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Defining a framework for the development of ICT services "nearshoring" in Portugal

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Abstract

This paper presents a framework for policies development enabling growth of Nearshore in information and communications technologies (ICT) services inside European Community (EC), which are based in Portuguese companies, emphasizing what is needed to explore the huge opportunity to develop exportations, employability and the national economy. In a market of ICTs Outsourcing services forecasted in 2017 to be larger than 1000 Billion Euros, it is necessary that Portugal accelerates developments in areas such as People, Policies, Infrastructures and Education, according to the proposed framework, which supports the growth from the 50th location worldwide and 2nd in Western Europe, regarding attractiveness for providing Outsourcing services, in order to become a preferential destination for the development of a "Nearshore" in EC.

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1. Introduction

Europe 2020, the digital agenda presented by the European Commission forms one of the seven pillars of the European strategy which sets objectives for the growth of the European Union by 2020. It proposes to each country

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member the exploitation of the potential of Information and Communication Technologies (ICTs) sectors in order to foster innovation, economic growth and progress [1].

Accordingly with a recent report from Eurostat [2], Portuguese exportations increased in communication, telecommunications and computer services, showing a structural change of the Portuguese economy towards a medium-high technology economy. Exports associated with this structural change increased 18% from 2010 to 2012 while imports decreased 6%. In the first quarter of 2015 Eurostat revealed an increase in exports of 21% in this sector, representing a surplus of 400 million Euros in the perspective Portuguese balance of payments, which accounts for all economic transactions concerning the transfer and trade of technology and related activities.

Portuguese ICT sector contribution to GDP is 4.1% of total added value [3], contrasting with 6.3% noted in the UK. Moreover, in relation to employment, the Portuguese ICT sector represents only 1.4% of the total employment in the Portuguese economy, whereas in UK represents 3.7%.

Accordingly as stated by King and Torkzadeh [4] these two factors can be greatly improved by the exploitation of the off-nearshore outsourcing business models. We used design science research methodology based on the literature and data from 35 firms that operates nearshore centres, to propose a framework on nearshores for Portuguese ICTs.

2. The ICT outsourcing nearshore model

Within ICT business, both tangible (such as products, buildings and people) and intangible (such as reputation and trust) assets are factors that determine the usage of ICT's services, or buying their products [5]. As more and more ICTs firms are evolving from purely focusing on software and communications to become services providers, the outsourcing of the IT and business processes are critical factors for the transformation of the economy into the digital era, and sourcing locations are the root for its success both financial and economical [6].

The past decade has brought immense changes in technology. In an increasingly globally connected world, some leading organizations have established the practice of getting work done or services performed by people in neighboring countries. This outsource work to other countries with a geographic proximity is a result from globalization and easier and less expensive travels and communications and that people are more likely to speak the same customers language and be at the same time zone [7-9].

The outsourcing of information systems (IS) services has been one of the most discussed phenomena in IS in recent years; it has significantly influenced the thinking of both academics, governments and ICTs and its extension has been significant and will continue in the future [4, 10, 11]. Although IS/IT outsourcing has been prevalent for 15 or more years, there is a lack of theoretically grounded frameworks related to this matter [12-14]. The new realities of outsourcing such as the nearshoring presents challenges needed to be considered in the domains of People, Policies, Infrastructures and in the Educational system [4, 10]

The global economy/environment has changed significantly, nowadays: 1) Buyers are more business value-focused (balancing risk and cost, positioning for growth; increasing expectations of IT to be agile, flexible, efficient, transformative; and business buyers more active/interactive with technology and sourcing decisions), 2) Global services industry is more complex and competitive (constrained resource pools and finances; different services, pricing models, and delivery models in demand), 3) Technology has transformed the delivery and pricing model (cloud services; industrialized solutions; mobility and social media; and complete capability stacks) [15-18].

