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THE IMPORTANCE OF SCIENTIFIC RESEARCH DEVELOPED IN HIGHER EDUCATION INSTITUTIONS IN ANGOLA FOR THE GENERATION OF INNOVATION

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Abstract: The growing emergence of private higher education institutions in Angola, especially in the capital Luanda, evidenced the existence of significant competition between them, since they aim at the same market. Scientific research can be a differentiator between them, since it can generate innovative knowledge in this context, as well as provide subsidies for the formulation of public policies, aiming at economic and social development. The objective was to analyze scientific research as a determining factor for the generation of innovation in the context of private higher education in Angola. This is a descriptive and exploratory study, whose qualitative approach is based on previously carried out research, as well as on existing government laws for the sector. The results indicate an evolution of private higher education institutions in Luanda from 2009 to 2011 and 2016 to 2018, highlighting the high number of students from these institutions compared to public institutions in the same sector. It was observed that some universities lost competitive advantage over others. Public policies to encourage innovation focusing on scientific research were identified based on government decrees. Given the competitive environment, it is concluded that private higher education institutions can adopt organizational models to foster scientific research in their environment, in order to develop innovation, provided that they provide the necessary incentives, in order to create policies in partnership with the companies and the government.

Keywords: University education, Scientific research, Competition, Innovation.

INTRODUCTION

Society is increasingly dynamic and aware of its needs and how to meet them. Likewise, the markets in which organizations operate are also dynamic and impose constant challenges,

demanding new forms of action in order to satisfactorily meet social demands, and Higher Education Institutions (UNIVERSITIES) are not indifferent to this reality. In this context, there is an urgent need for organizations to create short, medium and long term adaptation and performance strategies, in order to survive in the market in which they operate. Therefore, it is essential to know the internal and external environment, because from the data, information and knowledge generated about these environments and their agents, it is possible to generate differentials that meet their needs. "For this, it is necessary for a company not only to find its differential, but also the best strategy to be adopted in relation to its competitors" (ANDRADE, 2016, p.72).

To generate innovation, UNIVERSITIES can develop innovative management models based on a tripod formed by university-company-government. From this perspective, the knowledge produced in universities is aimed at the economic, technological and social development of a country, whose activities essentially depend on creativity, strategic planning and structural conditions. A competitive organization necessarily needs to master data, information and knowledge generated in the internal environment, as well as in the external environment, so that it can anticipate challenges and changes. For Tarapanoff (2001) organizational intelligence is the ability of the organization to acquire information and knowledge, adapt to the environment, self-evaluate and devise strategies to act in the best way based on the information obtained.

This research is justified by the high growth of private UNIVERSITIES in the capital of Angola and, therefore, they operate in a highly competitive environment. It is worth mentioning that private universities came to assist in higher education, since many

young people were not able to attend public universities, due to the small number of vacancies offered, whose entry is conditioned to the 'admission test', which constitutes in another factor influencing the small number of students entering public universities (KANDINGI, 2016).

The objective of this research is to analyze the generation of innovation in the context of private UNIVERSITIES in Angola, especially in the capital Luanda, having as a determining factor the scientific research carried out in them. As specific objectives, it was defined: a) to identify in the government decree elements that emphasize the generation of innovation, based on scientific research; b) present the growth of higher education in Luanda from 2009 to 2011; c) propose an organizational model for private UNIVERSITIES to operate in a competitive environment. The study is structured in five parts: introduction; theoretical foundation; Materials and methods; analysis and presentation of private higher education in Angola; and final considerations.

INNOVATION IN THE CONTEXT OF HIGHER EDUCATION INSTITUTIONS

Innovation is a current topic that has been influencing organizations of all types, not only as a possibility to generate competitive advantages, but also as a determining factor in generating wealth and social well-being.

As a result of the entry of new competitors, from the mid-1990s onwards, the phenomenon of competition between companies in global markets emerged, and economic thinkers rediscovered innovation as one of the ways out of the crisis (BLOCK; KELLE, 2011; ATKINSON; EZELL, 2012 apud CAPUANO, 2015).

