

Entrepreneurship & Capacity Building

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INTRODUCTION

A changing world.....

Political trends

- Geopolitical shifts, e.g the potential rise of Africa
- Increasing uncertainty and financial insecurity

Demographic changes

- The global population is expected to grow to an estimated 9,6 billion by 2050 and increased migration is expected.
- The aging populations in the Global North.
- The youth bulge, coupled with rapid urbanisation in Africa.

Technological advances

- The next industrial revolution and rapid technological changes will fundamentally transform manufacturing jobs and the way people transact.
- The increasing influence of (ICTs) and the digital economy, leading to even greater levels of exclusion.

Social shifts

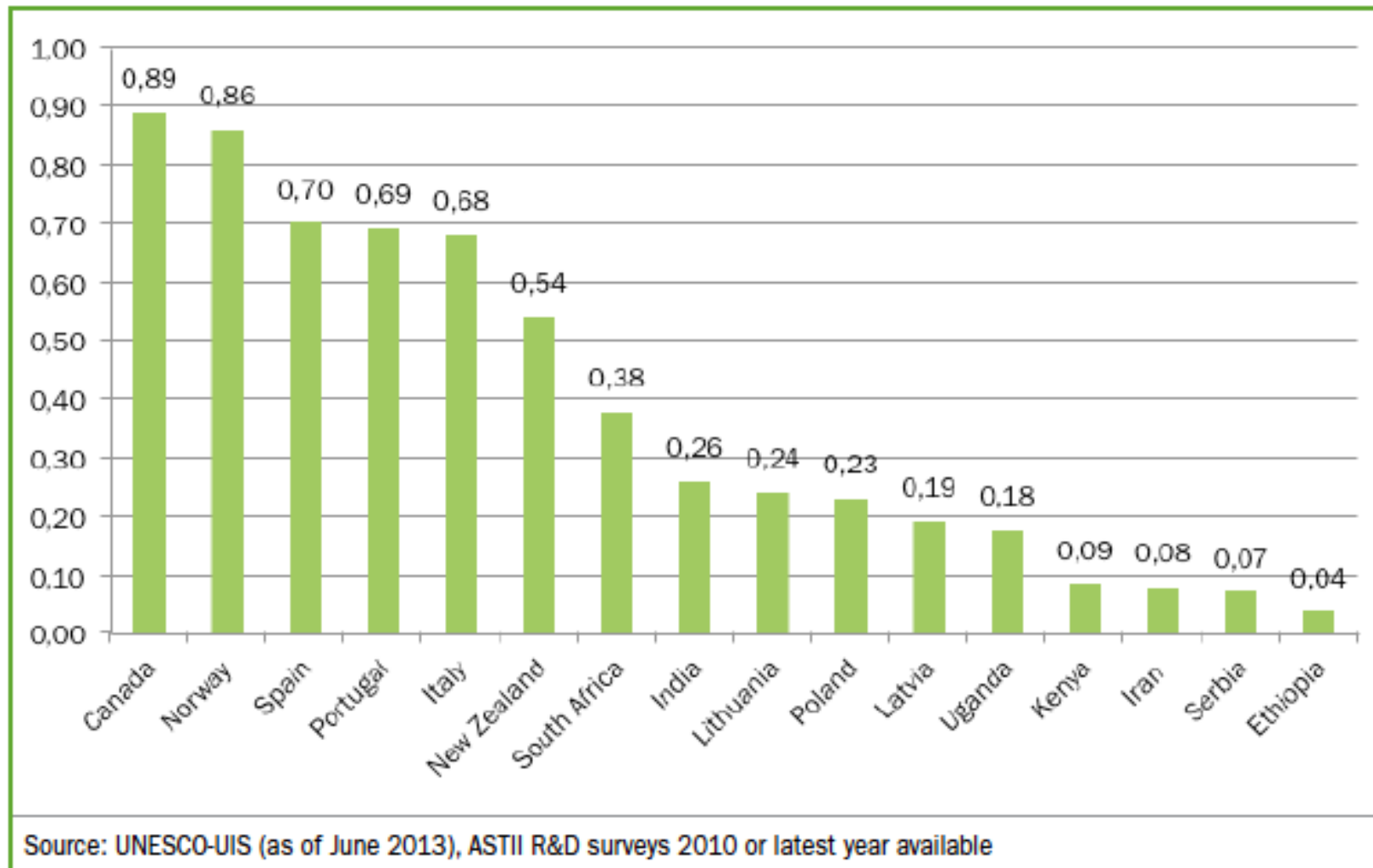
- Far-reaching changes in the world of work (flexible hours, job sharing, digital commuting, long-term employment no longer the norm, jobs becoming obsolete, new jobs emerging etc.).
- Deepening globalisation with a concomitant need for personal and cultural identity.
- Increasing openness in society facilitated by the Internet, coupled with a need for greater security (e.g. cybersecurity)
- Changes in higher education institutions, e.g. a greater focus on interdisciplinary studies and global challenges, as well as blended learning.