It can also be stated that the outsourcing has evolved to "as a service" model. The leading service providers are industrializing solution offerings by investing in cloud capabilities to increase automation, decrease resource intensity and decrease customization. More precisely, these solutions bundle services into business value driven stack: 1) Business Process as a Service - achieve business agility and process innovation - fitted to business unit executives, 2) Software as a Service - improve functionality and ease of use - fitted to business unit and IT Executives, 3) Platform as a Service - develop and deploy applications faster - fitted to development, 4) Infrastructure as a Service - handle peak loads cost effectively - fitted to IT Management. Whereas Business Process as a Service is the biggest payoff for customers, Software as a Service and Platform as a Service are the largest market opportunity for service providers. Moreover, Infrastructure as a Service is commodity market usually addressed by large suppliers [19].

These four outsourcing "as a service" delivery models are boosted by cloud technologies with a highly positive impact on: 1) Business agility - Accelerate cycle time and speed time to market, break down IT barriers to

innovation, and enable first market movers, 2) Risk mitigation - improve ROI for new initiatives, increase capacity and availability, improve IT control and maintain security, and respond quickly to competitive threat, 3) Cost effectiveness - preserve capital and shift to an OpEx model, refocus on core business, optimize IT resources and spend, expand, and contract as needed [20, 21].

In this new context over 150 off-nearshore delivery centers were established in 2014. Although Asia led these activities, the adoption also spread to other geographies [22]. Although Latin America locations continue to develop little due to skilled workforce, the political developments in Middle-East and Africa is causing slower growth. Within EU, central and eastern Europe continue to expand; Poland considered mature, Hungary and Czech Republic close behind; Estonia, Latvia, Lithuania all buoyant. On the other hand, there are doubts on the next move from countries such as Bulgaria, Romania and Tier 2 cities in Germany and France. There is also the need to clarify the impact of the financial distress in Portugal, Ireland, Greece and Spain and also the impact of the UK mutual job creation program with India [9, 21].

Accordingly with recent reports about assessing countries in regards to their attractiveness for providing outsourcing services; World Bank, World Economic Forum, Heritage Foundation, The Economist, European Outsourcing Association and U.S. Bureau of Labor Statistics, ranks Portugal in the top 50 locations worldwide and in the second after Ireland for Western Europe region. These rankings are also supported by research/analyst firm's reports; Gartner, IDC, Everest Group, Forrester, Outsourcing Institute, Offshoring Institute, McKinsey, Deloitte and A.T. Kearney.

3. A Nearshore framework for Portuguese ICTs

Although the above literature reveals that Portugal is been looked as a top destination for large companies to locate services, mainly due to the initiative of local subsidiaries management, there is no evidence of a framework that allow the ICT Portuguese firm to take advantage from this new era. Moreover a study from AICEP [23] reveals that around 35 multinational firms based a service nearshore centre in Portugal, creating more than 10.000 qualified employees and generating more than 1.200 M euro.

In this research we used Design Science Research Methodology (DSRM) as proposed by Von Allan et al. [24]. We followed a design science to classify our research question in People; Policies; Infrastructures, and Educational system. In this way, we are looking for highlighting our research results by means of producing a useful framework. Hence, as a basis we take 35 nearshore initiatives as well as the raking factors from the reports mentioned previously to present in Figure 1 a systematization of the main determinants in the form of a framework that aims to support the developing of this business model for Portuguese ICTs, which can be useful to organizations and institutional players.

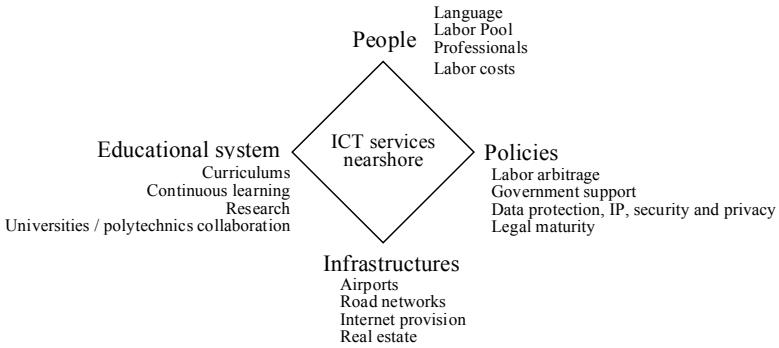

Figure 1. Nearshore framework for Portuguese ICTs service sector

People

- Language – Multilanguage capabilities is of importance and even if the great majority of ICTs professionals have Multilanguage capabilities, there could be a need to develop this further;
- Labor pool – capacity might be limited and as such we should also attract foreigners, emigrants and skilled people that emigrated in the last few years, not only for increasing capacity but also for increasing diversity, which is of importance in a nearshore context;

- Professionals – continuously development of the generally highly skilled, flexible and adaptable professionals is of importance;
- Labor costs – even if labor costs are usually very competitive when comparing with the original source locations from the customers, it is of importance to continuously work on the overall cost structure.

