

# **A Conceptual Framework for Measuring Local Firm Capabilities in New Producing Countries: The Case of Uganda**

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# Key Points

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**P**olicymakers in new resource-rich Eastern African countries are eager to promote industrialization and economic development by encouraging international oil and gas companies (IOCs) to use local suppliers. However, policymakers usually lack information on the local firms' abilities and typically depend on studies by the IOCs to assess these capabilities. Such studies are useful and necessary but they usually only address the needs of the IOCs. By considering the capacity of local firms to learn and innovate, vital information is gathered which can then be used to enhance the design of local content policies. It also raises the prospects for the creation of a more sustainable local supplier base.

The assessment of the capabilities of local firms could be improved by introducing the constructs of absorptive capacity and innovation. This would give policymakers a dynamic, instead of static, view of the local industry.

Providing policymakers with a better understanding of the local firms' potential and ability to learn and grow will allow them to come up with more varied options in the design of local content policies and potentially provide more suppliers for industry.

A wider perspective of the local firms' capabilities also contributes to the linking of local content policies to the overarching objective of expanding the local economy.

# Summary for Policymakers

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**F**oreign direct investments (FDIs) offer an opportunity to enhance industrial linkages and expand economic growth of developing countries. Countries rich in oil and gas resources benefit from investments by multinational extractive industries if policymakers design appropriate local content policies. A key factor in developing such policies is to assess the local industry's capabilities to be part of the oil and gas value chain. Although an assessment of local firms is usually carried out to help design local content policies, many of these studies, which are usually commissioned by the IOCs, have a static perspective when estimating local capacity. They tend to focus on what the firms have achieved at a particular point in time and how they can service the needs of the IOCs. The studies typically do not capture the underlying attitudes and behaviors that support the firms' current and future prospects for performance and competitiveness. Even though this static perspective is an important input for developing local content policies, we argue that much more valuable information for designing such policies is gained by incorporating a dynamic perspective.

The objective of this paper is, therefore, to explain the importance of including key concepts, such as absorptive capacity and innovation in a firm-level study. In this document we present three examples of surveys and explain how each questionnaire was adapted to the specific objective of the survey. The first evaluates the ability of local firms in Mozambique to engage in Anadarko's supplier development program for an LNG project. The second, developed in Nigeria, provides information about local suppliers that enables the enhancement of the country's local

content policies. The third, implemented in the established local supplier base of Argentina, produces recommendations to the government on refining its local content policies in the oil and gas industry. This was the only survey to introduce the concepts of absorptive capacity and innovation. We argue that surveys that include these concepts are more valuable for both policymakers and industry stakeholders.

In our analysis we focused on the questionnaire, which is central in any attempt to gather baseline data and measure progress. Their scope and context may differ but the questionnaires also share some common aspects, such as the objective to improve the performance of local firms through the intervention of local content policies. We examined the surveys from the perspective of how they incorporate a measurement of the local firms' dynamic behavior, which is essential in discovering the overall potential capabilities of these firms.

In Eastern African countries, which have little experience in the oil sector and a weak or non-existent local supplier base, a dynamic perspective for assessing local capabilities enhances the view of policymakers. This provides more policy options in the country's efforts to build a local supplier base. We believe that a dynamic perspective of local firms' capabilities is gained by analyzing their absorptive and innovative capacities. Introducing these concepts, together with existing abilities that matter to the IOCs in assessing local firms, enriches the understanding of their capabilities. It offers a platform to build a sustainable local supplier base supported by local content policies, and fully linked to the natural resource value chain.

# Introduction

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In the past 10 years, Eastern Africa recorded large discoveries of oil and gas reserves, with the potential to provide significant FDI. The windfall revenues from these discoveries could spur significant economic development. For officials and policymakers in these countries, the management of a new hydrocarbon sector is about to begin, with all the complexity and challenges that entails.

Multinational extractive industries, which undertake projects to develop these natural resources, provide benefits to the host governments through two main channels: directly via royalties and taxes that the companies pay, and indirectly through local jobs that the investments generate from the procurement of locally produced goods and services. The employment contribution is not significant since capital-intensive extractive industries such as oil and gas typically employ a relatively small number of people. However, their contribution to the local economy could have a bigger impact through the business generated from their procurement needs, which acts as a vehicle to promote industrialization through linkages with local firms.

