

Knowledge Intensive Business Services in the Oil and Gas Sector in Trinidad and Tobago

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Introduction

- The Caribbean is among the most natural resource abundant regions internationally, but remains underdeveloped.
- Knowledge Intensive Business Services (KIBS) firms:
 - Vertically integrated value chains have been redesigned and new production paths created through the use of Information and Communications Technology (ICT) and outsourcing and subcontracting.
- Developed natural resource rich countries (Finland, Norway Canada and Australia) show that natural resources can lead to sustainable growth and development and KIBS firms play an important role (Aslesen and Isaksen 2010, Engen 2009 and Noreng 2005).

KIBS Firms Cont'd

- **Serve the demands of other firms- provide scientific and technological knowledge and professional services.**
- **Most innovative within the services sector and comparable to high-tech manufacturing (Nählinder 2002).**
- **Knowledge creating entities help with knowledge transfer, innovation, productivity and diversification (Castellacci 2008, Castaldi 2009 and Hertog and Bilderbeek 1998).**
- **Globally the share of knowledge intensive services to total output increasing (Stehrer et al. 2012) and KIBS firms are a main engine for future growth (Gotsch et al. 2011).**

Objective

- **To study the emergence and evolution of KIBS firms in the oil and gas sector in Trinidad and Tobago:**
 - **Successful KIBS firms**
 - **Knowledge transfer**
 - **Innovation and productivity**
 - **Industry barriers**

Data and Methodology

- **Primary data:**
 - Questionnaire with key industry stakeholders.
- **Secondary data:**
 - Energy Chamber of T&T, firm website, Ministry of Energy and Energy Affairs, Central Bank of T&T, government reports and policy documents.
- **Firm case studies.**

T&T Overview

- **First-class oil and gas and petrochemical industry over 100 years old.**
- **Growth led by oil and gas:**
 - **45% of GDP, 48% of government revenue and 80% of exports, but only 3% of employment (CBTT 2015).**
- **Not been able to develop viable clusters outside of oil and gas.**
- **Fall in international oil and gas prices and local production.**
- **GDP growth averaged -0.53% in the past 5 years (WDI 2015).**

T&T KIBS Firms

- **T&T's oil and gas services sector growing:**
 - **Contribution to GDP increased from 4% to 5% from 2001 to 2012 (CBTT 2013).**
 - **Direct capital investment increased from \$US 59 million (2001) to \$US 171 million (2012) (CBTT 2012).**
 - **Employs 33.33% of oil and gas workers (Energy Chamber of T&T 2009).**