Innovation can be confused with invention, however, invention implies conceiving an idea, and innovation refers to

the use of invention directed to economic, technological, social results, among others (ROMAN; FUETT; JÚNIOR, 1983). In order for there to be innovation, it is essential to have intellectual capital in the organizational environment. Schumpeter (1961) describes five basic types of innovation: i) development of a new product, or a new technology for an existing good; ii) development of a production method, or of a new commercial logistics; iii) development of a new market; iv) development of new Sources of supply of raw materials or semi-manufactured products; v) development of a new industrial organization, such as the creation or fragmentation of a monopoly position.

According to the Oslo Manual (2005) innovation can be considered as the “[...] introduction of a new or significantly improved good or service with regard to its characteristics or intended uses [...] significant improvements in technical specifications, components and materials, embedded software [...]”.

From this perspective, innovation is understood as a continuous process intertwined with the processes, activities and tasks of organizational subjects, focusing on the improvement of materials, processes, services and/or products, aiming to meet the demands of the consumer public, as well as the development of society.

Public or private organizations are considered complex systems, which are in search of new models of organizational management, aiming to generate differentials in the market in which they operate. Organizational innovations are necessary and can lead to new practices that, in turn, enhance the sharing of data, information, knowledge and learning (HOFFMANN, 2015).

It is evident “[...] that, just as innovation is a major factor for competitiveness and economic development, information

and knowledge are essential elements for innovation” (SILVA, 2015, p.250). Innovation aims to promote closer relationships between UNIVERSITIES and companies, often stimulated by the government (ETZKOWITZ; LEYDESDORFF, 2000).

Etzkowitz and Zhou (2018) reinforce the idea that university-business-government interactions form the so-called “triple helix” (Figure 1) of innovation and entrepreneurship, considering it to be the key to economic growth and social development based on in knowledge.

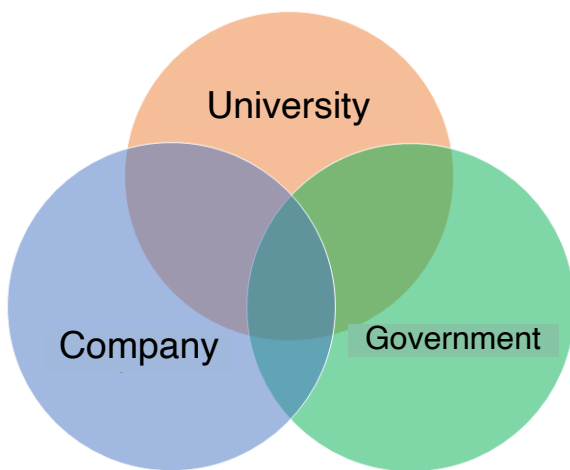


Figure 1: Triple helix.

Source: Own elaboration, baseada em Etzkowitz (2013).

For a private university that aims to promote knowledge with society, it can define scientific research as an opportunity to generate differentials in the market in which it operates, that is, by adopting organizational models that foster innovation through scientific research, projects social services and revenue collection. Hoffman (2015, p.73) states that:

In any context, the organizational model and the way in which information is handled directly impact the results of any enterprise, private or public. Each organizational model takes into account the following basic variables, such as: size of the organization,

type of organization, tasks, organizational chart (functions, units, command structure), processes, rules, control mechanisms, information systems, etc. However, there are often invisible variables that are fundamental, such as: organizational culture, leadership, strategic management, ethics, competences, intellectual capital, motivation, partnership, competition, etc.

However, as there is a diversity of management models, if the model adopted does not adjust to the reality of UNIVERSITIES, it will certainly be an investment with no return. Therefore, it is essential to first diagnose the internal environment and evaluate the external environment and thus choose the model that best fits the reality of the institution. This involves training people and mastering certain technological tools, in order to align action strategies with the demands of the client and society.

In this perspective, Valentim (2002 apud VALENTIM, 2008) states that the Information Society is economically based on information, knowledge and information and communication technologies, as well as highlights that organizations have contributed to this contemporary scenario, that is, the elements that permeate and sustain the Information Society are the same that permeate and subsidize organizations. Thus, it can be said that contemporary society is immersed in data, information and knowledge, considered inputs for its development. The post-industrial context experienced, called the ‘Information Age’, becomes a crucial factor to understand that society is based on data, information and knowledge. Serra et al. (2010) emphasize that for an organization to achieve success, it needs to be able to optimize its resources and activities, as well as to develop a competitive plan that allows it to outperform its competitors. However, operating in a dynamic market, in constant change, whose ideas emerge due to the pressures of the moment, a

safe path can be found in the adoption of the innovation management model.

conditions for citizens, so that they can incorporate competences aimed at the development of society as a whole.