In the past few decades, the investments and operations of multinational extractive industries have become an important contributor to local development through linkages to the local economy. Many resource-rich countries have adopted local content policies to promote these linkages with the view that little would be accomplished if it was left only to the market. The literature usually distinguishes between two approaches for implementing local content policies: a direct approach where local requirements are enforced by law, regulations or norms, and an indirect

approach that creates an environment conducive to developing linkages between local firms and the extractive industries.

Scholars and practitioners generally agree that successful local content policies include three factors: appropriate policies, appropriate institutions and local industry capabilities (Hansen et al. 2014). Successful local content policies provide a degree of certainty to both regulators and companies. Appropriate institutions, if not already established, should be developed to support and facilitate the local content policy, including monitoring its implementation. Local industry capabilities should be assessed to establish the most effective local content initiatives.

KAPSARC undertook a comprehensive study of local content in Uganda as part of its work on how natural resource development in Eastern Africa could accelerate economic development. In this paper we present an integrated approach to analyze local firms' capabilities, which will help in the formulation of local content policies. This approach combines basic requirements usually applied to local suppliers by the oil and gas companies as well as the constructs of absorptive capacity and innovation. These constructs have been widely used in surveys to evaluate firms but have rarely been used to analyze a company's potential to supply the oil and gas sector.

The concepts of absorptive capacity and innovation have been continually refined through the research of many contributors including Terziovski 2010; Santamaria et. al 2008; Kristensen 1999; Cohen and Levinthal 1990; Duchek 2013 among others.

# Measuring the Capabilities of Local Firms

In this section, we review three surveys undertaken to assess firms in developing countries. These surveys served as mechanisms to promote various local content policies. Since the purpose of the various local content initiatives differed, the surveys also had different scopes. Despite their differences, these surveys all have a common goal of informing local content policies by providing information on the existing market. The purpose of the first survey was to evaluate the ability of local firms in Mozambique to engage in Anadarko's supplier development program for a liquefied natural gas (LNG) project in the north of the country. The second, developed in Nigeria, provided key information about local suppliers for the adjustment and further design of the country's local content policy. The third survey, implemented in the local supplier base of Argentina, had the objective of recommending ways to improve local content policies in the oil and gas industry.

## Anadarko AMA1 supplier development program

Anadarko is a multinational oil and gas company with corporate headquarters in Texas and operations in North America, the Gulf of Mexico, South America, New Zealand and Africa. In Mozambique, Anadarko and its partners are involved in developing one of the world's biggest LNG projects. Huge natural gas discoveries in Mozambique could make it the world's third-largest LNG exporter, with the opportunity to develop local firms as part of the project's value chain. The AMA1 project involves the construction of a \$20 billion LNG facility in the far northern coastal region of the country.

To support the development of local firms, Anadarko sponsored an initiative to identify suppliers for the

project and engage them in a supplier development program. One of its first steps was to assess the local firms' potential to be a part of the program. PYXERA Global developed an electronic questionnaire to make an initial assessment of the local firms. The questionnaire has three sections with closed-response questions, except for contact and client information. The questionnaire also includes a section where respondents must upload data regarding licenses, registrations and the social structure of the firm. The questionnaire serves as a first evaluation of the local firm's ability to be part of Anadarko's supply chain in the AMA1 project.

Oil and gas companies frequently use such questionnaires to prequalify local firms and establish supplier development programs. Many oil and gas companies have an online prequalification process where local firms can answer questions and upload information. These evaluations, while solely designed to serve industry needs, can also be adapted to meet the needs of policymakers after including additional insights.

Supplier development programs are usually specific initiatives that large firms undertake to foster their procurement bases. These programs are frequently tailored based on the oil or mining operators' specific requirements and expectations. The surveys they use to assess the current state of local firms reflect this preference. For this reason, policymakers attempting to use these targeted evaluations often find them inadequate for the design of local content policy. The Anadarko supplier development program, while an important initiative for Mozambican local industry that contributes toward the building of a local supplier base, was not designed for these purposes.

### Nigeria local content survey

Calag Capital Limited and the United Nations Conference on Trade and Development (UNCTAD), with the help of the Nigerian National Petroleum Corporation, developed a survey to analyze the Nigerian oil services subsector. Although the survey was developed about 10 years ago it is still useful for our purposes since we focus on its perspective and not the actual data collected. The objective of the survey was to identify business expansion opportunities for local firms and provide information for further development of existing local content policies.

