“Training Needs Analysis of ICT sector for Arab Least Developing Countries”
The Training needs Analysis toolkit

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ITU Expert

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Workshop objectives

• Develop skills to identify ICT Skills and determining existing gaps
• Explore and identify Job roles in accordance with organisational structure and match with requirements of ICT environment
• Identifying needs against future ICT Skills requirements in support of national policies
Introductions

Kindly introduce yourselves and discuss:

• Role in organisation
• Purpose for being on program
• Current competence challenges/Opportunities regarding TNA
Day 1: The need for Transformation

- Understanding insights in the latest ICT Trends
- The current state of ICT Competence within organisations
- The role of the Talent Manager within organisations
- Insight on the e-Skills strategies of countries
The role of Talent Development practitioners is to contextualise the predicted trends and design appropriate responsive HR Solutions that will address organisational needs.

Source: Gartner Top 10 Strategic trends

View Video: 2025 The future of ICT
"Phones and wearable devices are now part of an expanded computing environment that includes such things as consumer electronics and connected screens in the workplace and public space,"
The Internet of Things (IoT) is a computing concept that describes a future where everyday physical objects will be connected to the Internet and be able to identify themselves to other devices. Since 2013, more than 650 million new physical objects have come online. 2015 will become the year when every division within a business will focus on the strategy behind the Internet of Everything.
A 3-D printer is a type of material design printer that designs and builds 3-D models and products of devices and components using an additive manufacturing process

Examples:
Organizations need to manage how best to filter the huge amounts of data coming from the IoT, social media and wearable devices, and then deliver exactly the right information to the right person, at the right time. “Analysing Big Data”
Ubiquitous embedded intelligence combined with pervasive analytics will drive the development of systems that are alert to their surroundings and able to respond appropriately. Context-aware security is an early application of this new capability, but others will emerge.
Smart machines can cause disruption in labour force dynamics
Advanced algorithms that allow systems to understand their environment, learn for themselves, and act autonomously.
The convergence of cloud and mobile computing will continue to promote the growth of centrally coordinated applications that can be delivered to any device.
Agile programming of everything from applications to basic infrastructure is essential to enable organizations to deliver the flexibility required to make the digital business work.
Web-scale IT is a pattern of global-class computing that delivers the capabilities of large cloud service providers within an enterprise IT setting. More organizations will begin thinking, acting and building applications and infrastructure like Web giants such as Amazon, Google and Facebook.
All roads to the digital future lead through security.
Summary

Top Tech Predictions Map for 2014

Mobile Devices and Mobile Internet
- Mobile Device Diversity and Management
- Mobile Apps and Applications
- Mobile money will continue to grow - as will "mAgri"
- iPads and tablets will grow in education

The Internet of Everything
- From Internet of Things to Web of Everything
- Mobile fitness devices will grow even bigger
- Wearable devices will proliferate
- Device context awareness will accelerate
- Cities will get smarter

Cloud Computing
- Scientific Cloud Computing
- Emergence of the Mobile Cloud
- Hybrid Cloud and IT as Service Broker
- The Era of Personal Cloud
- Cloud/Client Architecture
- There’s a $100 billion cloud in our future
- Cloud service providers will increasingly drive the IT market

Web-Scale IT

Corporations Changes
- Corporations will change the world
- Here comes the social enterprise
- From Big Data to Extreme Data
- Bigger big data spending

Big Data and Analytics
- Overall IT spending to grow 5.1% to $2.14 trillion, PC revenues to decline 6%
- Emerging markets will return to double-digit growth of 10%
- Amazon (and possibly Google) to take on traditional IT suppliers

Lifestyle Changes
- Ouya and other "microconsoles" will disrupt home gaming
- iPhone 5s copycats
- Low Cost High-end &-tech Devices in China

General Predictions
- Next-generation mobile networks
- LTE subscribers will double and 4G LTE will start to roll out
- 3D printer sales will jump
- The Revolution Will Be 3D

Smart Machines

3D Printing

Made by Vasily Ryzhkov 2013
Contact me: vryzhkov@gmail.com
Subscribe to my blog: worldbusinessincubation@wordpress.com

Source: IDC, Gartner, IBM, IEEE Computer Society, Juniper. 2013
Pair in groups of 5

**Activity:**
Discuss the implications, opportunities and challenges that some of the trends might have in your organisation with specific reference to labour force capability/Capacity