Environmental issues

- Increasing environmental degradation (rising carbon dioxide emissions, water scarcity, extreme weather events, loss of biodiversity etc.).

BUSINESS EXPENDITURE IN RESEARCH: SELECTED COUNTRIES

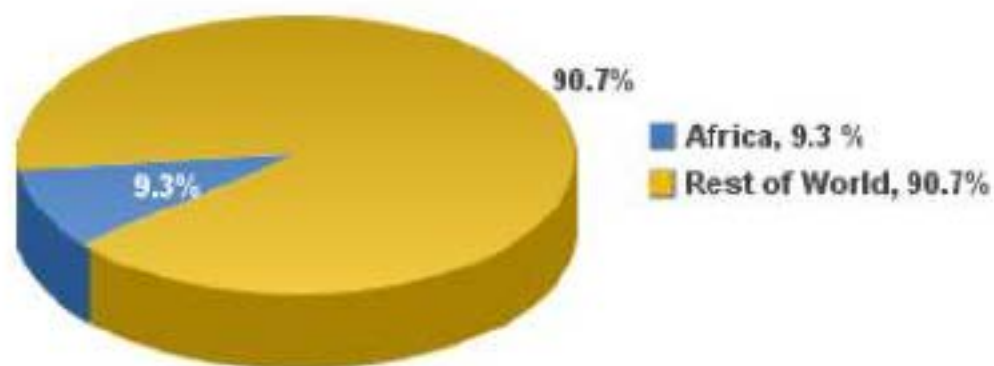
FIGURE 3.1: GLOBAL BERD/GDP (%), SELECTED COUNTRIES



AIO,2015

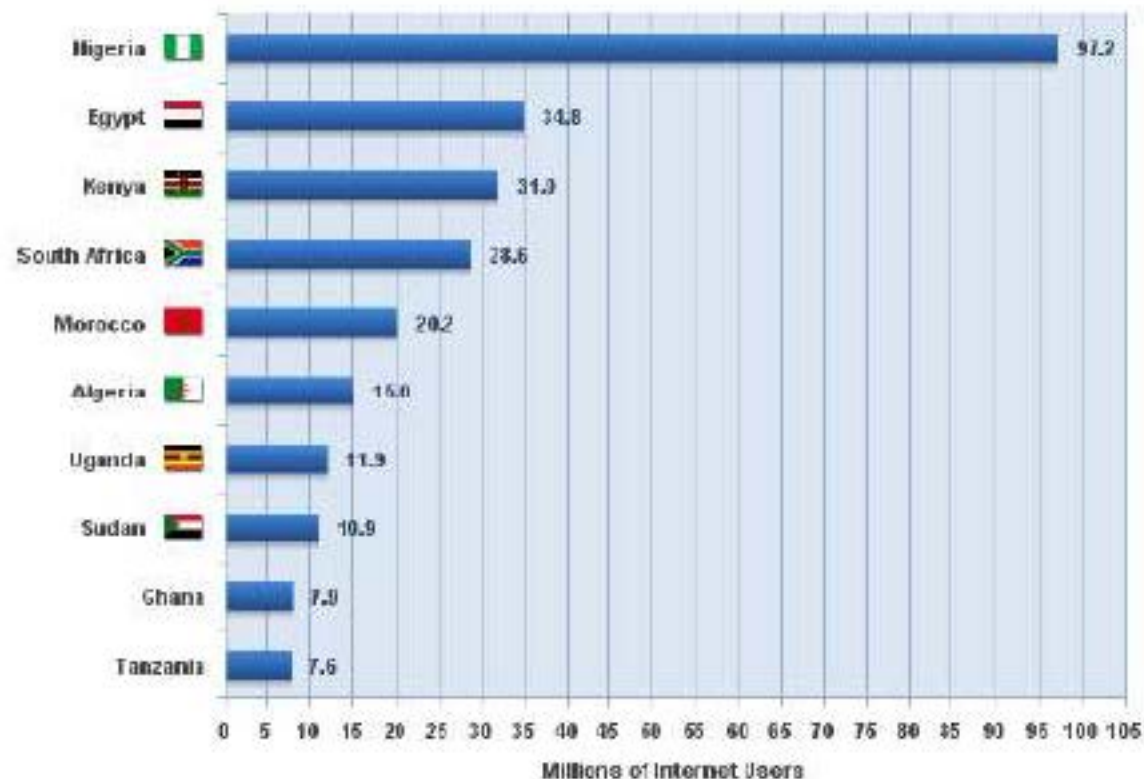
Connecting Africa: a Driver for Future Growth

Internet Users in Africa June 2016



Source: Internet World Stats - www.internetworldstats.com
 340,783,342 estimated Internet users in Africa in June 30, 2016
 with a 28.7 % penetration and 9.3% of total world users.
 Copyright © 2016, Miniwatts Marketing Group

Africa Top 10 Countries in Internet June 2016



Source: Internet World Stats - www.internetworldstats.com/stats1.htm
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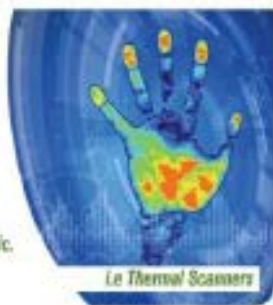


Immediate and Future Growth Opportunities

E-Health & E-Governance



The South African health system is becoming digitized. There is a global shift towards diagnostics and preventative measures... e-Health or e-mobile approaches will play a key role in South Africa's healthcare by 2025.



Detection devices for viral infections will become widely accessible to the public.

Le Thermal Scanners



...the public sector's use of information and communication technologies with the aim of:
 Improving information
 Service delivery
 Encouraging citizen participation...

The three areas of government will work hand-in-hand to prioritize service delivery in relation to access to information, efficient service delivery, and abundance in resources and material. Computerizing identity data and making it readily available to all state departments



Transport & Mobility



Increase in urbanization brings with it demand for housing and other public services. The various facilities programs involving refurbishing and if necessary, rebuilding dilapidated buildings, in addition to constructing new structures that will be used for business and housing purposes, are positioning various South African Cities...to be vibrant cities having mixed use settlements by 2025.