Nigeria is Africa's largest oil producer, with many decades of experience in the oil business and has been a member of the Organization of Petroleum Exporting Countries (OPEC) since 1971. Despite this industry experience, until 2001 not enough linkages were developed between oil and gas companies and local firms. Local content regulations and government incentives have since become more focused and the interaction between local firms and international oil and gas companies has developed more vigorously (United Nations 2006).

One of the main motivations for the 2004 survey was that during the next five-year program Nigeria's oil production capacity was forecast to increase by more than 60 percent. Huge investments were expected in the Port Harcourt/Onne region (United Nations 2006). Developing a sound local content policy was a way of expanding the local economy by building linkages with multinational firms.

In pursuit of the survey's objectives, the questionnaire collected information about the interaction between local oilfield service companies and the largest oil and gas players regarding bids and execution of contracts. The questionnaire

included closed-response questions as well as some that encouraged open responses from the local firms. The analysis not only surveyed selected Nigerian local service providers, it also evaluated the legal and institutional framework of petroleum operations in the country, the characteristics of oil service contracts, opportunities for foreign investments and operators' sources of financing. For this study, we focused on the survey section that measured the firms' capabilities and objectives.

The questionnaire was designed to investigate the relationship between multinational oil and gas companies and local service providers and the difficulties they faced. Adjusting the design to include additional information about human resources, sales, business environment and context could provide more data on the impact of local content policy at a minimal incremental cost.

### Argentina local content survey

The third example is a survey developed from 2011 to 2012 on the local supplier base of the oil and gas industry in Argentina. The survey objective was to assess the capabilities of local suppliers and generate key information related to local content policies for the government and the oil industry. The government, namely the Ministry of Industry and the Secretary of Energy, promoted the project, which was also strongly advocated by the oil and gas suppliers' business associations.

Oil and gas companies, local suppliers and the government participated in the project through a steering committee. The survey encompassed 1,200 suppliers in different regions of the country; almost 400 of them were interviewed personally and the other 800 by email. Two different sets of questionnaires were used depending on the type of



## Measuring the Capabilities of Local Firms

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interview. The survey was one of three components in a larger project that also included analyses of the oil and gas companies' procurement procedures and an evaluation of the country's oil and gas policies. The Universidad Nacional de General Sarmiento was in charge of developing and implementing the project.

The questionnaire developed for face-to-face interviews covered many aspects of the standard requirements of oil and gas companies including quality, safety, environmental issues, management practices, performance and markets. Some of these issues are also found in the questionnaire that PYXERA Global administrated for Anadarko. The survey in Argentina, however, also included assessments of the firms' capabilities, innovation capacity, employees' skills and education, as well as other aspects which enabled the assessment of local suppliers from different perspectives. The survey examined the context under which the firms operate and its influence on their behavior based on value chain analysis.

Argentina has a long history of energy exploitation – more than 100 years in the oil sector and over 60 years in natural gas. Over this period the country experienced its share of economic booms and

busts, but has nonetheless been able to develop a well-established local supplier base that dominates the intermediate level of technology in the oil and gas industry. This robust supplier base allowed for a detailed analysis of different segments of the industry and their corresponding suppliers.

The survey yielded information valid for statistical analysis of the relationship between local suppliers and oil and gas companies. For example, one important finding was that local firms with high sales concentration in the oil and gas sector showed lower performance measures than firms with more diversified sales.

The survey also presented novel ways of analyzing the local supplier base by introducing specific management and economic concepts such as innovation, which could be utilized by other studies. This survey highlights the value of a more inclusive questionnaire with multiple stakeholders being served, however it is targeted for use in a country with a relatively well-developed local supplier base, long experience in the oil and gas industry and an intermediate level of industrialization. The questionnaire can be adapted to suit our purposes in Uganda combined with a few insights from the other two surveys.



# KAPSARC's Survey for New Producers

Each of the three surveys presented were shaped by their own objectives, which influenced the design of their questionnaires.

Two of the surveys, Nigeria and Argentina, were developed for firms already supplying the oil and gas industry. The survey in Mozambique was designed to help set up a supplier development program for an LNG project, with a focus on the current capabilities of local firms.