**Time:** 45 Minutes

“Group spokesperson will provide feedback to rest of class, 15 Minutes”
State of e-Skills in SA

EMPLOYMENT TRENDS
The rise of the information society

- Agrarian Age
- Industrial Age
- Information Age

- Information
- Services
- Manufacturing
- Agriculture

Percentage of Workforce

1800 1850 1900 1950 2000

2014/12/14
State of e-Skills in SA

- Insufficient leveraging of the potential benefits associated with ICT
- Lack of coordination
- Continuing unfulfilled needs
  - In Education
  - Government
  - Business
- Provision of e-Skills to learners and communities in deep rural and peri urban areas are lacking

South Africa’s NRI 70th out of 148 Countries. WEF 2014
State of e-Skills in SA (Continue)

5TH Pillar Skills
- Quality of Education system  146/148
- Quality of Maths and Science 148/148
- Secondary Education gross enrolment 28%
- Adult Literacy rate 78/148

Global Information Technology Report 2014
E-Skills: A National Curriculum and Competence framework

- E-Participation
  - E-Skills for existing jobs
  - E-Skills for new jobs
- Self reliance
- Innovation and Creativity
- Improved quality of life
- Job Creation
- E-Literacy
  - E-Skills for ICT Practitioners
  - E-Skills for service delivery
- E-Skills for self employment
E-Skills: A Holistic Perspective

ICT Practitioners
① Have the ability to develop and maintain ICT systems
② ICT’s constitute the main part of their job

ICT users/e-business
① Advanced Users
① Competent users of advanced and often sector specific, software tools.
② ICTs are not the main job, but a tool
① Basic User
① Competent user of generic tools (e.g. Open Office, MS Word, etc.) needed for the information society, e.g. gov. and working life. ICTs are not the main job, but a tool

E-Literacy
① ICT skills needed for modern life outside the work place and in support of community development
As a national catalyst
• Position SA to increase global competitiveness
• Increase equitable prosperity
• Grow e-Skills
• Embed technology in day to day life of people

Achieved through
• Evidence based research
• Framework for monitoring and evaluation
• Teaching and Learning
• Innovation

Based on the core values of
• Responsiveness
• Enabling capacity of emerging talent
• Collaboration
• Innovation
• Developmental approaches
The e-Skills Institute (e-SI)

- Driving force behind the national e-Skills agenda
- Established provincial e-Skills Knowledge production hubs
- Established Research Network for e-Skills (ResNes)

Aim:
To serve as a national catalytic collaborator to align existing effort, identify gaps And to provide coordinated leadership to address the gaps. Stakeholders include

- Government
- Business
- Education
- Civil Society

<table>
<thead>
<tr>
<th>Knowledge Production Hub</th>
<th>Province</th>
<th>Thematic e-Skills Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durban University of Technology</td>
<td>KZN</td>
<td>E-Government enablement</td>
</tr>
<tr>
<td>University of Pretoria</td>
<td>Gauteng</td>
<td>Creative industry and Media, e-entrepreneurship</td>
</tr>
<tr>
<td>University of Western Cape</td>
<td>Western Cape</td>
<td>E-inclusion and social innovation including eCentre manager development</td>
</tr>
<tr>
<td>University of Limpopo</td>
<td>Limpopo</td>
<td>E-Health</td>
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<tr>
<td>Vaal University of Technology</td>
<td>Northern Cape</td>
<td>E-Literacy</td>
</tr>
<tr>
<td>Walter Sisulu University</td>
<td>Eastern Cape</td>
<td>ICT for rural development</td>
</tr>
</tbody>
</table>
Developing e-Skills, e-SI focus areas

- **e-Inclusion** and Social innovation: E.g. e-Skilling Smart Community Knowledge Centre managers
- **e-Participation** in community, social, education, innovation and governance process
- **ICT for rural development** including rural production and distribution. Creative industries
- **e-Enablement** government services; SARS, UIF
- **e-Entrepreneurship**
- **FOSS**

NESPA is strategically aligned and supports Governments National Development Plan Vision 2030
Developing e-Skills strategic objectives

• **Employment readiness**: aimed at the improvement of employment figures for graduates
  This refers to two aspects of employment readiness: (i) ability to get the job or to start a small business, and (ii) skills to do the work.

• **Effective e-governance and service delivery**: aimed at the effective use of ICT for service delivery that is developmental, agile, competent, and citizen-centric.

