Udacity Report: An overview of the most popular MOOCs, analyzing Udacity on the IT training market according to IDC

In 2021, IDC MarketScape revealed Udacity as a major vendor[1] (later classified as Leader) in the IT Training Market in the United States, alongside HPE and SkillSoft. Within the major players, such as Udemy, edX and Coursera, the IT education market is still one of the most popular markets[2], due to easy access to educational content.

This case study will focus on the inters over time of customers in the IT educational area and the challenges encountered by MOOCs, especially for Udacity.

Udacity summary profile

Udacity is an educational company aiming to combine the flexibility of online learning with the benefits of human instruction. The teaching method is specific and allows learners to create sample work to prove it. It has product suites tailored to individuals, enterprises, and governments.

Udacity's key points

The platform presents the following strengths and encounters some challenges:

Strengths (based on) :

- Clients appreciating:
  - ✓ Its partnerships with technology vendors
  - ✓ The variety in lengths of courses.
  - ✓ The easy approach to purchasing
  - ✓ The quality of presentation and delivery

- Others:
  - ✓ Helping clients customize content or paths
  - ✓ Having a strong refresh and update process for its content
  - ✓ Producing authoritative content
  - ✓ Offering a range of pricing and packaging approaches
  - ✓ Students appreciate its self-paced learning option

Challenges

For opportunities and market position, it can improve:

- Content or material quality;
- IT process training offering;
- Certification test preparation offering;
- Mentoring services;
- Relationships with the best clients;
- Availability or relevance of additional training services;
- Integration of labs into instruction.

Major players vs Udacity

The IDC article listed Coursera, Udacity, Udemy and edX as the worldwide major players in the IT training industry. In 2022, Coursera dominated the market in terms of online education, according to Google Trends[3]. Positioning on the x-axis shows interest over time as well as the player's ability to provide the services that customers need. Udacity's search interest remained consistent throughout the year as compared to the rest of the courses.
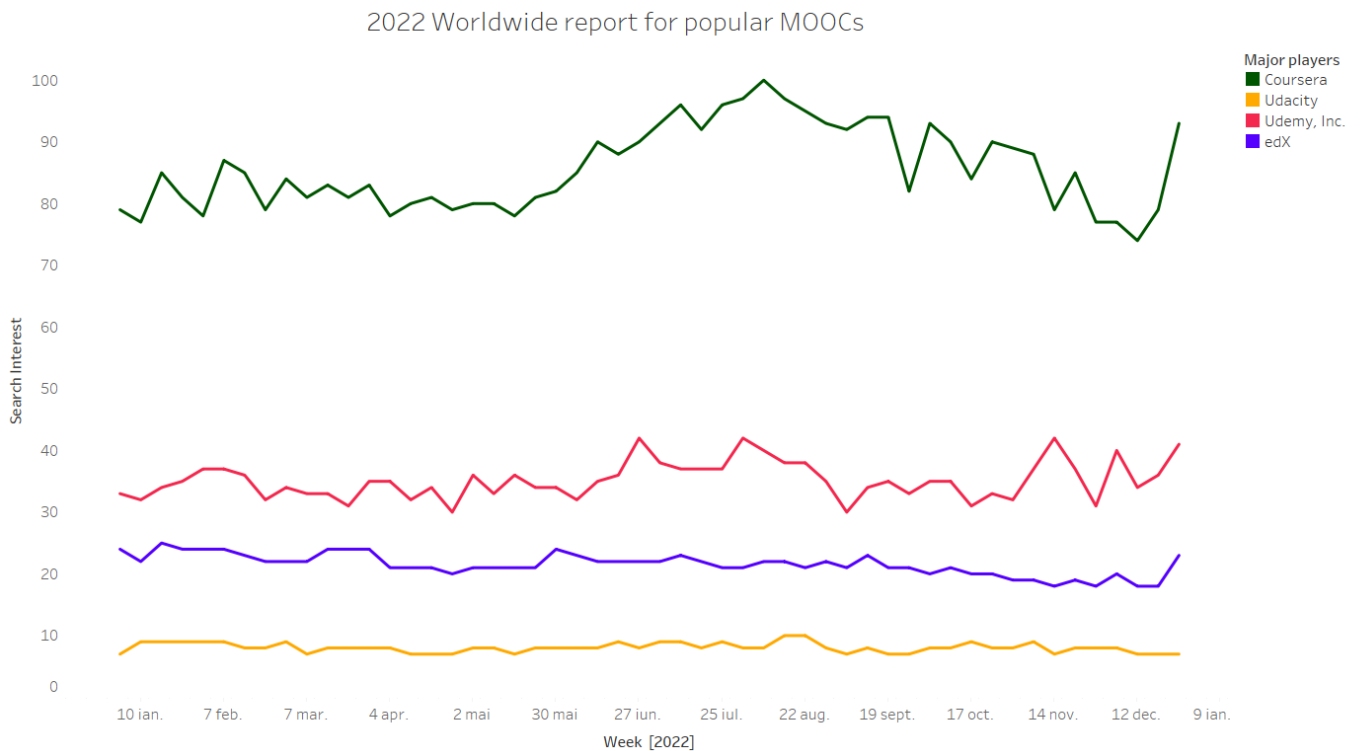