There are similarities in the objectives of the Nigeria and Argentina surveys, which were aimed at helping to design or adjust local content policies. KAPSARC's survey in Uganda was developed to provide key additional analysis that would help assess the country's local content policy objectives. The Argentinian and Ugandan surveys included the concepts of absorptive capacity and innovation, which are valuable for the design of such policies. However, an important difference between Uganda and the cases of Argentina and Nigeria is that these two countries already have a well-established local supplier base. Mozambique is a new producer with no established suppliers for the energy industry and a fragile economy similar to Uganda. In the Mozambican case the survey had the specific goal of identifying possible suppliers for a particular project and not assessing local firms' capabilities from a wider perspective. Our survey in Uganda has the objective of providing information beyond the typical industry-focused study that will also enhance the view of policymakers.

In the next section, we briefly introduce some of the concepts that we used for the Ugandan survey.

## Broadening the perspective to measure local firms' capabilities

Measurement of a firm's capabilities can be approached in several ways. Our aim is to estimate

a firm's capacity to learn, interact with other agents, acquire relevant information and gain knowledge to improve its performance and competitiveness. When the competitiveness of a company is supported by a positive dynamic behavior it constitutes a systemic phenomenon (World Bank 2013). Firm-level competitiveness is typically based on their level of development in various internal competencies. Innovation and absorptive capacity are additional dimensions that influence the level of competitiveness beyond a firm's current competencies.

Production networks, which refer to an industry value chain with firms supplying its different segments (Sturgeon 2000), model the way knowledge is generated, circulated and appropriated within the firms. The performance of local firms, which are suppliers to the industry, are influenced by the oil and gas production network characteristics. In countries with an established oil and gas industry the production network can be studied to discern if it favors the development of more competitive local suppliers. Such networks are hierarchical, with the large oil and gas companies governing them.

The intensity of interaction among the agents within the production network is a key factor for local firms. The client-supplier relationship is a vital channel for knowledge transfer. Figure 1 shows the nature of the client-supplier relationship for 371 local suppliers of large oil and gas companies in Argentina.

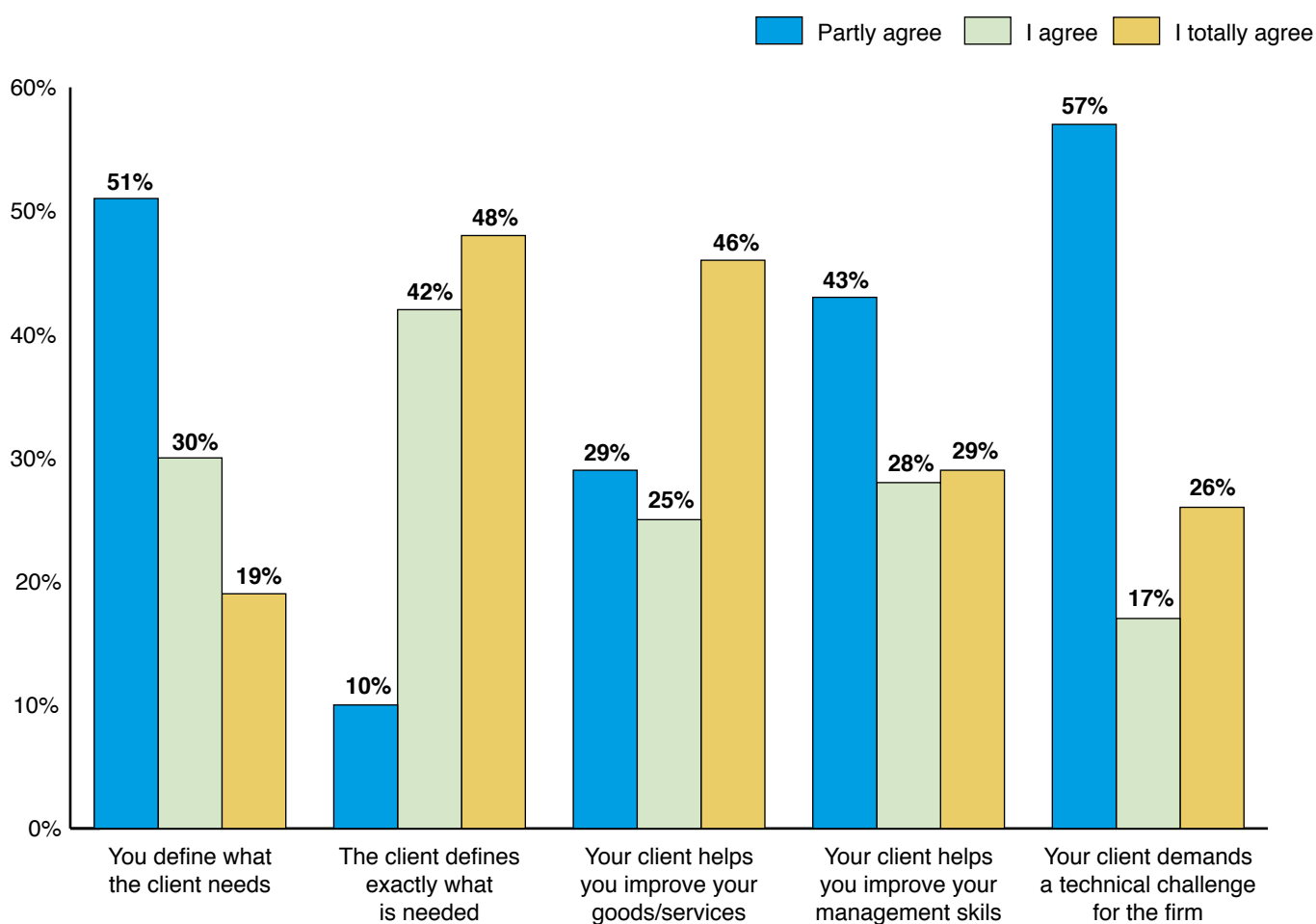
Only 19 percent of local firms totally agree that they define what the client needs, while 48 percent totally agree that the client defines what is needed. We also observed that 46 percent of local firms believed that their clients helped them improve their products or services. The survey also showed that 43 percent of local firms partly agreed that their clients helped them to improve their management skills and 57 percent partly agreed that their clients' demands