Policies

- Labor arbitrage – although labor legislation is fair, there still exists a bureaucratic systems when litigation arise;
- Government support – incentives are needed for investment, I&D, employment and marketing Portugal, cities and national ICTs
- Data protection, IP, security and privacy – there is the need to develop legislation, norms and audits around the ISO 27001 [25] and EU clauses [26].
- Legal maturity – reduce bureaucracy and develop a program that articulates the specificity of this business model.

Infrastructures

- Airports – near city centres with connections with major EU cities (such as Lisboa, Porto and Faro);
- Road networks - fast and done with few commutes, but there is the need to develop more public transportation;
- Internet provision - fast and reliable but we need to keep ensuring a high broadband and take advantage of our positioning to implement/support marine cables;
- Real estate – costs are very competitive but there is the need to develop a sustainable pool of houses and offices to rent. Cities must be planned based on people's shifts – must ensure resting and comfort during the day and night.

Educational system

- Curriculums – very good, although 10% of a course should have "hands-on-lab" on the most common systems/processes/applications, etc;
- Continuous learning – more executive courses should be put in place to reconvert workers and managers in terms of technological, organizational and service aspects;
- Research – there is a lack of studies targeting the transformation to the digital era, in particular the value of Outsourcing models;
- Universities / polytechnics collaboration – very limited, it is critical to be improve this with the industry as well as between them.

The above determinants from the framework leverage the reutilization of deactivated or under explored structures such as municipal industrial locations and its infrastructures of communications, in order to transform the cities organically, by moving to a people-centric society where qualified people, innovation and creativity allied to technology naturally leverage smart cities [27]. These four determinants also leverage on assumed existing "must haves" such as Portugal geographical location, the resilience of the political and economic environment, business and global maturity, physical and health protection, climate, low labor costs and financial attractiveness in general [28].

4. Conclusion, implications and future work

This paper aims to raise some topics we believe are important for Portuguese institutions, the industry and academy to bring to Portugal discussion of the Digital Agenda, especially in the support of elevating the country as the best Nearshore destination in ICT services. We present a framework to work and take advantage of Europe 2020 programs where the Government can expand on these factors to develop policies, incentives and support initiatives to increase Portugal's ICTs international competitiveness and reputation. Due to the uniqueness of some characteristics especially important in the ICT services market and as such Portugal should aim to be in the Top Quartile positioning when comparing ICT GDP % and % of Labor force.

The framework propose to: 1) raise the competitive business environment and the international expansion of Portuguese ITCs, this is expected to influence 2) the attraction, retention and development of people talent, 3) to take advantage from the excellent regional location and existing infrastructures; 3) Education system, and 4) to develop an advanced and attractive differentiation in policies.

This study has implications for academy, industry and government. This framework systematize the main factors for Portuguese ICTs embrace a nearshore outsourcing business model for Europe. This framework can be used by other researchers in other locations and sectors. Firms can be assess their strategies and the gap between their reality and the 35 localized nearshores. Government can take these factors to develop policies, incentives and support initiatives to increase Portugal's ICTs international competitiveness and reputation. We hence welcome future studies on expanding the framework, by relating other antecedents to these factors or by adding new ones. A Delphi study as proposed by Okoli and Pawlowski [29] would be beneficial for ranking and assess the factors that enrich the nearshore planning process, from which the output could then be used to develop a model that can be assess the nearshore value and its impact in the firm's performane [30] as well as in the overall economy.

Another avenue of work would be to study the cultural compatibility - Portugal as a unique setup in the world of business – besides cultural compatible with EU, it is known that is also compatible with some countries in Africa, Latin America and indirectly with USA, which would posit Portuguese ICTs firms as offshore outsourcing location.

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