Fig.1: Major players in 2022 according to Google Trends.

Major vendors vs Udacity

For this case study, there are two vendors compared with Udacity: HPE and Skillsoft. The search interested in Udacity presents the maximum value in august.
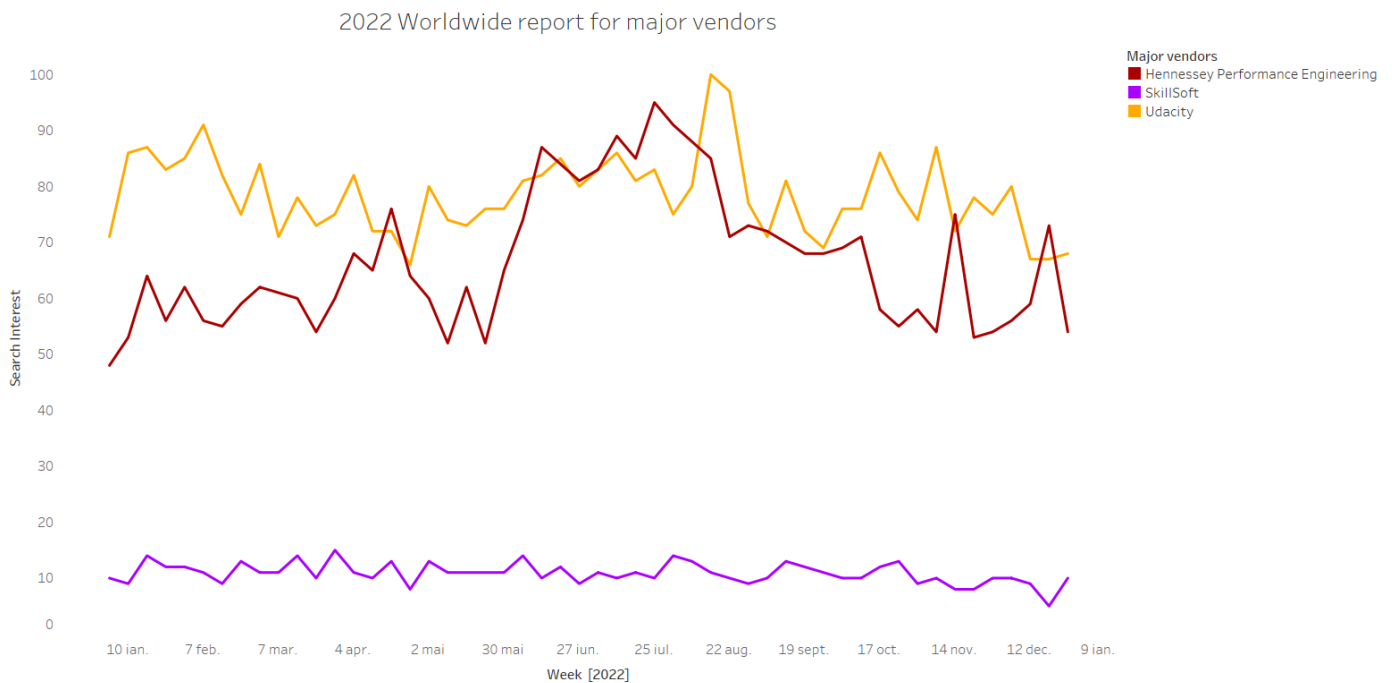

