Universities and Artificial Intelligence

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ABSTRACT
The general objective of the research was to determine the advances related to the universities and artificial intelligence. The specific objectives of the research are to identify the universities that invest the most in artificial intelligence and the best global universities for artificial intelligence. Methodology, in this research, 42 documents have been selected, carried out in the period 2018 – 2024; including: scientific articles, review articles and information from websites of recognized organizations. Results, AI is becoming increasingly important in all areas of human activity, which is why standards are being established for its proper use. Education is an important aspect in the development of people, which is why it must be invested at an international level. Innovation is very important for any type of organization and especially for universities. Conclusions, artificial intelligence is gaining more followers in university higher education, due to its important contribution. In addition, some principles have been formulated to guide its development. The top global university is the MIT – Massachusetts Institute of Technology (The United States of America); the top university in Latin America and the Caribbean is the Universidade de São Paulo (Brazil); the top university in Europe is the University of Oxford (United Kingdom); the best university in Asia is the Tsinghua University (China); the top university in Africa is the University of Cape Town (South Africa); the top university in Oceania is the University of Melbourne (Australia). The universities that invest the most in artificial intelligence was Johns Hopkins University. The best global universities for artificial intelligence were Tsinghua University, Nanyang Technological University, Chinese University of Hong Kong, Stanford University, University of California – Berkeley and Massachusetts Institute of Technology.

Keywords: Universities, Artificial Intelligence, Education, Innovation.

1 INTRODUCTION

The general objective of the research was to determine the advances related to the universities and artificial intelligence. The specific objectives of the research are to identify the universities that invest the most in artificial intelligence and the best global universities for artificial intelligence.
When talking of AI or any technology applied to education, its application can be at different levels and in the particular case of higher education, proposals have been directed towards at least two levels: strategic or institutional applications; and direct teaching and learning (Bates et al., 2020).

According to Elon University (2023) we have:

More than 140 higher education organizations, administrators, researchers and faculty members from 47 countries have collaborated to produce a set of core principles to guide development of artificial intelligence policies and practices at college and universities. The statement of principles was released Oct. 9, 2023, at the 18th annual United Nations Internet Governance Forum in Kyoto, Japan…

Elon University President Connie Ledoux Book introduced and explained the six principles that serve as a framework for institutions to take action on artificial intelligence:

1. People, not technology, must be at the center of our work
2. We should promote digital inclusion within and beyond our institutions
3. Digital and information literacy is an essential part of a core education
4. AI tools should enhance teaching and learning
5. Learning about technologies is an experiential, lifelong process
6. AI research and development must be done responsibly

The author Marquis (2023) mention the following:

As we embark on this AI-driven journey in higher education, it's crucial that we continue to focus on our ultimate goal: enhancing student learning outcomes and equipping our students with the knowledge and skills they need to excel in the real world. AI is not a panacea for all educational challenges, but it's undoubtedly a powerful tool that can help us create a more effective and engaging learning experience. As always in education, it’s not about the tools we use, but how we use them that will make all the difference.

The authors Salas-Pilco and Yang (2022) mention the following:

The main lessons learned are as follows: (a) Latin American researchers are helping to enhance the understanding of the potential of AI for educational innovation; (b) AI applications contribute to addressing a diverse range of learning, teaching, and administration issues inside higher education institutions; (c) the recognition that AI applications can help to improve higher education quality. Finally, it is important that more educational stakeholders and decision-makers become involved and understand the benefits that AI technologies could bring to the Latin American higher education system (Salas-Pilco; Yang, 2022).

The authors Ziebell and Skeat (2023) mention the following:

Our study examined this question by asking current Australian university students and academics to self-report their use of generative AI. We received 110 responses from every state and territory in Australia (which included 78 students and 32 academics). The data for this research project indicates that the current generation of generative AI programs has not had a transformative impact on education in universities at this early point of Semester 1 2023.

The authors Sánchez and Canelo-Sotelo (2023) mention the following:
The application of this model will allow public universities in Peru to make more informed and strategic decisions in the admission process, identifying those applicants with the highest probability of academic success. In addition, this approach can contribute to the implementation of more efficient educational policies and the adequate allocation of resources... The application of neural networks with artificial intelligence made it possible to capture complex patterns in the data and make accurate predictions. This offers a significant advantage over traditional screening and admission methods, allowing for a more objective and data-driven assessment.