<p>CONDIÇÕES ESTRUTURAIS</p> <p>As condições gerais e as instituições que estabelecem a gam de oportunidades para inovação</p>
<p>TRANSFER FACTORS</p> <p>Human, social and cultural factors that influence the transfer of information to companies and learning by companies.</p>
<p>DYNAMO OF INNOVATION</p> <p>Dynamic factors that shape innovation in companies;</p>
<p>SCIENCE AND ENGINEERING BASE</p> <p>Institutions dedicated to science and engineering that support the dynamo of innovation;</p>

Figure 2: Innovation Policies.

Source: Manual de Oslo (2004, p.37).

The Oslo Manual (2004, p.37) highlights that there is a need to have minimum structural conditions, called “innovation dynamo”, to generate innovation in a country, among the conditions highlights the “[..] basic education for the general population, which determines the minimum educational standards of the workforce and the domestic consumer market”.

Silva and Valentim (2008) state that the participation of the State more effectively contributes to the preparation of UNIVERSITIES, so that they can meet the needs/demands of society and, consequently, promote the development of a country. From this perspective, UNIVERSITIES, as knowledge promoters, can and must act to generate competitive differentials and subsidize economic, technological and social development. The government has a fundamental role in the formulation of policies that promote teaching, research and extension, elements that are present in the scope of UNIVERSITIES, therefore, it is responsible for establishing educational

MATERIAIS AND METHODS

The present study can be characterized as descriptive and exploratory, it refers to a qualitative approach, and includes a documental analysis. Exploratory research aims to provide familiarity with the field of study and is widely used in research whose topic has been little explored, and can be applied in initial studies to obtain an overview of certain facts (GIL, 2002).

A bibliographic review was carried out and supported the elaboration of the theoretical foundation, as well as subsidized the improvement of ideas in relation to the facts related to the topic under study (GIL, 2010). In addition, a survey of government documents in Angola was also carried out.

In the scope of the analysis of primary documents, at first, the presidential decrees of Angola were used to identify elements that emphasize the generation of innovation aimed at scientific research in the context of UNIVERSITIES. To reinforce the analysis, studies carried out previously on: a) evolution of higher education were sought (CARVALHO, 2012); b) expansion of higher education in Angola with an emphasis on private universities (KANDINGI, 2016). From the study on the evolution of higher education, specifically with regard to private UNIVERSITIES, the competitive environment in the private sector was evidenced. Excel software was used to prepare tables and graphs.

ANGOLA HIGHER EDUCATION: PRIVATE UNIVERSITIES

In order to analyze the private higher education in Angola, initially it was sought to know the presidential decrees

destined to the sector, more specifically those related to scientific research and innovation for economic, technological and social development, with emphasis on the Presidential Decree No. 201/11, of July 20, 2011, which emphasizes the State's recognition of the promotion of scientific research.

Until the beginning of the 1960s, Angola did not have any UNIVERSITIES in its territory (LIBERATO, 2014). The lack of a higher education educational system in the national territory at that time influenced the mobilization of young people to seek higher education abroad, more specifically in Portugal (LIBERATO, 2012). Higher education in Angola began in the cities of Luanda and Huambo in 1962, and at that time Angola was still a Portuguese colony. After independence, in 1975, the first public university was established, called Agostinho Neto, and in 1992 the Catholic University was created, the first private higher education institution to be established in the country.

“Due to the geographical location of Higher Education Institutions, the province of Luanda concentrates the largest number of student population with 50.87%, highlighting Private UNIVERSITIES with 38.89% against 11.98% in Public UNIVERSITIES” (ANGOLA, 2018). We reinforce that the data under study are limited to the province of Luanda, for the reasons mentioned above, and covers the years from 2009 to 2011. According to Carvalho (2012), until 2011, higher education in Angola had thirty-eight UNIVERSITIES of which sixteen were public. and twenty-two private institutions. In terms of courses, there are more than a hundred undergraduate courses, more than ten master's courses and two doctoral courses in private higher education institutions operating in eighteen cities in Angola.