Fig.2: Major vendors in 2022 according to Google Trends.

Analysis of major players in IT training

Noticing that Coursera reached the peak of search interest in 2022, there come the following questions:

❶ Which demographic makes up the majority of subscribers?

❷ Why is this player so popular among the others?

To answer the questions, Fig.3 and Fig.4 aim to understand the relationship between the customers' preferences and the market offer. Most of the students are enrolled on courses designed for the beginner level and the minority is represented by the advanced level. *What does it mean?*

Before answering the question, keep in mind that Coursera mainly works with universities, colleges, corporations, and governments. The major advantage given by this MOOC consists in the offering of complete master's degrees and professional certificates.

Another explanation for the increased number of beginners is related to the prices on the site. According to a Upskillwise article[4], there are 2600+ free courses (which don't offer a certificate) and also affordable courses and degree programs.
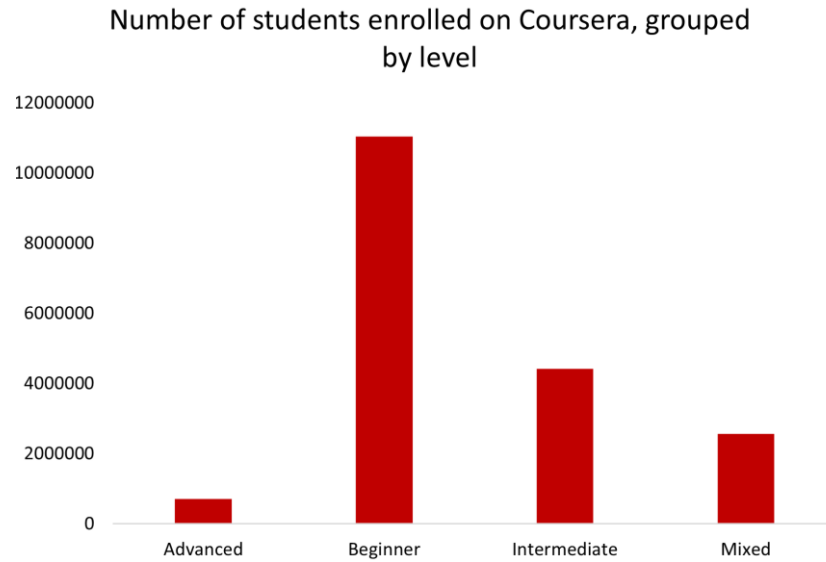
Fig.3: Number of customers on Coursera, classified by their difficulty.

Introduced in 2017[5], the step-by-step learning path is essential for ones who want to start a career in a certain domain but do not have an idea about how to consolidate this path in order to achieve their goals.

They focus on a variety of learning paths designed for learners looking to enter a growing field such as data science, machine learning, and others.