• **Business development**: aimed at providing ICT skills needed within corporate, small, medium businesses and micro-enterprises (SMMEs)

• **Socio-economic development**: Aim is to increase the uptake of online (e-government) services as well as to support the creation of relevant (local) content by more educated and cohesive citizens.

• **Research and development**: aimed at informing policy and curriculum development, de-fining applications and evaluating progress. The research should be collaboratively useful across government departments and the stakeholders’ array and presented in a user friendly, accessible way.
The Role of HR as a Transformation specialist

- HR within the ICT Context
- Evolving and changing role of HR
- Activities of HR
- Business impact of HR
- Talent Management Competence framework for HR
• What are the critical issues facing your Organisation?

• What are the priorities in your Company Strategy?

• What are the key factors and requirements that will lead to achievement of business results?

• What are your Business Leaders focusing on?

• What keeps your Leadership awake at night?

WHAT’S BROKEN?
1. Human Capital Planning
2. Staffing
3. Remuneration, Rewards & Recognition
4. Performance Management
5. Training & Development
6. Talent Management
7. Career Development
8. Exit Management
9. Leadership, Diversity & Transformation
10. Organizational capability development
Aligning HR to Business/Organisation Priorities....

What Business Problem is being solved?

What solution will HR deliver to Line /Business to solve the problem?

What is HR doing and providing to Line /Business to solve the problem?

What are the HR tools and skills that ensure that Line/Business solves the problems faced?
### Line Leadership Priorities

**“EXTERNAL”**
1. Global market challenges
2. Local Legislative changes
3. Political dynamics
4. Socio-economic issues
5. Investor expectations
6. Organized labour changing landscape
7. Pressure groups and public interest

**“INTERNAL”**
1. Market challenges and customer expectations
2. Legislative changes impacting business practices
3. Profitability and sustainability and investor confidence
4. Business growth and strategic investments
5. Cost optimisation
6. Competing stakeholder priorities
7. Leadership capacity and talent pipelines
8. Employee value proposition / expectations

### HR Activities

1. Human Capital Planning
2. Staffing
3. Remuneration. Rewards & Recognition
4. Performance Management
5. Training & Development
6. Talent Management
7. Career Development
8. Exit Management
9. Leadership, Diversity & Transformation
10. Organizational capability development
The Focus of the Organisation. What’s Broken?

New Product & manufacturing re-engineering

Changing Industrial Relations landscape

Legislation changes & regulatory uncertainty's

Cost-optimisation

Interface with Society & Key Stakeholders

Global competition? And/or new competition

Declining revenue

Employee Socio-Economic factors: living wage, living standards,

Youth Unemployment

Where does HR start? How does HR respond/ contribute?
Typical HR Work
1. Human Capital Planning
2. Staffing
3. Remuneration. Rewards & Recognition
4. Performance Management
5. Training & Development
6. Talent Management
7. Career Development
8. Exit Management
9. Leadership, Diversity & Transformation
10. Organizational capability development

The Focus of the Organisation

Cost Optimization

Where does HR start? How does HR respond/ contribute?
How does HR Respond to Business Priorities?

By building Organizational Capabilities.... vs unleashing HR tools and systems and policies

**Organizational capability:**

“anything an organisation does well that drives meaningful business results”

McKinsey Consulting

Therefore.....

What are the Critical/ Top 3 Business Results that your Company is focused on currently?

How does Hr respond?
Where do you start?

1. What are the 3 Critical **Business Priorities** in your Organisation?
   - Results expected
   - Internal challenges
   - External dynamics
   - Stakeholders

2. What are the **Results** expected?

3. What **Organizational capabilities** are required to produce these results?
   - Diagnose, Design, Validate, Execute, Communicate

4. Pick **the appropriate HR processes & systems** to build organizational capabilities
   - Staffing, training, graduate development
What are the Business DELIVERABLES of HR

1. Diagnose

2. Design Solutions / Facilitate the Design

3. Validate with Line leadership

4. Lead and coordinate Execution

5. Communicate.
   • Results, processes and activities
Aligning HR to Business/Organisation Priorities....

WHAT’S BROKEN?

What Business Problem is being solved?

What solution will HR deliver to Line /Business to solve the problem?