The Evolution of Smart Cars



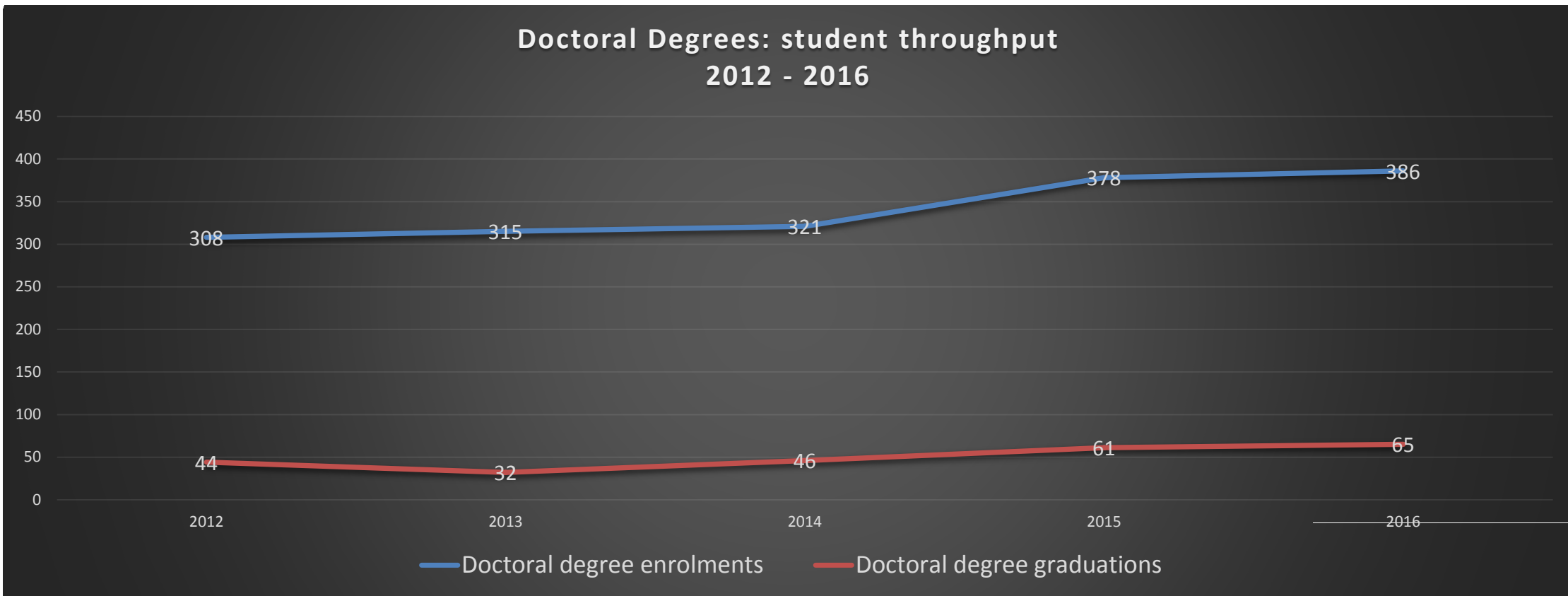
ENTREPRENEURSHIP

OECD Territorial Review: Gauteng Province - Challenges

- ❑ **Low levels of entrepreneurial activity / Culture**
- ❑ **Low survival rate of start-up companies**
 - Access to appropriate financing instruments
 - Underdeveloped entrepreneurial skills
 - Poor R&D pipeline
 - Access to facilities and infrastructure
- ❑ **Highly concentrated market structure**
 - Access to markets
 - Dominance by established enterprises
- ❑ **Insufficient and highly domesticated partnerships**
 - Inter-firm linkages
 - Linkages with Higher Education and R&D Institutions



A LEAKY PIPELINE AND BURDEN OF SUPERVISION: DOCTORAL DEGREES (TUT DATA ONLY)



PERSPECTIVES: TUT

- Collaboration and partnerships are essential for large scale impact
- Academic- industry partnerships are crucial
- Partnerships that deepen impact
- Systems-level change is needed
- New ways of teaching, education and learning are required.
- Technology promises to be an important enabler and disrupter in the future of work.
- STE(A)M and ICT are important discipline areas
- A focus on skills is essential



Tshwane University
of Technology

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Thank you