This is also a reason for providing several courses for students who want to build their carrier or change their perspective over time.
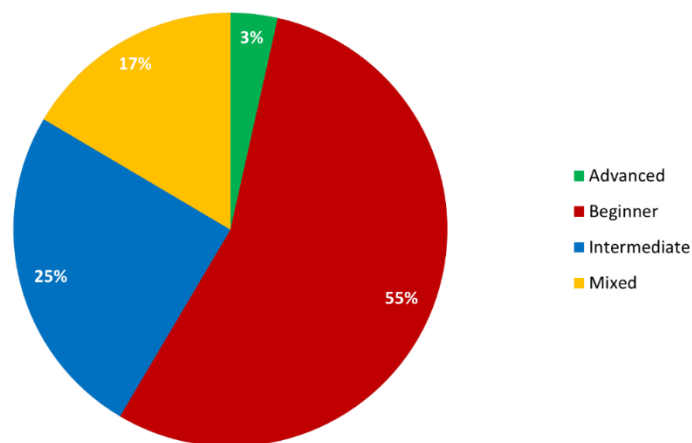

Fig.4: Percentage of customers on Coursera, classified by their level.

To emphasize the worldwide impact of Udacity, there is another top player taken into account, namely Udemy.

Founded two years before Coursera, the main asset consists of learners' improvements in job-related skills in a wide range of courses.

Under a Learnopoly review[6], it will be presented the essential characteristics of these MOOCs.

On this platform, the courses can be created and offered by anyone. Therefore, the pricing is reduced and here comes the major difference between Coursera and Udemy: *only the first one brings the possibility of achieving an accredited certificate*.

Consider the next graph. A noticeable aspect assesses the correlation between the price and the difficulty level: in this period (2017), most of the free courses (depicted as a filled circle) are chosen by beginners.
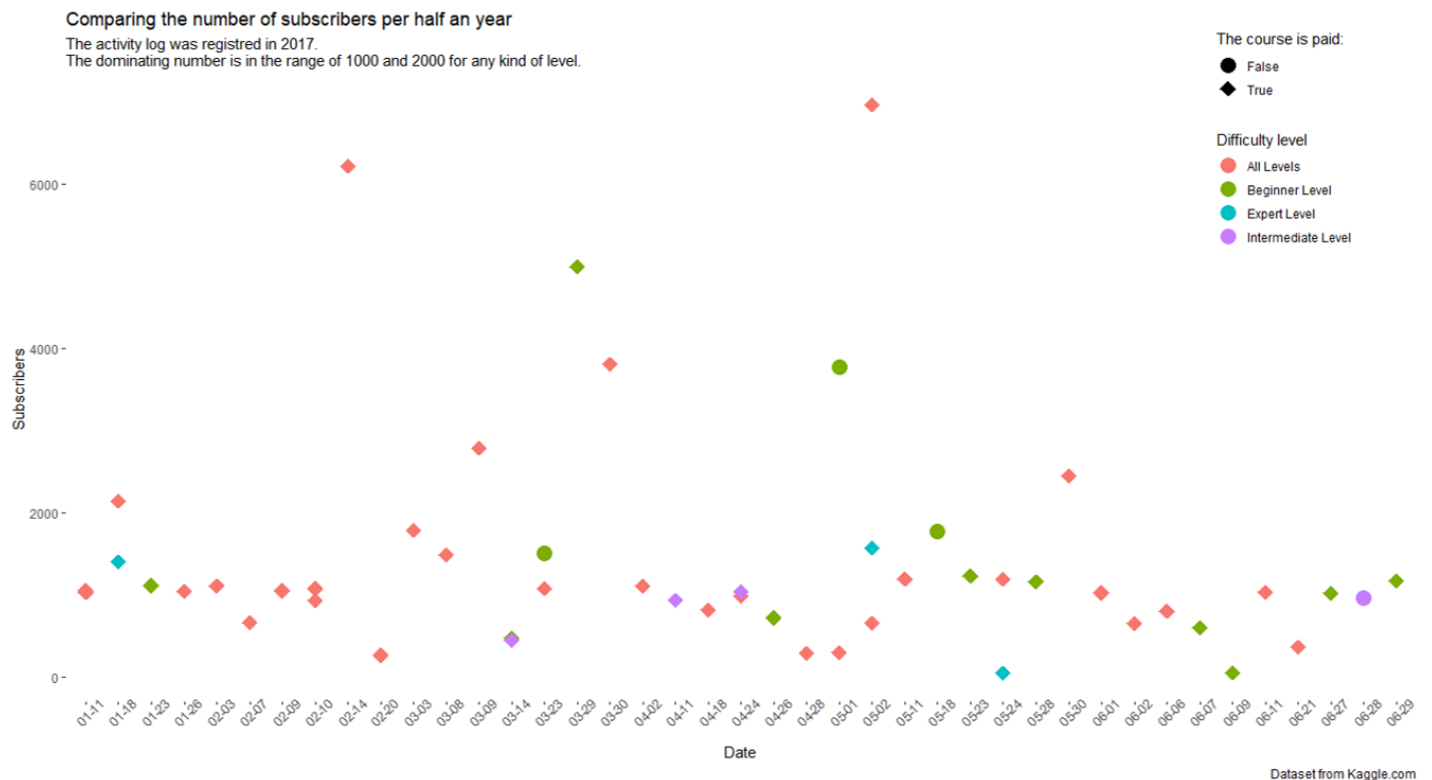