1. Política Nacional de Ciência, Tecnologia e Inovação de Angola, Decreto Presidencial. Disponível em: ciencia.ao/legislacao. Acesso em: 19 fev. 2021.

Over time, the country's needs showed an increase proportional to the demand of individuals in higher education, that is, there was recognition by Angolans about the importance of higher education to face social, economic, technological challenges, etc. In this sense, the support of the Angolan State for the formation of cadres, aiming to alleviate the high demand from public and private organizations, constituted the main cause of the proliferation of private UNIVERSITIES in the country.

The Angolan Government, through the Ministry of Higher Education, Science, Technology and Innovation, has the autonomy to establish and supervise the public policies that govern public and private UNIVERSITIES which, in turn, have the mission of training staff within the scope of higher education. Within the scope of its functions, the Ministry includes in its structure the National Directorate of Science and Scientific Research, which aims to promote fundamentally applied and experimental scientific research for the construction of a knowledge society (ANGOLA, 2018). Specifically Presidential Decree No.201/11¹ which deals with the National Policy on Science, Technology and Innovation and which establishes actions aimed at scientific and technological development as a stimulus for the exercise of scientific research, with the purpose of building a knowledge society, aiming at the development of Angola (ANGOLA, 2011). In this perspective, the Government recognizes that it is essential to promote the formation of citizens with quality (Table 1).

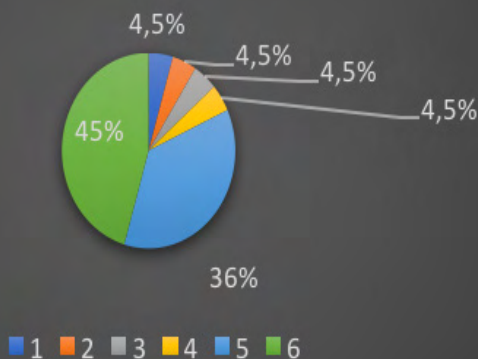
As shown in Table 1, based on studies carried out by Carvalho (2012), there has been a growth in private UNIVERSITIES over the years, with greater emphasis on the years 2007 to 2011 and, in particular, in the capital Luanda (Graph 1).

Designação	Ano de Criação	Sede
Universidade Católica de Angola (UCAN)	1992	Luanda
Universidade Jean Piaget de Angola (UJPA)	2001	Luanda
Universidade Lusíada de Angola (ULA)	2002	Luanda
Universidade Independente de Angola (UNIA)	2005	Luanda
Universidade Privada de Angola (UPRA)	2007	Luanda
Universidade de Belas (UNIBELAS)	2007	Luanda
Universidade Gregório Semedo (UGS)	2007	Luanda
Universidade Metodista de Angola (UMA)	2007	Luanda
Universidade Óscar Ribas (UOR)	2007	Luanda
Universidade Técnica de Angola (UTANGA)	2007	Luanda
Instituto Superior de Ciências Sociais e Relações Internacionais (CIS)	2007	Luanda
Instituto Superior Técnico de Angola (ISTA)	2007	Luanda
Instituto Superior Politécnico de Benguela	2011	Benguela
Instituto Superior Politécnico do Cazenga	2011	Luanda
Instituto Superior Politécnico Gregório Semedo (Lubango)	2011	Lubango
Instituto Superior Politécnico de Humanidades e Tecnologias “Ekuikui II”	2011	Huambo
Instituto Superior Politécnico Independente	2011	Lubango
Instituto Superior Politécnico Kanganjo	2011	Luanda
Instituto Superior Politécnico Metropolitano	2011	Luanda
Instituto Superior Politécnico Pangeia	2011	Lubango
Instituto Superior Politécnico de Tecnologias	2011	Luanda
Instituto Superior Politécnico da Tundavala	2011	Lubango

Table 1: Private higher education institutions in Angola - 2011.

Source: Carvalho (2012) *apud* MESCT 2012.