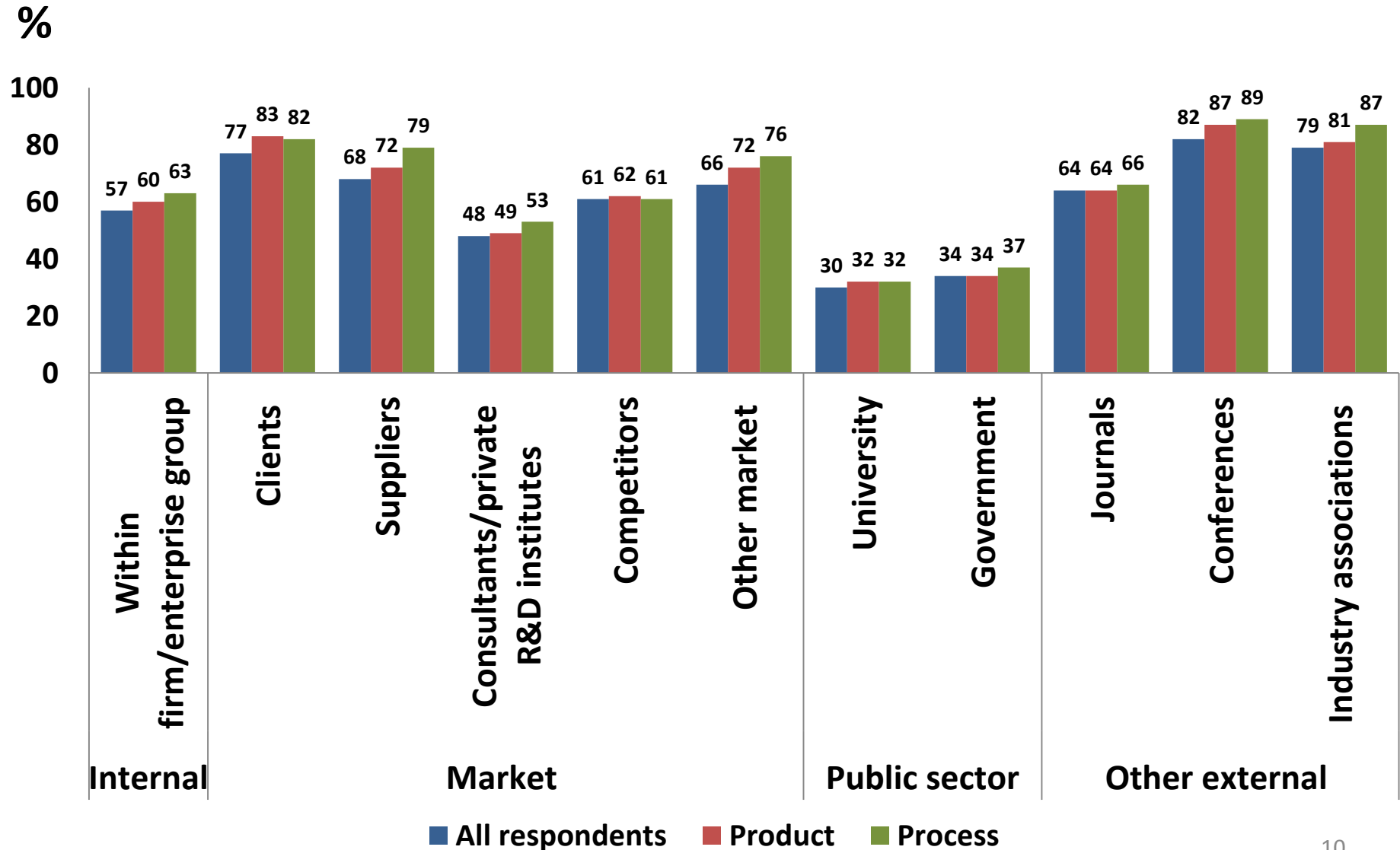
T&T KIBS Firms Cont'd

- **T&T has approximately 300-400 KIBS firms.**
- **20-30 local KIBS firms operate and export various services:**
 - **Regionally: Barbados, Jamaica, Suriname, Guyana, Cuba, Aruba, Venezuela, Columbia, Belize and Brazil.**
 - **Internationally: Canada, US, Ghana, Indonesia, Bahrain, Dubai, Vietnam and Uganda.**