Fig.5: Scatter plot showing the subscribe rate in half a year.

Data about Udacity: what does it reveal?

To establish a comparison between the major players and vendors, a 2021 dataset published on Udacity will be considered for further analysis.

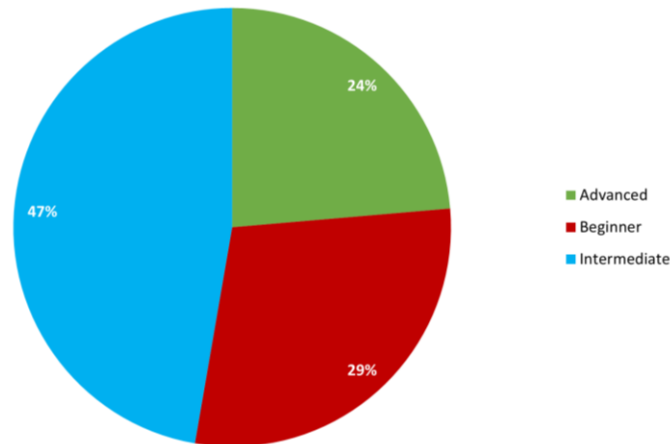**COURSES CLASSIFIED BY THE LEVEL ON UDACITY**

Fig.6: Percentage of students on Udacity with their respective level.

As a primary difference, there are a greater number of intermediate buyers.

At first sight, it seems that the aspect is self-explanatory due to the several intermediate courses on the platform. Thus, it highlights the first part of the report, respectively the strength of the vendor.

Besides, another factor to consider is the rating. The rating plays an essential role in any domain due to its influence on the selection decision.
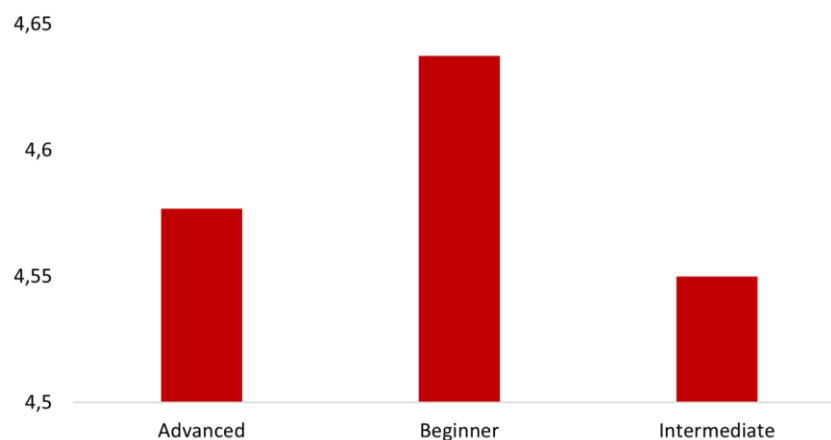

Fig. 7: A classification of courses based on their difficulty in accordance with the associated rating.