Artificial intelligence is gaining more followers in university higher education, due to its important contribution. In addition, some principles have been formulated to guide its development.

2 METHODOLOGY

The research presents a qualitative-interpretative design, of a documentary type, which specified the selection procedure and the data recording (Barrero; Rosero, 2018).

In this research, 42 documents have been selected, carried out in the period 2018 – 2024; including: scientific articles, review articles and information from websites of recognized organizations. The keywords used in the searches were: Universities, artificial intelligence, education, innovation. For the selection of the documents, the following criteria were used: the year of publication, belonging to the research and being a reliable source. After reading each document, the data was entered into the bibliographic matrix, which is used to catalog the documents according to categories, which are presented in Table 1.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Objectives</th>
<th>Conclusions</th>
</tr>
</thead>
</table>

Source: Adapted from Barrero & Rosero (2018).

3 RESULTS

3.1 UNIVERSITY

An institution of higher education offering tuition in mainly non-vocational subjects and typically having the power to confer degrees. Also: the members, colleges, buildings, etc., of such an institution collectively (Oxford English Dictionary, 2024).

According to what is mentioned by the UNESCO (2023):

There are around 254 million students enrolled in universities around the world. Yet despite the boom in demand, the overall enrollment ratio is 42% with large differences between countries and
regions. UNESCO is the only United Nations agency with a mandate in higher education and works with countries to ensure high quality higher education opportunities are available to everyone. It places a special focus on inclusion, the recognition of qualifications and quality assurance, particularly in developing countries.

The International Association of Universities, created under the auspices of UNESCO in 1950, is a membership-based organisation serving the global higher education community through: expertise & trends analysis, publications & portals, advisory services, peer-to-peer learning, events, global advocacy (IAU, 2024).

UNU (United Nations University), headquartered in Tokyo, Japan, is a go-to think tank for impartial research on the pressing problems of human survival, development, and welfare. With more than 400 researchers worldwide, UNU’s core mission is to generate research that makes a difference on the big issues and encourages the rethinking of existing policies and perspectives (UNU (2021)).

Figure 1. Top global universities

According to what is mentioned by the Forbes (2023):

Every year, Forbes spotlights the 500 U.S. colleges that check all the boxes: impressive graduation rates, high graduate salaries, and great outcomes for low-income students, to name a few. Princeton University (#1)—with median early-career salaries north of $88,000 and a 98% six-year graduation rate—aces these criteria. But it’s not just the Ivy League that delivers on the promise of a quality education. More than a dozen public colleges landed in the Top 50, including the University of California, Berkeley (#5); the University of Michigan, Ann Arbor (#23); the University of Virginia (#29); and the University of Maryland, College Park (#34).
Figure 2. Top universities in Latin America and the Caribbean

<table>
<thead>
<tr>
<th>Rank</th>
<th>University</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Universidade de São Paulo</td>
<td>Brazil</td>
</tr>
<tr>
<td>2</td>
<td>Pontificia Universidad Católica de Chile (UC)</td>
<td>Chile</td>
</tr>
<tr>
<td>3</td>
<td>Universidade Estadual de Campinas (Unicamp)</td>
<td>Brazil</td>
</tr>
<tr>
<td>4</td>
<td>Tecnológico de Monterrey</td>
<td>Mexico</td>
</tr>
<tr>
<td>5</td>
<td>Universidad de Chile</td>
<td>Chile</td>
</tr>
<tr>
<td>6</td>
<td>Universidad de los Andes</td>
<td>Colombia</td>
</tr>
<tr>
<td>7</td>
<td>Universidad Nacional Autónoma de México (UNAM)</td>
<td>Mexico</td>
</tr>
<tr>
<td>8</td>
<td>Universidade Federal do Rio de Janeiro</td>
<td>Brazil</td>
</tr>
<tr>
<td>9</td>
<td>Universidad de Buenos Aires (UBA)</td>
<td>Argentina</td>
</tr>
<tr>
<td>10</td>
<td>UNESP</td>
<td>Brazil</td>
</tr>
</tbody>
</table>