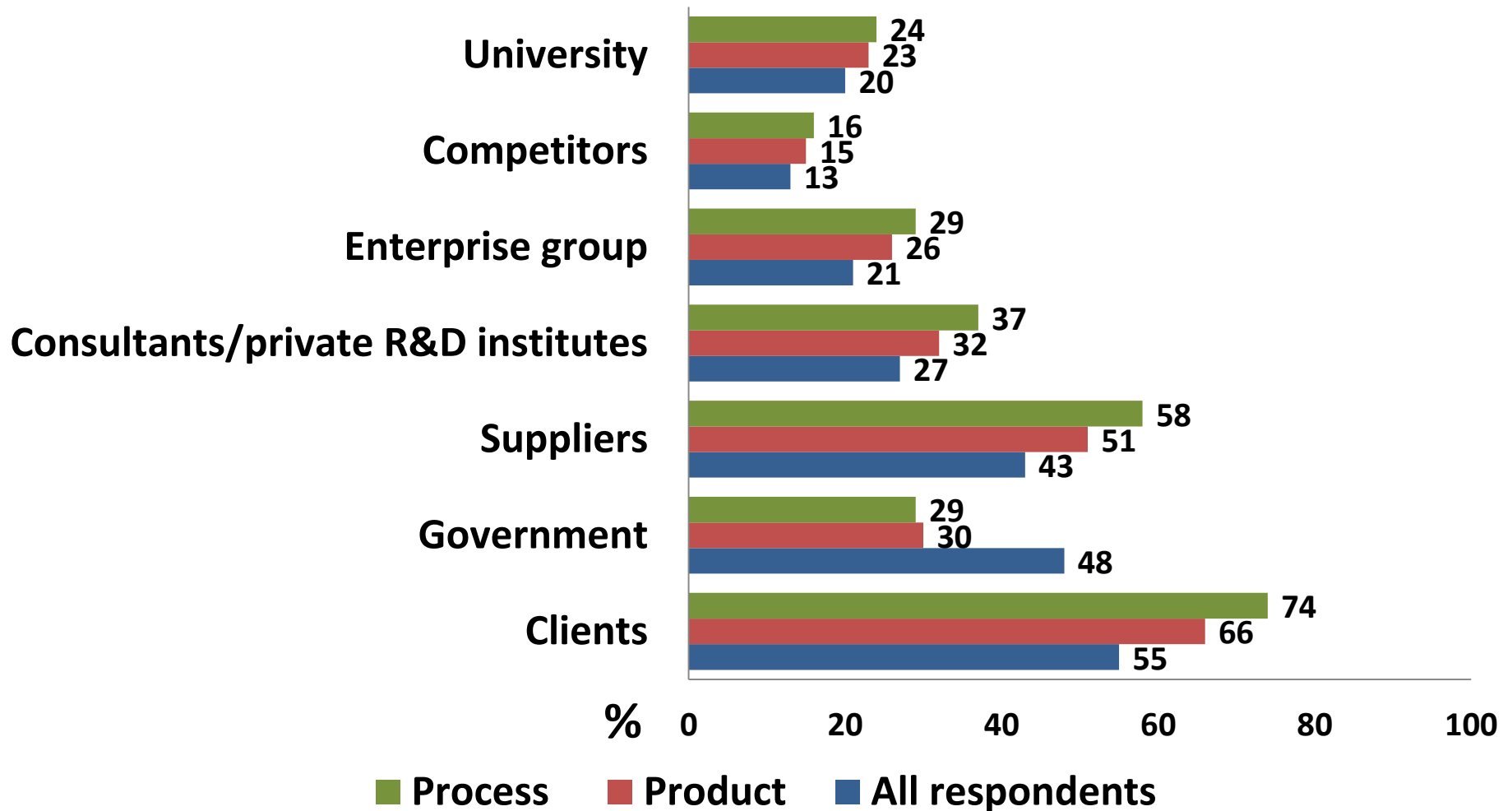
Successful KIBS Firms

- **Tucker Energy Services**
- **Sadhna Petroleum Services Company**
- **Trinidad Offshore Fabricators (TOFCO)**
- **Kenson School of Production Technology**