Private universities : 1992, 2001, 2002, 2005, 2007 and 2011



Graph 1: Percentage of private UNIVERSITIES – 2011.

Source: Own elaboration (2021).

It is evident that in the first years, that is, 1992, 2001, 2002 and 2005, the growth remained unchanged and, from 2007, the growth was significant, reaching the percentage of 36% and 45% in the years 2007 and 2011 respectively. . It is observed since the emergence of private UNIVERSITIES, that the country has twenty-two private UNIVERSITIES, and from 1992 the number of growth was one institution per year until 2005, increasing to eight in 2007, this occurred only in the city of Luanda. Finally, in 2010, it appears that there was a growth of ten private UNIVERSITIES, being established in other provinces of the country, totaling twenty-two institutions (Graph 2).

The Year 2007 stands out, considering that there was the greatest growth in relation to other years, whose institutions were established in Luanda, giving rise to significant competition. Thus, in the capital of Angola, Luanda, the largest number of private UNIVERSITIES stands out, evidencing strong competition and, thus, requiring them to generate competitive advantages.

Table 1 shows the demand in private UNIVERSITIES in Angola, as they grow proportionally over three years, that is, from 2009 to 2011, although institutions with a significant number of students and others with a smaller number can be observed. It is worth mentioning that the focus of this study refers to the private UNIVERSITIES of the City of Luanda, where one can see the increase in demand for their services in the respective years mentioned above. If an organization's performance is superior to the performance of other competitors, this can certainly indicate some type of competitive advantage (SERRA et al., 2010).

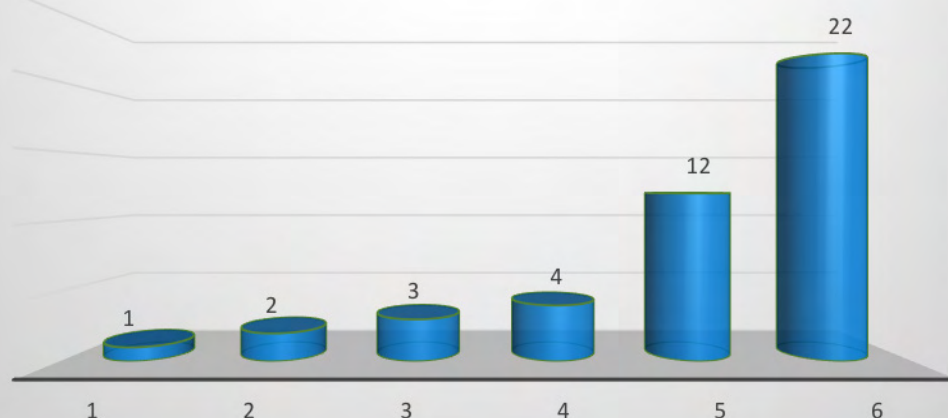
As the competition between private UNIVERSITIES intensifies, there is an urgent need to obtain more knowledge about

the educational market, to understand how the different segments of students differ in terms of decision-making behavior to ensure the survival of UNIVERSITIES (COCCARI; JAVALGI, 1995) . In this perspective, the Jean Piaget University and the Independent University (Table 1), occupy the first places in the ranking of UNIVERSITIES in historical terms, have the largest number of students, while the Catholic University and the Lusíada University, although being the first to appear in the country, they were losing competitiveness with the emergence of other UNIVERSITIES, occupying the 8th and 5th places respectively.

The most current data on the panorama of higher education in Angola includes seventy-two UNIVERSITIES, of which twenty-five are public and forty-seven private. This universe includes an Academy, four Public Higher Schools, forty-nine Higher Institutes (twelve public and thirty-seven private) and eighteen Universities (eight public and ten private) (Table 2). The province of Luanda concentrates half of the UNIVERSITIES, while the other provinces of the country together hold the other half (ANGOLA, 2016; 2017; 2018). We emphasize that data from 2013 to 2015 are not available in consulted databases, but they are only available from 2016 to 2018, considered the most up-to-date data so far.