## KAPSARC's Survey for New Producers

were a technical challenge, indicating that they had to stretch and expand their abilities to enter the market.

These results imply that the oil and gas companies dominate the relationship by defining technical specifications and assisting local firms on such matters. However, it seems that the role of oil and

gas companies has been restricted to technical support for products and services instead of supporting local firms in improving their production processes and management (Yoguel 2012). Such limited support is to be expected in countries with experience in the oil and gas industry and a well-established local supplier base.



**Figure 1.** Results based on the client-supplier relationship for 371 local oil and gas suppliers in Argentina.

Source: 10th Global Local Content Summit, conference workshop. London, UK. Marcelo Neuman, 2014.

In countries that are new to the oil and gas industry such as Uganda, Mozambique, Kenya and Tanzania, the production network must be built from scratch. This constitutes a long-range goal of capable local suppliers, to be constructed step-by-step. Appropriate local content policies may be beneficial in speeding up the process. The current capabilities of local firms are a foundation from which to begin this endeavor.

Additionally, our goal is to provide a sound analysis of the capabilities of firms that want to engage in the oil and gas industry supply chain and, therefore, benefit from the formulation of appropriate local content policies. The study would not be properly grounded if it did not contemplate the industry's basic requirements to be a part of their supply chain. Oil and gas companies take a demand approach to evaluating local firms, as shown by the example of Anadarko's supplier development program. This is the logical choice for oil companies since they are the present and/or future clients of the local firms. The demand perspective is only one element of a comprehensive study of the supplier base; combining the concepts of absorptive capacity and innovation with the oil and gas companies' basic requirements provides a better way of evaluating local firms. This will deepen understanding and provide more actionable insights in the design of local content policies and activities.

In the next section we discuss this integrated approach, but first we will briefly describe the constructs of absorptive capacity and innovation.

## Absorptive capacity

Absorptive capacity is defined as the ability to recognize external knowledge, assimilate it and apply it to commercial ends (Cohen and Levinthal

1990). Since the seminal work of Cohen and Levinthal, many researchers in the economic and administration fields have contributed to enhancing this concept. For example, Zahra and George (2002) re-conceptualized the theory of absorptive capacity as a set of organizational routines and processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability. They argue that a company can acquire and assimilate external knowledge, but might not be able to transform and exploit the knowledge for commercial ends. They define the first two dimensions – acquiring and assimilating information or knowledge – as potential absorptive capacity, and the latter two – transforming and exploiting information or knowledge – as realized absorptive capacity.