Source: Jayawickrama (2023)

Figure 3. Top 10 universities in Europe 2024

<table>
<thead>
<tr>
<th>Europe Rank 2024</th>
<th>World University Rank 2024</th>
<th>World University Rank 2023</th>
<th>University</th>
<th>Country/region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>University of Oxford</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>=3</td>
<td>University of Cambridge</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>10</td>
<td>Imperial College London</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>=11</td>
<td>ETH Zurich</td>
<td>Switzerland</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>22</td>
<td>UCL</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>=6</td>
<td>=30</td>
<td>29</td>
<td>University of Edinburgh</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>=6</td>
<td>=30</td>
<td>30</td>
<td>Technical University of Munich</td>
<td>Germany</td>
</tr>
<tr>
<td>8</td>
<td>33</td>
<td>41</td>
<td>École Polytechnique Fédérale de Lausanne</td>
<td>Switzerland</td>
</tr>
<tr>
<td>=9</td>
<td>=38</td>
<td>35</td>
<td>King's College London</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>=9</td>
<td>=38</td>
<td>33</td>
<td>LMU Munich</td>
<td>Germany</td>
</tr>
</tbody>
</table>

Source: Times Higher Education (2023)

The European Universities alliances are a flagship initiative of the European strategy for universities. The initiative sets the ambition to expand to 60 European Universities alliances involving more than 500 higher education institutions by mid-2024 (European Commission, 2024).
### Figure 4. The best universities in Asia 2024: the top 10

<table>
<thead>
<tr>
<th>Asia Rank 2024</th>
<th>Asia Rank 2023</th>
<th>University</th>
<th>Country/region</th>
<th>World University Rank 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Tsinghua University</td>
<td>China</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Peking University</td>
<td>China</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>National University of Singapore</td>
<td>Singapore</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>Nanyang Technological University, Singapore</td>
<td>Singapore</td>
<td>32</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>The University of Tokyo</td>
<td>Japan</td>
<td>29</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>University of Hong Kong</td>
<td>Hong Kong</td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Shanghai jiao Tong University</td>
<td>China</td>
<td>43</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>Fudan University</td>
<td>China</td>
<td>44</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>Zhejiang University</td>
<td>China</td>
<td>55</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>Chinese University of Hong Kong</td>
<td>Hong Kong</td>
<td>53</td>
</tr>
</tbody>
</table>

Source: Times Higher Education (2024)

### Figure 5. The top 10 universities in Africa 2024

<table>
<thead>
<tr>
<th>Africa Rank 2024</th>
<th>World University Rank 2024</th>
<th>World University Rank 2023</th>
<th>University</th>
<th>country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>167</td>
<td>160</td>
<td>University of Cape Town</td>
<td>South Africa</td>
</tr>
<tr>
<td>=2</td>
<td>301–350</td>
<td>251–300</td>
<td>Stellenbosch University</td>
<td>South Africa</td>
</tr>
<tr>
<td>=2</td>
<td>301–350</td>
<td>251–300</td>
<td>University of the Witwatersrand</td>
<td>South Africa</td>
</tr>
<tr>
<td>4</td>
<td>401–500</td>
<td>601–800</td>
<td>University of Johannesburg</td>
<td>South Africa</td>
</tr>
<tr>
<td>=5</td>
<td>501–600</td>
<td>401–500</td>
<td>University of KwaZulu-Natal</td>
<td>South Africa</td>
</tr>
<tr>
<td>=5</td>
<td>501–600</td>
<td>801–1000</td>
<td>University of Pretoria</td>
<td>South Africa</td>
</tr>
<tr>
<td>=7</td>
<td>601–800</td>
<td>351–400</td>
<td>University of Cape Coast</td>
<td>Ghana</td>
</tr>
<tr>
<td>=7</td>
<td>601–800</td>
<td>NR</td>
<td>Egypt-Japan University of Science and Technology (E-JUST)</td>
<td>Egypt</td>
</tr>
<tr>
<td>=7</td>
<td>601–800</td>
<td>601–800</td>
<td>North-West University</td>
<td>South Africa</td>
</tr>
<tr>
<td>=7</td>
<td>601–800</td>
<td>601–800</td>
<td>University of the Western Cape</td>
<td>South Africa</td>
</tr>
</tbody>
</table>