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BUSINESS IMPACT OF HR

• Meaningful results

HR DELIVERABLES

• Identify required business (impacting) organizational capabilities

HR ACTIVITIES

• Diagnose,
• Design,
• Validate,
• Execute,
• Communicate

HR Tools and Skills
Day 2: Capability and Competence Frameworks

- The enhanced Telecommunications Operations Framework e-TOM
- Skills for Information Age (SFIA)
- E-Competence Framework

**Capability**: Measure of the ability of an entity (department, organization, person, system) to achieve its objectives, specially in relation to its overall mission

**Competence**: Refers to a set of pre determined Knowledge, Skills and behaviours required to perform a specific task

”Capability” mostly refers to skills and abilities. In contrast, “competence” can be a combination of knowledge, behavior, attitude, and skills.
e-TOM Framework

• The enhanced Telecommunications Operations Framework e-TOM
  – Process framework for the ICT Industry
  – Provides a business process blueprint for providers to streamline process
  – Enhances unified communications between various stakeholders
  – Focusses on service delivery to external clients
  – Adopted by ITU International Standards for the Telecomm sector
  – Implementation will be different from company to company
  – Framework could be used to determine required capability /Competence frameworks for effective service delivery
E-Tom Framework

Customer

Strategy, Infrastructure & Product
- Strategy & Commit
- Infrastructure Lifecycle Management
- Product Lifecycle Management
- Marketing & Offer Management
- Service Development & Management
- Resource Development & Management (Application, Computing and Network)
- Supply Chain Development & Management

Operations
- Operations Support & Readiness
- Fulfillment
- Assurance
- Billing
- Customer Relationship Management
- Service Management & Operations
- Resource Management & Operations (Application, Computing and Network)
- Supplier/Partner Relationship Management

Enterprise Management
- Strategic & Enterprise Planning
- Brand Management, Market Research & Advertising
- Stakeholder & External Relations Management
- Disaster Recovery, Security & Fraud Management
- Financial & Asset Management
- Human Resources Management
- Research & Development, Technology Acquisition
- Enterprise Quality Management, Process & IT Planning & Architecture

2014/12/14

- HR Policies & Practice
- Organisational Development
- Workforce Strategy
- Workforce development
- Employee & Labour Relations management
The SFIA Framework provides guidance and a management tool that could assist wrt acquiring and developing skills for the ICT Field.

The foundation of SFIA is a set of generic business skills that make up SFIA’s seven levels of responsibility

1. set strategy, inspire, mobilise
2. initiate/influence
3. ensure/advise
4. enable
5. apply
6. assist
7. Follow

Provides various skills/competence definitions that is required within the IT Domain

Refer to: for more detail

E-Competence Framework

Competence Area
- Plan
- Build
- Run
- Enable
- Manage

40 Identified Competencies

5 Levels of Proficiencies

http://profiletool.ecompetences.eu/
Group Activity

• Pair in Groups of 5
• Activity: Discuss the rationale behind doing a TNA?
  – When should it be done?
  – What are some of the challenges?
  – What are some of the opportunities?
• Time: 20 Minutes
  » 10 Minutes feedback to group
Training Needs Analysis process

Plan
- What
- Where
- When
- Why
- Target

Organise
- Tools (Surveys, Interviews, observations etc.)
- Process
- Resources

Execute
- Communicate
- Implement
- Manage
- Appraise

Evaluate
- Analyse results

Report
- Executive reporting
- Stakeholder reporting
- Intervention

2014/12/14
Day 3: Training Needs Analysis Process

The aim of this session is to provide delegates with an in depth view of the process to conduct a Training Needs Analysis. Tools and techniques will be discussed.

Specific emphasis will be on:

• Conducting Performance Analysis
• Implementing Surveys
Types of Needs Analysis

• What is a Training Needs Analysis (TNA)?
• Why and when should we conduct a TNA?
• Types of Needs Analysis
  • Organisational Analysis
  • Personal Analysis
  • Work/Task Analysis
  • Performance Analysis
  • Content Analysis
  • Training suitability Analysis
  • Cost Benefit Analysis
Needs Analysis Techniques/Tools

- Assessments/surveys
- Direct observation
- Questionnaires
- Performance Systems Analysis
  - Consultation with persons in key positions, and/or with specific knowledge
- Review of relevant literature, (i.e. Performance Management Reports)
- Interviews
- Focus groups
- Records & report studies
- Work samples
Implementing Surveys