Although many researchers have helped disseminate the concept and enhanced our understanding, the work of Cohen and Levinthal is still a reference for any study on absorptive capacity. They argue that the capacity to recognize external knowledge that might be relevant to a firm is largely a function of the company's level of prior related knowledge. A firm's absorptive capacity will also depend on the absorptive capacities of its employees. In this regard, staff's level of education becomes an important factor. However, as the authors state, the absorptive capacity of a company is not just the sum of the absorptive capacities of its individual members. There are aspects of the firm as a whole to consider, including the organizational patterns that shape its extramural linkages, the way it assimilates and disseminates external knowledge, and how it exploits this knowledge for profitability. Thus, communication between the external environment and the firm, as well as communication among the different departments in the firm influence its absorptive capacity (Cohen and Levinthal 1990).

Finally, absorptive capacity is directly related to a company's innovation performance. Cohen and Levinthal focused on the importance of research and development (R&D) activities to increase a firm's absorptive capacity. Although R&D activities are widely accepted as a key factor to the development of competitiveness, the concept of innovation has strongly evolved in the last decades to include many different components.

### Innovation

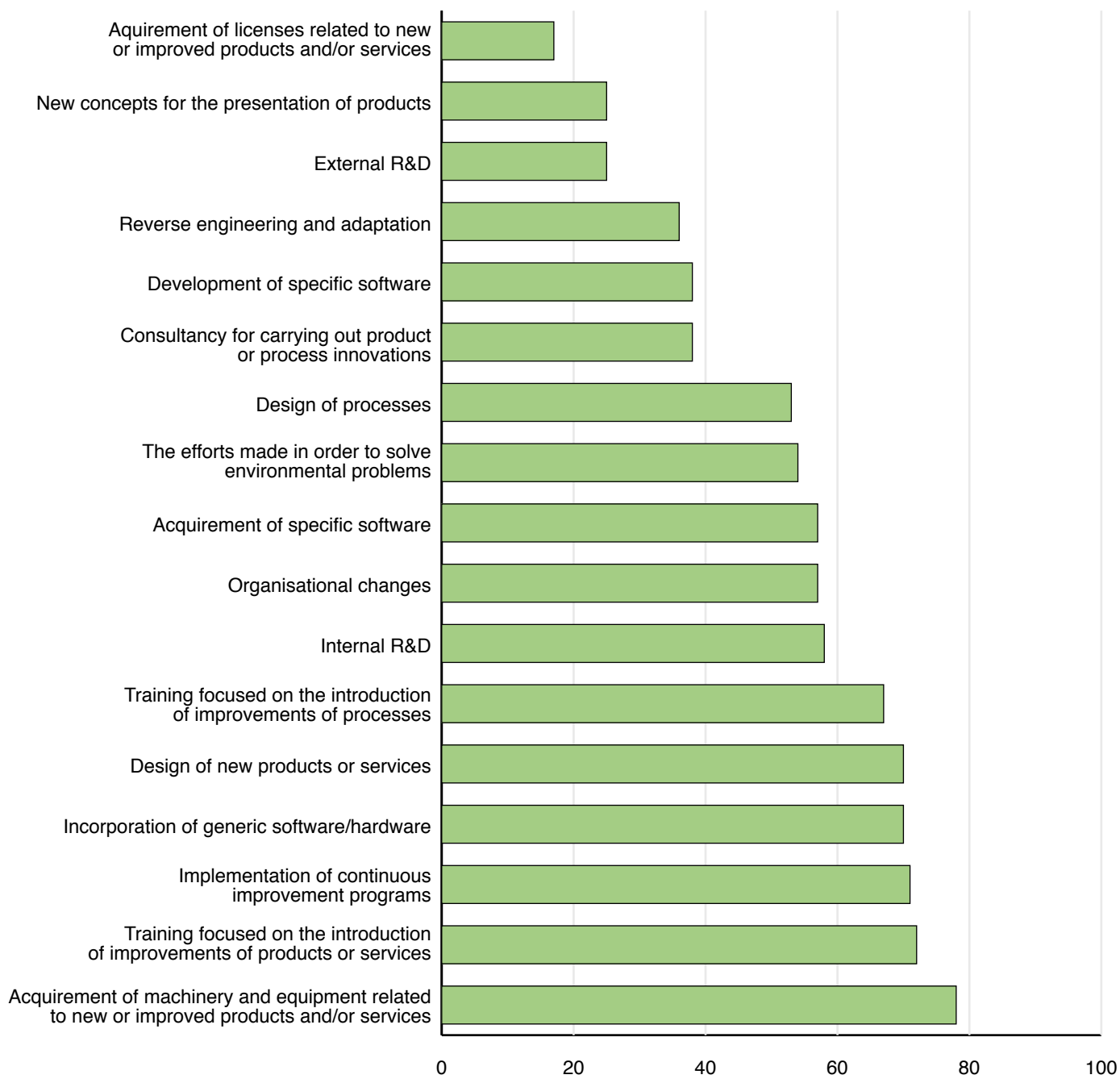
Since the beginning of the 1980s, a considerable amount of work has been devoted to the capture of innovative activities (Oslo Manual 2005). Academics, policymakers and people in general accept that innovation is a key activity for economic growth and development.