Source: Times Higher Education (2024)
The top global university is the MIT – Massachusetts Institute of Technology (The United States of America); the top university in Latin America and the Caribbean is the Universidade de São Paulo (Brazil); the top university in Europe is the University of Oxford (United Kingdom); the best university in Asia is the Tsinghua University (China); the top university in Africa is the University of Cape Town (South Africa); the top university in Oceania is the University of Melbourne (Australia).

### 3.2 ARTIFICIAL INTELLIGENCE

According to Europarl (2020) about AI we have the following:

AI is the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity. AI enables technical systems to perceive their environment, deal with what they perceive, solve problems and act to achieve a specific goal. The computer receives data – already prepared or gathered through its own sensors such as a camera – processes it and responds. AI systems are capable of adapting their behaviour to a certain degree by analysing the effects of previous actions and working autonomously.

The author Maheshwari (2023) mention the following:

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<table>
<thead>
<tr>
<th>University</th>
<th>Country</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Melbourne</td>
<td>Australia</td>
<td>37th</td>
</tr>
<tr>
<td>Monash University</td>
<td>Australia</td>
<td>54th</td>
</tr>
<tr>
<td>The University of Sydney</td>
<td>Australia</td>
<td>60th</td>
</tr>
<tr>
<td>Australian National University</td>
<td>Australia</td>
<td>67th</td>
</tr>
<tr>
<td>The University of Queensland</td>
<td>Australia</td>
<td>70th</td>
</tr>
<tr>
<td>UNSW Sydney</td>
<td>Australia</td>
<td>84th</td>
</tr>
<tr>
<td>University of Adelaide</td>
<td>Australia</td>
<td>=111th</td>
</tr>
<tr>
<td>The University of Western Australia</td>
<td>Australia</td>
<td>=143th</td>
</tr>
<tr>
<td>University of Technology Sydney</td>
<td>Australia</td>
<td>148th</td>
</tr>
<tr>
<td>University of Auckland</td>
<td>New Zealand</td>
<td>=150th</td>
</tr>
</tbody>
</table>

Source: Times Higher Education (2024)
Certain common examples of AI which we use in our day-to-day life are:
- Siri, Alexa and other smart assistants
- Google maps
- Live chatbots
- Self-driving cars
- Interactive video games
- Wearable sensors and devices
- Biosensors for medical purpose
- Robotic-advisors for stock trading

The OECD (2023) mention the following:

The OECD Principles on Artificial Intelligence promote AI that is innovative and trustworthy and that respects human rights and democratic values. They were adopted in May 2019 by OECD member countries when they approved the OECD Council Recommendation on Artificial Intelligence. The OECD AI Principles are the first such principles signed up to by governments. They include concrete recommendations for public policy and strategy, and their general scope ensures they can be applied to AI developments around the world.

The U.S. Department of State (2021) mention the following:

GPAI is a voluntary, multi-stakeholder initiative launched in June 2020 for the advancement of AI in a manner consistent with democratic values and human rights. GPAI’s mandate is focused on project-oriented collaboration, which it supports through working groups looking at responsible AI, data governance, the future of work, and commercialization and innovation. As a founding member, the United States has played a critical role in guiding GPAI and ensuring it complements the work of the OECD.

Figure 7. The knowledge graph of the AI framework

Source: Xu et al. (2021)
AI is becoming increasingly important in all areas of human activity, which is why standards are being established for its proper use.

3.3 EDUCATION

The contemporary language of education includes some key concepts—“schooling”, “aims”, “goals”, “curriculum”, and “pedagogy”—whose meanings are very important to the practice of education in schools and beyond (Chazan, 2022).