Knowledge Transfer

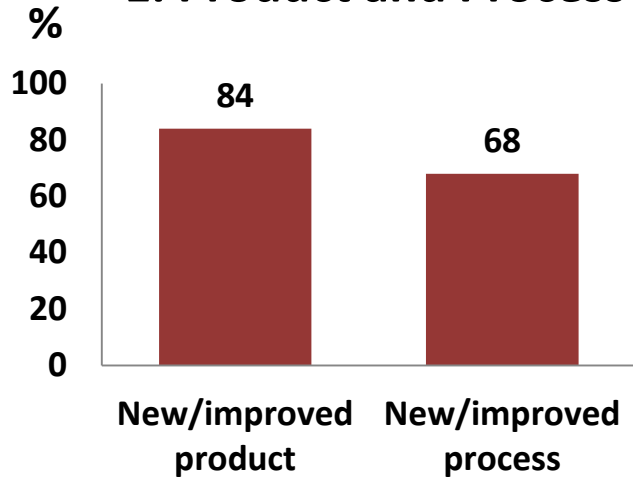


Innovation Co-operation

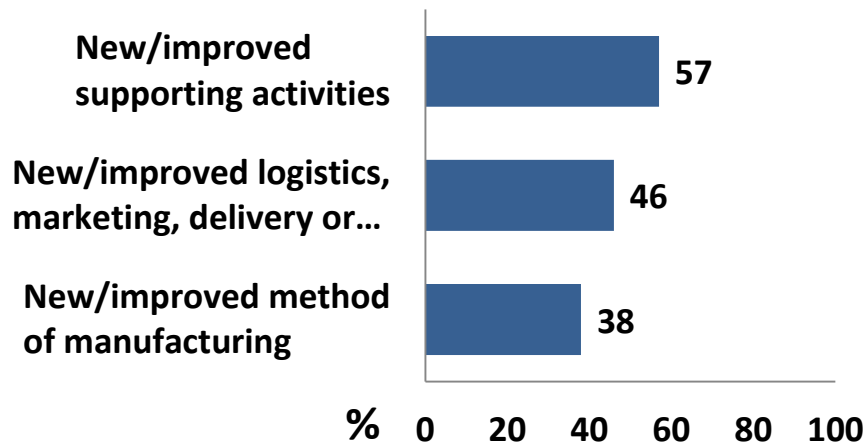


Innovation

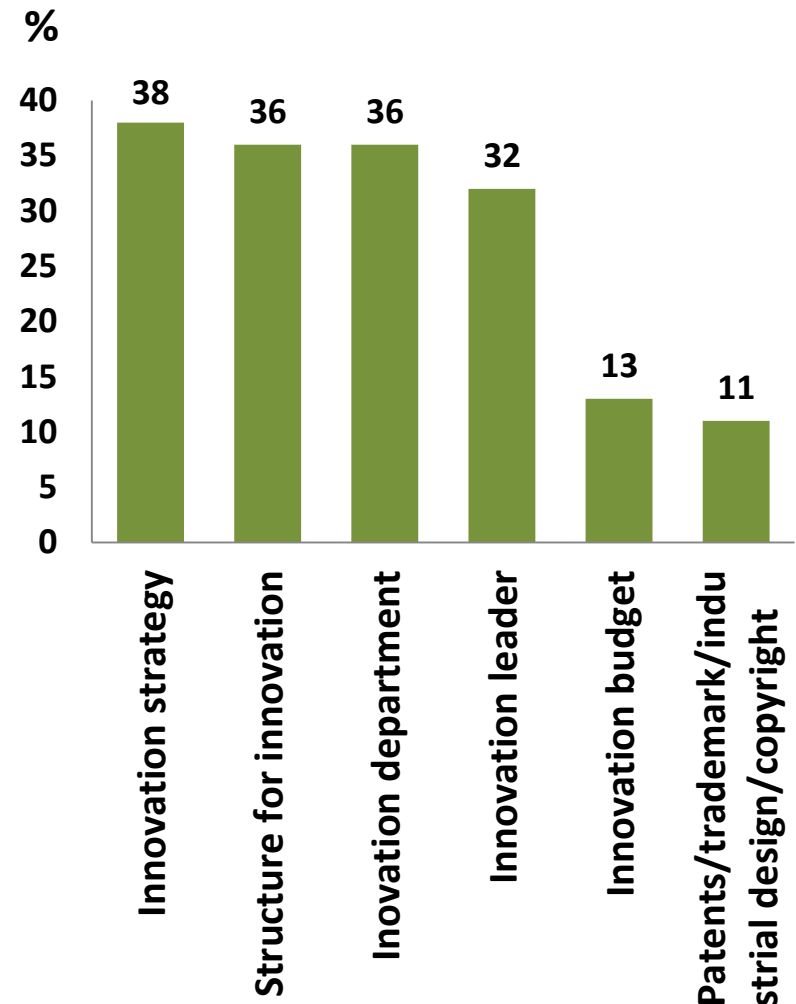
1. Product and Process



2. Process



3. Innovative Activity



Industry Barriers

1. **Asymmetric information failures**
2. **Lack of collaboration between oil and gas service firms and universities and government research institutions**
3. **Lack of specific industry skills**
4. **Limited access to finance**
5. **Defaults by international contractors**
6. **International competition/ineffective local content policy**
7. **Falling oil and gas prices and local production**

Going Forward

- 1. Coordinated national innovation policy and program**
- 2. Coordination of actors and information sharing**
- 3. Increasing the supply of knowledge and technology development**
- 4. Financial support for R&D and innovation**
- 5. Technology transfer and adaptation**
- 6. Human capital development**
- 7. Enhancing export capabilities**

Thank you

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