Traditionally, the concept of innovation was related to R&D, but later work has expanded the concept to include other activities. Innovation has a positive impact on a firm's performance and contributes to the accumulation of knowledge. The higher the knowledge and level of education of the firm's personnel carrying out innovative activities, the more benefits the company is likely to experience. In this way, innovation is related to the concept of absorptive capacity. In an empirical study at the firm-level in Kenya, Tanzania and Uganda, van Uden et al. (2014) used the World Bank's Enterprise Survey to find a positive relationship between human capital and innovation. Correspondingly, Mahemba & Bruijin (2003) state that the knowledge and skills of personnel in small- and medium-sized enterprises (SMEs) in the manufacturing sector in Tanzania are significant components of how innovation occurs.

The essence of innovation is novelty: the successful creation, development and marketing of new goods and services or the successful application of new techniques or ways of organizing work that improve an organization's effectiveness. The literature distinguishes four types of innovation: product (including goods and services), process, marketing and organizational (Oslo Manual 2005). Innovation is a dynamic and continuous process, where firms constantly make changes to their operations, products and strategies. Generally, dynamic processes are more difficult to measure than static ones. Fortunately, past research such as the work of Macher et al. (2009) and Brnzei et al. (2006) have helped to refine the tools and questions to capture dynamic processes in firms.

Innovation can be examined at different levels such as country, industry or firm. Since we are interested in the innovation capacity of local firms, our approach is at the company level. This process generally requires linkages between entities, such as companies, academic and research institutions, business associations and others. These interactions constitute a key element of innovation, especially in SMEs. Figure 2 shows the frequencies of 17 innovative activities for 371 local suppliers to the oil and gas industry in Argentina.

Acquisition of machinery and/or equipment related to new or significantly improved products or processes is the most frequent innovative activity, involving almost 80 percent of respondents. Acquiring licenses related to new or improved products and/or processes is the least frequent, involving around 17 percent of respondents.



**Figure 2.** Innovative activities for 371 local oil and gas suppliers in Argentina.

Source: 10th Global Local Content Summit, conference workshop. London, UK. Marcelo Neuman, 2014.

# An Integrated Approach to Measuring Capabilities

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## The logic behind the measurement tool

In the first section we identified the opportunities to learn from questionnaires that have been developed based on their approaches and objectives. In the previous section we introduced innovation and absorptive capacity as important constructs to measure a firm's capabilities. In this section we describe our approach to measuring local firms' capabilities in new producing countries, grounded in the constructs described above and in the basic requirements of oil and gas companies.

By inquiring about a firm's activities that support its performance, we will be able to analyze the company's competencies and estimate its potential to engage in the oil and gas value chain based on current internal capabilities. The underlying logic is that firms with certain positive characteristics and behaviors will be in a better position to undertake a learning process to be part of the oil and gas business. Subsequently, local content policies could facilitate this learning process.

The requirements that oil and gas companies place on their suppliers are another crucial element for appraising a firm's potential to be part of the industry. Although they share many common aspects, each oil and gas company has its own set of requisites and procedures for qualifying local suppliers. Before a final qualification process, local suppliers typically undergo a prequalification phase. The prequalification process differs from company to company, but they do share some common characteristics such as industry specific standard requirements under which the suppliers are expected to work.

Our approach to assessing the capabilities of local firms combines the degree to which they meet basic characteristics that oil and gas companies usually

expect as part of their prequalification processes, and an analysis of the activities that local firms perform and the endowments they possess to estimate their innovation capability and absorptive capacity.