The UN (2023) mention the following:

Education is the key that will allow many other Sustainable Development Goals (SDGs) to be achieved. When people are able to get quality education they can break from the cycle of poverty. Education helps to reduce inequalities and to reach gender equality. It also empowers people everywhere to live more healthy and sustainable lives. Education is also crucial to fostering tolerance between people and contributes to more peaceful societies. To deliver on Goal 4, education financing must become a national investment priority. Furthermore, measures such as making education free and compulsory, increasing the number of teachers, improving basic school infrastructure and embracing digital transformation are essential.

The results show that virtual education in the times of COVID-19 for the research scenario and the sample of participants has been adequate and effective in the dimensions examined. It is concluded that the general perception of undergraduates about virtual education is favorable, in particular, with respect to the role that professors have played in each of their courses (Avendaño; Luna; Rueda, 2021).

Most of the programs contribute to the development and improvement of the students’ Emotional Intelligence, providing them with the necessary skills to face real-life situations, as well as with the ability to feel self-fulfilled in relation to the tasks carried out by them and to the devoted effort (Puertas-Molero et al., 2020).

Education is an important aspect in the development of people, which is why it must be invested at an international level.

3.4 INNOVATION

Innovation is the systematic practice of developing and marketing breakthrough products and services for adoption by customers (McKinsey; Company, 2022).

Innovation is critical across all industries; however, it’s important to avoid using it as a buzzword and instead take time to thoroughly understand the innovation process (Boyles, 2022).
According to the balance of three sub-entrepreneurship types, culture for open innovation dynamics can have different aspects, namely, entrepreneurship leading culture for open innovation dynamics, intrapreneurship leading culture for open innovation dynamics, or organizational entrepreneurship leading culture for open innovation dynamics (Yun et al., 2020).

Verganti, Vendraminelli and Iansiti (2020) mention the following:

The emergence of software, digital networks, and AI is driving widespread transformation across the economy. AI automates decision-making and learning, which is the core of innovation. The potential impact on innovation performance, as seen in the examples discussed in this article, is important. By removing the typical limitations (in scale, scope, and learning) of human-intensive design, AI can offer better performance in terms of customer centricity, creativity, and rate of innovation.

Artificial Intelligence (AI) reshapes companies and how innovation management is organized. Consistent with rapid technological development and the replacement of human organization, AI may indeed compel management to rethink a company’s entire innovation process (Haefner et al., 2021).

Innovation is very important for any type of organization and especially for universities.

3.5 UNIVERSITIES AND ARTIFICIAL INTELLIGENCE

Of the universities making AI policies, nearly half of institutions (43 percent) are working with a third party to develop AI strategy, while 30 percent are working with peer institutions or networks and 22 percent are working with professional associations (Coffey, 2024).

The authors Crompton and Burke (2023) mention the following:

These codes provide insight into how AI was used in HE. The five codes are: (1) Assessment/Evaluation, (2) Predicting, (3) AI Assistant, (4) Intelligent Tutoring System (ITS), and (5) Managing Student Learning. For each of these codes there are also axial codes, which are secondary codes as subcategories from the main category. Each code is delineated below with a figure of the codes with further descriptive information and examples.

According to Arijit Sengupta, founder of Aible, a San Francisco-based AI company, colleges and universities are starting to catch up with other industries like banking and healthcare in using AI to impact key performance indicators (Nietzel, 2022).

The authors Salas-Pilco, Yang and Zhang (2022) mention the following:

The implications of the findings for online learning in Latin American higher education are as follows: (a) to transform higher education, (b) to provide adequate professional training, (c) to improve Internet connectivity, (d) to ensure quality online learning in higher education and (e) to provide emotional support. These findings will provide valuable guidance for teachers, educational
authorities and policy makers and help them make informed decisions to use effective strategies to support online learning in higher education institutions.

The author Knox (2020) mention the following:

The first section considers two key policy documents published by the central Chinese government, which are shown to implicate educational institutions as influential actors in national and regional strategies for AI development, with a significant role in plans to train domestic expertise. The second section outlines three prominent private education companies: New Oriental Group, Tomorrow Advancing Life (TAL), and Squirrel AI. These companies are selected to represent important aspects of China’s development of educational AI applications, including the influence of a well-established private education sector, and a growing interest in international corporate activity.