Due to the geographical location of the UNIVERSITIES, the province of Luanda, as mentioned, concentrates the largest number of the student population, and in 2018 it represented 52.45% of the total, with private UNIVERSITIES standing out with 40.52% against 11, 93% in public UNIVERSITIES. In the same year, there was considerable growth in private UNIVERSITIES, in terms of student demand, where the Jean Piaget University stands out with 9.3%, followed by the Methodist University of Angola and the

Number of private universities (2011)



Graph 2: Number of private UNIVERSITIES – 2011.

Source: Own elaboration (2021).

PRIVATE UNIVERSITIES	2009	2010	2011
1. Universidade Jean Piaget de Angola	7.323	8.597	8.495
2. Universidade Técnica de Angola	4.005	5.908	7.044
3. Universidade Independente de Angola	5.842	5.489	6.561
4. Instituto Superior Técnico de Angola	1.390	3.680	5.873
5. Universidade Lusíada de Angola	5.089	5.586	5.722
6. Universidade Gregório Semedo	3.845	4.033	5.722
7. Universidade Óscar Ribas	3.083	3.936	4.942
8. Universidade Católica de Angola	3.691	3.697	4.524
9. Universidade de Belas	2.786	2.737	4.414
10. Instituto Superior de Ciências Sociais e Relações Internacionais	2.448	3.316	3.583
11. Universidade Privada de Angola	4.871	3.889	3.222
12. Instituto Superior Politécnico Metropolitano	1.390	2.227	3.080
13. Universidade Metodista de Angola	1.710	2.496	2.109
14. Instituto Superior Politécnico Kanganjo	-	-	1.658
15. Instituto Superior Politécnico da Tundavala	872	1.078	1.505
16. Instituto Superior Politécnico de Benguela	934	987	1.081
17. Instituto Superior Politécnico do Cazenga	1.118	1.141	1.047
18. Instituto Superior Politécnico Gregório Semedo	-	-	991
19. Instituto Superior Politécnico de Humanidades e Tecnologias “Ekuikui II”	-	-	750
20. Instituto Superior Politécnico Independente	-	-	510
21. Instituto Superior Politécnico de Tecnologias	-	-	-
22. Instituto Superior Politécnico Pangeia	-	-	-
Total	50.397	58.797	72.833

Table 1: Students in private higher education institutions in Angola (2009-2011).

Source: MESCT (2012 *apud* CARVALHO).

Kind of institutions UNIVERSITIES	Public	Private	Grand Total
Academy	1	-	1
Superior School ²	4	-	4
ISuperior Institute ³	12	37	49
University ⁴	8	10	18
Grand Total	25	47	72

Table 2: Types of higher education institutions.

Source: Government of Angola (2018b).

UNIVERSIDADES Privadas	2016	2017	2018
Universidade Jean Piaget de Angola	5.354	5.725	6.076
Universidade Técnica de Angola	2.763	595	3.160
Universidade Independente de Angola	2.769	2.537	3.452
Universidade Lusíada de Angola	898	1.044	951
Universidade Gregório Semedo	2.534	1.680	1.034
Universidade Óscar Ribas	837	1.615	1.605
Universidade Católica de Angola	4.489	1.931	2.352
Universidade Privada de Angola	1.465	816	1.546
Universidade de Belas	721	343	648
Universidade Metodista de Angola	3.029	5.313	4.826
Instituto Superior de Angola	284	376	404
Instituto Superior de Ciências de Administração e Humanas	278	279	479
Instituto Superior de Ciências Sociais e Relações Internacionais	264	272	166
Instituto Superior Politécnico Alvorecer da Juventude	945	1.135	1.105
Instituto Superior Politécnico Atlântida	1.098	1.502	1.788
Instituto Superior Politécnico Cardeal Dom Alexandre do Nascimento	-	-	781
Instituto Superior Politécnico Católico de Benguela	664	585	935

2. Escolas Superiores podem ser politécnicas ou técnicas, são instituições de ensino superior que ministram cursos em uma única ou no máximo duas ou três áreas do saber, condizentes à formação de especialistas e à obtenção dos graus acadêmicos de bacharelato e licenciatura e modelo bietápico (ANGOLA, 2018).

3. Centro vocacionado para a promoção do ensino, da investigação e da prestação de serviços a comunidade, com personalidade jurídica própria e regem-se nos termos da legislação aplicável. (ANGOLA, 2018, p. 207).