The Steps in a Survey Project

1. Establish the goals of the project - What you want to learn?
2. Determine your sample - Whom you will interview?
3. Choose data collection methodology - How you will collect data?
   – What are the factors that could impact?
4. Create your questionnaire - What you will ask?
5. Pre-test the questionnaire, if practical - Test the questions?
6. Conduct interviews and enter data - Ask the questions?
7. Analyze the data - Produce the reports?

http://www.surveymonkey.com/

http://www.surveysystem.com/sdesign.htm#methods
Activity:
Delegates to work in pairs of not more than 2 and create a profile on “surveymonkey”
Delegates will establish a basic survey to determine skills requirements of fellow workers on end user computing

**Time:** 1 Hour
Delegates will send the draft outlines to rest of group for feedback
The aim of this session is to:

- Educate learners on the use of the HPI Model for organisational performance improvement
- Equip delegates with knowledge and skills to analyse and report on findings after completion of the Training Needs Analysis
Needs Analysis Techniques/Tools

Business Need Analysis

Target / Goal | Business Result

Performance Analysis

Desired Performance State | Actual Performance State

GAP

Cause Analysis

• Organisation
• Process
• Individual

Intervention Selection

Target Population:
• Individual
• Interpersonal
• Group
• Intergroup

Intervention Type:
• Learning/Training
• Consultative
• Techno-Structural
• Process/System

Evaluation of Results

Change Management

Intervention Implementation
Rule 1: If you did not ask you do not know
Rule 2: Do not alter data to compensate for bad survey design
Rule 3: Do not project your data to people that did not respond.

Analysis
Quick Review of data collected
Editing and Cleaning of data collected
Detailed Analysis of data collected
  Graphical Analysis
  Frequency Tables
  Cross Tabulation
  Filtering

Various FOS software programs exist that can be used for Data Analysis:
• Introduction and Background
  – This section describes the purpose of the needs assessment and the specific questions the needs assessment investigate.

• Methods
  This section describes the methods used to collect the data and information presented in the “Key Findings” section of the report.
  – Data Collection (briefly describe each data collection method used.)
  – Survey – include a description of who is in your survey sample, and how representative the sample is of your target market.
  – Population Sizing
  – Secondary Data Sources (e.g., other internet research)
  – Strengths and Limitations
• Key Findings
  – This section summarizes the findings elicited from the data collected.
  – This section provides detail/Interpretations on the Data Analysis.
• Recommendations for Program Planning
  – This describes the implications from the data and suggests next steps
• Appendices
  – You should include in the appendix the data collection instruments used, such as the survey and focus group questions.
  – Provide summaries of the data analysis
The aim of this session is to provide delegates with an opportunity to design a strategy to implement a TNA within their own organisations.
Technology trends vs Strategic Human Capital Planning - how ready are we?

Role of the HR Practitioner has changed. Are we ready?
  What value do we provide to organisations that we serve?

E-Skills development as a national catalyst for Socio-Economic development

Human Performance Improvement, it’s a systems approach
Activity: Prepare a Training Needs Analysis strategy to present to management. Outline the following:

- Purpose
- Value proposition
- Tools
- Process
- Analysis methodology

Use the open source [www.surveymonkey.com](http://www.surveymonkey.com) and prepare a 10 question survey to determine competence requirements

[http://www.hr-survey.com/PfMatrix.htm](http://www.hr-survey.com/PfMatrix.htm)
Resources

- [www.surveymonkey.com](http://www.surveymonkey.com)
- [http://www.hr-survey.com/PfMatrix.htm](http://www.hr-survey.com/PfMatrix.htm)
- [https://www.sfia-online.org/](https://www.sfia-online.org/)
- [http://profiletool.ecompetences.eu/](http://profiletool.ecompetences.eu/)
- [https://www.td.org/](https://www.td.org/)
- [http://itu.int/](http://itu.int/)
- [http://www.tmforum.org/](http://www.tmforum.org/)
- [wikus@icta.co.za](mailto:wikus@icta.co.za) [http://icta.co.za/](http://icta.co.za/)
‘Thank You’ for the time and the lessons learnt
Wikus Vd Merwe
Managing Director: HCBS ICT Learning Academy
wikus@icta.co.za
www.icta.co.za

“Education is the most powerful weapon which you can use to change the world.” - University of the Witwatersrand South Africa, 2003, Nelson Mandela