The author Murerwa (2023) mention the following:

The study's findings suggest that the adoption of AI in recruitment and selection in South African universities has significant potential benefits, but also some challenges that need to be addressed. Universities and policymakers should work together to promote the ethical use of AI, while also addressing the identified challenges. Additional studies are required to explore the potential likely advantages and disadvantages of AI adoption in different contexts and to develop strategies to enhance AI adoption in recruitment and selection.

Figure 8. Key theme: Current use of AI

Source: Ziebell and Skeat (2023)

Ajay Parasram, who teaches history and international development studies at Dalhousie University, says artificial intelligence is a tool that may make the process of discovery easier, but it may also exclude important information (Chisholm, 2023).

The impact of AI on international students’ education can vary depending on factors, such as cultural context, institutional variations, and technological infrastructure (Wang et al., 2023).
3.6 THE UNIVERSITIES THAT INVEST THE MOST IN ARTIFICIAL INTELLIGENCE

Johns Hopkins University today announced a major new investment in data science and the exploration of artificial intelligence, one that will significantly strengthen the university's capabilities to harness emerging applications, opportunities, and challenges presented by the explosion of available data and the rapid rise of accessible AI (Johns Hopkins University, 2023).

3.7 THE BEST GLOBAL UNIVERSITIES FOR ARTIFICIAL INTELLIGENCE

Figure 9. The best global universities for artificial intelligence

<table>
<thead>
<tr>
<th>University</th>
<th>Subject Score</th>
<th>Global Score</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsinghua University</td>
<td>100.0</td>
<td>81.3</td>
<td>N/A</td>
</tr>
<tr>
<td>Nanyang Technological University</td>
<td>97.0</td>
<td>79.0</td>
<td>24,651</td>
</tr>
<tr>
<td>Chinese University of Hong Kong</td>
<td>91.3</td>
<td>74.7</td>
<td>18,468</td>
</tr>
</tbody>
</table>

Source: USNEWS (2024)
Figure 10. The best universities in the World ranked based on their research performance in Artificial Intelligence (AI)

They have been considered the best universities in artificial intelligence: Tsinghua University, Nanyang Technological University, Chinese University of Hong Kong, Stanford University, University of California – Berkeley and Massachusetts Institute of Technology.

4 DISCUSSION

The results of our research coincide with the following authors, Holmes and Tuomi (2022) “as the technological landscape around us rapidly changes, we also need to think about what role education has in this changing world. Technical innovation and change is often assumed to mean progress but, in education, we also need to ask when change equals welcomed development”, Abulibdeh, Zaidan & Abulibdeh (2024) “the integration of AI tools in education has emerged as a catalyst for reshaping learning
experiences, fostering innovation, and preparing individuals for the digital age. AI chatbots such as ChatGPT have garnered widespread attention and possess the potential to revolutionize various aspects of education” & Vinuesa, Azizpour, Leite et al. (2020) “the emergence of artificial intelligence (AI) and its progressively wider impact on many sectors requires an assessment of its effect on the achievement of the Sustainable Development Goals”.

5 CONCLUSIONS

About the general objective of the research, to determine the advances related to the universities and artificial intelligence. Artificial intelligence is gaining more followers in university higher education, due to its important contribution. In addition, some principles have been formulated to guide its development. The top global university is the MIT – Massachusetts Institute of Technology (The United States of America); the top university in Latin America and the Caribbean is the Universidade de São Paulo (Brazil); the top university in Europe is the University of Oxford (United Kingdom); the best university in Asia is the Tsinghua University (China); the top university in Africa is the University of Cape Town (South Africa); the top university in Oceania is the University of Melbourne (Australia). AI is becoming increasingly important in all areas of human activity, which is why standards are being established for its proper use. Education is an important aspect in the development of people, which is why it must be invested at an international level. Innovation is very important for any type of organization and especially for universities.

About the first specific objective of the research, the university that invest the most in artificial intelligence was Johns Hopkins University.

About the second specific objectives of the research, the best global universities for artificial intelligence were Tsinghua University, Nanyang Technological University, Chinese University of Hong Kong, Stanford University, University of California – Berkeley and Massachusetts Institute of Technology.
REFERENCES