4. São instituições pluridisciplinares de formação de quadros profissionais de nível superior, de pesquisa, de extensão e de domínio e cultivo do saber humano, que se caracterizam por produção intelectual institucionalizada mediante o estudo sistemático de temas e problemas mais relevantes, tanto do ponto de vista científico e cultural, quanto regional e nacional; um terço do corpo docente, pelo menos, com titulação acadêmica de mestrado ou doutorado; um terço do corpo docente em regime de tempo integral. (ANGOLA, 2018, p. 207).

Instituto Superior Politécnico de Caála			1.232
Instituto Superior Politécnico de Cabinda	604	459	576
Instituto Superior Politécnico de Porto Amboim	207	213	173
Instituto Superior Politécnico de Tecnologia e Ciências	2.593	1.925	964
Instituto Superior Politécnico Deolinda Rodrigues	213	357	164
Instituto Superior Politécnico Evangélico do Lubango			772
Instituto Superior Politécnico Kanganjo	1.364	1.683	2.032
Instituto Superior Politécnico Kalandula de Angola	2.914	3.171	4.150
Instituto Superior Politécnico Katangoji	440	366	390
Instituto Superior Politécnico Lusíada da Lunda Sul	169	16	174
Instituto Superior Politécnico Lusíada de Benguela	211	130	137
Instituto Superior Politécnico Lusíada de Cabinda	104	178	259
Instituto Superior Politécnico Lusíada da Huambo	250	220	184
Instituto Superior Politécnico Maravilha	1.057	1079	1.174
Instituto Superior Politécnico Metropolitano	1.384	1120	2.306
Instituto Superior Politécnico Privado Walinga	-	-	582
Instituto Superior Politécnico Sinodal	-	-	199
Instituto Superior Politécnico Sol Nascente	681	879	597
Instituto Superior Politécnico Tocoista	-	702	703
Instituto Superior Técnico de Angola		2891	3.951
Instituto Superior Politécnico de Ciências e Tecnologias	1.265	2.122	1.970
Instituto Superior Politécnico da Tundavala	487	602	469
Instituto Superior Politécnico de Benguela	872	875	1.526
Instituto Superior Politécnico do Cazenga	-	905	1.113
Instituto Superior Politécnico Gregório Semedo	718	464	982
Instituto Superior Politécnico de Humanidades e Tecnologias “Ekuikui II”	440	460	545
Instituto Superior Politécnico Independente	1.276	1.389	1.428
Instituto Superior Politécnico Intercontinental de Angola	-	-	1.341
Instituto Superior Politécnico Internacional de Angola	3.172	5.303	2.126
Instituto Superior Politécnico Jean Piaget de Benguela	1.076	1.985	1.715
TOTAL	49.889	55.242	65.242

Table 3: Students in Private Higher Education Institutions (2016-2018).

Source: Adapted from ANGOLA (2016; 2017; 2018).

Polytechnic Institute of Kalandula with 7.4% and 6.3% respectively.

In the geographical context, for the same year, we highlight the provinces of Benguela, Huíla and Huambo with 6.6%, 5.6% and 4.8%, respectively (ANGOLA; 2018).

It is important to point out that the demand that some UNIVERSITIES have in relation to others, other factors can be added that were not analyzed here, such as: the physical structure, the value of the course, the courses, the location etc., although further below, we bring a study on these points, although they are not specifically linked with the demonstrated context, however, it helps in the perception of student demand in the private sector. Table 3 presents the total number of private UNIVERSITIES of students enrolled in the last three years.

Kandingi (2016) identified, from his study, a set of factors that lead students to choose private UNIVERSITIES in the Angolan context in which he highlighted: location; prestige of the UNIVERSITIES in the market, the curricular plan; value of the course in the job market and influence of third parties. This confirms that higher education is a demand related to the need to train people to occupy different jobs. The student's decision is made from the evaluation of alternatives, which generally takes into account the opinions of third parties, the perceptions of the interested party regarding the service provided and the objectives to be achieved (JOSÉ, 2010).

Table 2 presents a summary of some laws that were created to encourage the generation of innovation at the heart of scientific research.