The best way to develop the "prequalification portion of the measurement tool" would be to analyze the prequalification processes of as many different oil and gas companies as possible and then establish a set of inquiries that encompasses most of these requirements. Unfortunately, there are some limitations to this approach. First, very few prequalification processes are available to third parties. Second, many questions included in the prequalification processes are open ended, which would be very time consuming for a research project attempting to interview a large number of local firms. Third, respondents will be less motivated to answer long, open questions for a research project, compared with that from an oil and gas company offering business opportunities.

Considering these circumstances, our approach to the so-called "prequalification portion of the measurement tool" includes: past work analyzing the local supplier base by other academic and research institutions, analyses of some prequalification processes already available to the research team and interviews with oil and gas employees in charge of prequalifying local firms. Using this information, we created a set of closed questions scattered throughout the questionnaire.

## The objective

KAPSARC's study of Eastern African local content policies is focused on four countries: Uganda, Kenya, Mozambique and Tanzania. Significant deposits of oil and gas have been discovered in each of these countries in the past few years, and all of them have a low level of industrialization.



The objective of the research project is to provide vital information for the design of local content policies, based on a thorough understanding of local firms and their potential to participate in the oil and gas industry. To this end, we built a questionnaire to

measure innovation capability, absorptive capacity and the degree of accomplishment in areas relevant to oil and gas companies among others. Figure 3 shows the sections of our firm level analysis and the context that our questionnaire considers.

### QUESTIONNAIRE SECTIONS

<b>A</b>	<b>General Information</b>
<b>B</b>	<b>Economic Performance</b>
<b>C</b>	<b>Manufacturing &amp; Operations</b>
<b>D</b>	<b>Investment and Innovation</b>
<b>E</b>	<b>Context and Strategy</b>
<b>F</b>	<b>Finance</b>

**Figure 3.** Questionnaire sections.

Source: Adapted from KAPSARC's internal presentation, Tissot, R., Mabrey D. and Neuman, M., Riyadh, Saudi Arabia, 2015.



# Conclusion

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**P**olicymakers in new producing countries and oil and gas companies can benefit by considering the dynamic processes of learning and improving by local firms. Usually in studies about local firms the approach is to verify if they are able to comply with a specific set of established standards and how far or close they are to reaching these standards, which are generally aimed at meeting the needs of the IOCs. However, by focusing only on this aspect we ignore the potential of local firms to learn and improve, and become part of the oil and gas production network.

There are underlying features and situations that push a firm to operate in a certain way, to be proactive or reactive, to work toward increasing their competitiveness or to be more passive. Trying to

understand these behaviors can provide important information in the design of local content policies, which can raise the capability of these companies and enhance employment.

To this end we studied three surveys, undertaken in three different countries with local firms at different stages of development, to better understand the measurement process and develop a tool that would capture the innovative and absorptive capacities of these companies. Introducing these concepts, together with the typical points that are considered by IOCs in the assessment of local firms' abilities, will result in a richer understanding of their capabilities. It will offer a platform from which a sustainable local supplier base, supported by appropriate local content policies, could be built.

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Roger is a research fellow specializing in local content. He holds an M.A. in Economics and an MBA. He has also worked in business development and as an advisor to government petroleum authorities.



### **Daniel Mabrey**

Daniel Mabrey was formerly a research fellow at KAPSARC leading a team focused on Eastern Africa. He has returned to his position as an associate professor at the University of New Haven in Connecticut, USA.

## About the Project

### **Natural Resource-led Development in New Producing Countries**

Our project seeks to understand how natural resource extraction can drive inclusive economic growth in new producing countries. We are engaged in a multiyear multidisciplinary study with four objectives:

- Understand the human geography of new producing countries.
- Assess the magnitude of new discoveries and estimate direct fiscal impact.
- Understand how industry can be localized to create economic growth.
- Estimate spillovers and welfare impacts to society.

We recognize that policymaking in new producing countries is a complex process, and our project also seeks to understand the interactions of actors' interests that drive energy sector policies.

Our initial focus is on four countries – Kenya, Mozambique, Tanzania and Uganda – that expect to develop significant oil and gas reserves in the next 5-7 years. Through natural resource development, these countries hope to achieve middle-income economic status by 2030-2040. This project is conducted through close collaboration with leading think tanks and NGOs in Africa.

# Notes



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