching gauges, dials, or other indicators to make sure a machine is working properly.</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>72</td>
<td>Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</td>
</tr>
<tr>
<td>Operation and Control</td>
<td>70</td>
<td>Controlling operations of equipment or systems.</td>
</tr>
<tr>
<td>Quality Control Analysis</td>
<td>70</td>
<td>Conducting tests and inspections of products, services, or processes to evaluate quality or performance.</td>
</tr>
<tr>
<td>Active Listening</td>
<td>67</td>
<td>Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</td>
</tr>
<tr>
<td>Equipment Maintenance</td>
<td>65</td>
<td>Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>65</td>
<td>Understanding written sentences and paragraphs in work related documents.</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>65</td>
<td>Determining causes of operating errors and deciding what to do about it.</td>
</tr>
<tr>
<td>Equipment Selection</td>
<td>62</td>
<td>Determining the kind of tools and equipment needed to do a job.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>62</td>
<td>Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.</td>
</tr>
</tbody>
</table>
1. **Boiler maker**

**ARUNDEL | Casual position**

Employer is looking for an experienced boiler maker to assist the team in the aluminium department. They will be doing some basic aluminium welding work, learn how to put the jetty's together and other basic duties as...

Date added: Friday, 16 September 2016  Modified: Monday, 19 September 2016  Source: Employment Service Provider

2. **Apprentice Boilermaker**

**WACOL | Full time position**

East Coast Apprenticeships are currently looking for a motivated, hardworking individual to commence or recommence a Boiler making Apprenticeship based...

Date added: Monday, 12 December 2016  Source: Public Employer

3. **Welder**

**NORTHGATE | Full time position**

Experienced welder required for immediate start. Day shift. Northgate location. Email resume to info@placementbrokers.com.au

Date added: Wednesday, 7 September 2016  Source: Public Employer

4. **CNC Machinist**

**GLADSTONE CENTRAL | Full time position**

Trade qualified CNC Machinist/Fitter Must have experience in programming and operating CNC lathes and mills. The main objective of this position is to accurately program, set up and run our CNC mills...

Date added: Tuesday, 6 September 2016  Source: Employment Service Provider
Australia: Labor Market Information Portal

Welcome to the Labour Market Information Portal

If you would like to be added to the LMIP mailing list, please send an email to: lmip@employment.gov.au

The Department of Employment publishes a wide range of information about the labour market. For more information, please see our brochure.

Latest News:

July 2016 Labour Force Survey data are now available from the Labour Force Region (SA4) channel. You can download this information from the Downloadable Data channel.
Employment is projected to increase in 16 of the 19 broad industries over the five years to November 2020. Health Care and Social Assistance is projected to make the largest contribution to employment growth (increasing by 250,200), followed by Professional, Scientific and Technical Services (151,200), Education and Training (121,700) and Retail Trade (106,000). Together, these four industries are projected to provide more than half of total employment growth over the five years to November 2020.

2016 Employment Projections

*Employment projections for the five years to November 2020.*

Each year, the Department of Employment produces employment projections by industry, occupation, skill level and region for the following five-year period. These employment projections are designed to provide a guide to the future direction of the labour market, however, like all such exercises, they are subject to an inherent degree of uncertainty.

2016 employment projections are based on ABS employment data for November 2015 and the Government's forecasts and projections in the December 2015 Mid-Year Economic and Fiscal Outlook (MYEFO).

2016 Industry Employment Projections Report (DOCX)
Industry projections – five years to November 2020 (XLSX)
Occupation projections (XLSX)
Skill Level projections (XLSX)
Regional projections – interactive tool (XLSM)
Regional projections (XLSX)

If you are having trouble accessing the Regional Projections XLSM interactive data tool, please click here for troubleshooting information. For more information about these projections, please contact the Department of Employment.
Rwanda has a population of approximately 11.3 million people which is dominated by young people with a median age of 19 years and a population growth rate of 2.6%. The GDP of the economy is 4,685 Billion Rwanda Francs (at constant 2011 prices) with an average growth rate of 7.12% over the last 5 years.
Main weaknesses of LMIS

• Narrow institutional support
• Focus on generation of broad, macro-level data instead of providing information useful for employers and workers
• Exclusion of the private sector from effectively taking part in the governance and the formation of new information
• Failure to incorporate the informal sector even though it comprises the vast majority of the labor force.
How to evaluate a system?
The number of links is a function of the number of actors.
## Determinants of our typology

<table>
<thead>
<tr>
<th></th>
<th>Data only</th>
<th>Data &amp; Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public actors</td>
<td>Type 1</td>
<td>Type 2</td>
</tr>
<tr>
<td>Public and private actors</td>
<td>N/A</td>
<td>Type 3</td>
</tr>
</tbody>
</table>
LMIS type 1: public actors, no services.
LMIS type 2: Public actors, few services
LMIS type 3: Several public and private actors, several services
## Priorities for an Integrated LMIS

### 1. Ensure Stakeholder Engagement
- Support at highest Level of Government
- Public-Private working group
- Priority questions to be answered

### 2. Exploit Existing Sources of Information
- Administrative data
- Economic context
- Private sector
- Research/academics

### 3. Implement New Collaborations
- Localize information
- Outsourcing
- New partnerships

### 4. Take Advantage of Technology
- Real time LMIS and Analytics
- OpenData
- Online services
- Private intermediation
Roadmap for the development of LMIS
Feuille de Route pour le Développement des SIMT

Available here: fhi360.org
go to « Economic Development »

www.fhi360.org/resource/roadmap-development-labor-market-information-systems