As referenced throughout this text, governmental decrees that are embodied in public policies stand out, highlighting some significant steps to foster scientific research and innovation. Also noteworthy are the most recent laws such as the career statute of scientific researchers and the decree that

restructures the Ministry that oversees higher education, technology and innovation in Angola. In view of this, there are many policies that need to be implemented in order to obtain results that positively impact Angolan society.

FINAL CONSIDERATIONS

The objective of this article was to analyze the generation of innovation in the existing competitive context between the private UNIVERSITIES in Angola, having scientific research as a determining factor. The study presents a qualitative, descriptive and exploratory approach.

Regarding the situation of higher education in Angola, it was possible to identify public policies aimed at improving higher education in the country, especially those that support scientific research aimed at innovation, such as: Organic Statute of the Ministry of Higher Education, Science, Technology and Innovation; Innovation and Technology Strategy; Organic Statute of the National Center for Scientific Research; National Science, Technology and Innovation Policy; and National Development Plan 2018-2022 (Table 2).

As for the evolution of private UNIVERSITIES from 2009 to 2011, there was a high number of students in some private UNIVERSITIES compared to others in the same sector, even comparing to those that started providing services in the sector longer ago, it is observed that these the latter lose competitive advantage in the face of UNIVERSITIES that operate more recently in the market. On the other hand, the growing number of private institutions in Angola, especially in the capital Luanda, leads us to affirm that there is, in fact, a competition between them, evidenced in Tables 1 and 2 and in Graphs 1 and 2.

It is worth mentioning that although the results presented include the years

Documents	Description	Decrees
Scientific Researcher Career Status	It applies to personnel assigned to public or private UNIVERSITIES, or integrated into the national science, technology and innovation system and other actors and partners in the scientific research career.	Presidential Decree no. 190/2019
Organic Statute of the Ministry of Higher Education, Science, Technology and Innovation (MESCTI)	The document integrates two ministries: Higher Education and Science, Technology and Innovation.	Presidential Decree no. 26/18 of February 1, 2018, Series I n. 15, revokes decrees n. 101/14 of May 9 and 111/14 of May 27
Innovation and Technology Strategy	It aims to establish a coherent agenda that promotes the involvement of key players in the national innovation system in achieving the objectives of the national science, technology and innovation policy.	Presidential Decree No. 196, 2011
Organic Statute of the National Center for Scientific Research	In charge of developing multidisciplinary scientific research activities with a view to complying with public policies in the field of scientific research and technological development	Presidential Decree No. 251, 2011
National Science, Technology and Innovation Policy	The objective is to promote scientific culture, promoting and ensuring the production of scientific and technological knowledge to build a knowledge society to fight hunger and poverty.	Presidential Decree No. 201, 2011
National Development Plan 2018-2022	It is the second medium-term planning exercise carried out within the scope of the National Planning System in force, following the 2013-2017 PND, and aims to promote the socio-economic and territorial development of the Country and implement the strategic options for long-term development. of the Country, assumed in the Long Term Strategy (ELP) Angola 2025.	-

Table 2: Decrees to encourage innovation within the scope of UNIVERSITIES in Angola.

Source: Own elaboration, based on the MESCTI Portal (2021).

2009 to 2011, the current situation is no different in this higher education sector, that is, as traditionally happens, private UNIVERSITIES concentrate the largest number of students against public UNIVERSITIES, which is justified, as there are more than forty private UNIVERSITIES against twenty-six public UNIVERSITIES (ANGOLA, 2016, 2017 and 2018). To develop innovation in a competitive environment, private UNIVERSITIES can adopt organizational models to promote research in universities, providing the necessary incentives, in order to create policies in partnership with companies and the government, which can enhance competitive conditions against other competitors., as stated by Andrade (2016, p.72): “[..] it is

necessary for a company not only to find its differential, but also the best strategy to be adopted in relation to its competitors.”

It is also worth mentioning that these results cannot be considered sufficient to define that some private UNIVERSITIES in Angola have a competitive advantage over others that operate in the same market segment.

Therefore, it is important that other researches are carried out, generating new data from the sector, in order to provide subsidies to draw more accurate conclusions, such as, for example, the question of some institutions having more students in 2011 compared to others, which may originate from numerous factors that deserve further investigation.

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