The next graphs aim for the courses' feedback, from 1 to 5, considering their level of difficulty.

A distinct detail is remarked through these three graphs, respectively the minimum value of appreciating starts with 4, which leads to the first conclusion regarding Udacity: *the buyers are overall satisfied with the platform*.

Course Rating: Beginner Level

Course	Rating
Agile Software Development	4.60
AI Product Manager	4.30
AI Programming with Python	4.60
Android Basics	4.80
Business Analytics	4.70
Data Visualization	4.60
Digital Marketing	4.70
Introduction to Cybersecurity	4.50
Introduction to Programming	4.70
iOS Developer	4.60
Marketing Analytics	4.60
Predictive Analytics For Business	4.70
Product Manager	4.70
Programming for Data Science with R	4.80
SQL	4.60
UX Designer	4.70

Fig.8: Beginner level courses and their corresponding ratings on Udacity.

Fig. 9: Intermediate level courses and their corresponding ratings on Udacity.
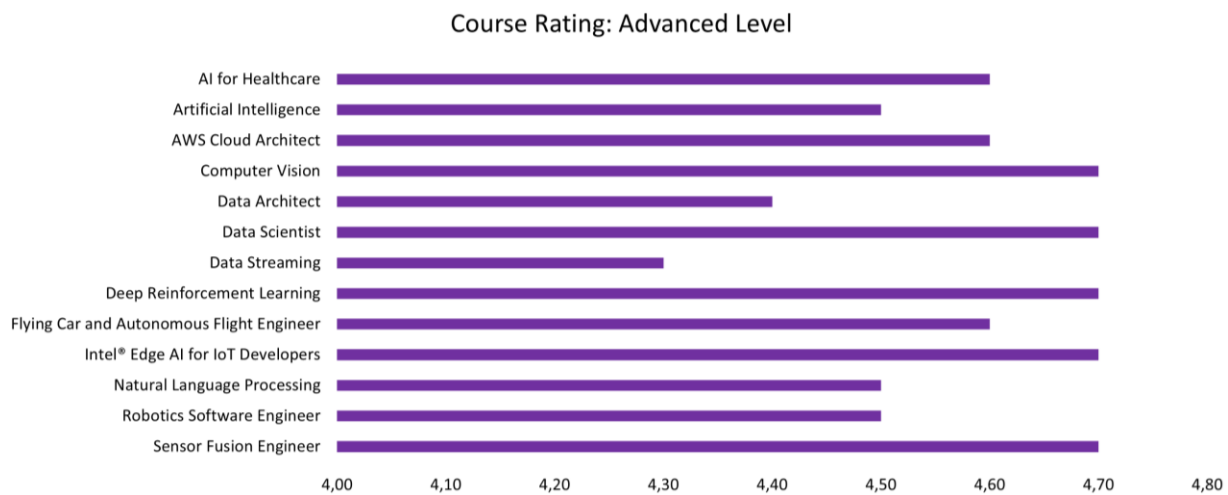

Fig.10: Advanced level courses and their corresponding ratings on Udacity.

As an overview, Table 1 comes up with the second conclusion related to Udacity's rating scores: the buyers tend to appreciate the content focused on the basics.

Course Name	Level	Rating
Android Basics	Beginner	4.8
Programming for Data Science with R	Beginner	4.8
Cloud DevOps using Microsoft Azure	Intermediate	4.2

Table 1: Udacity's most/least appreciated courses.

In contrast to Coursera, which is linked to international colleges and universities, Udacity offers so-called schools, which are step-by-step programs related to subjects like cybersecurity and business. In this way, students can "hone" their skills and obtain certificates.

The percentage of courses offered by Udacity's organizations
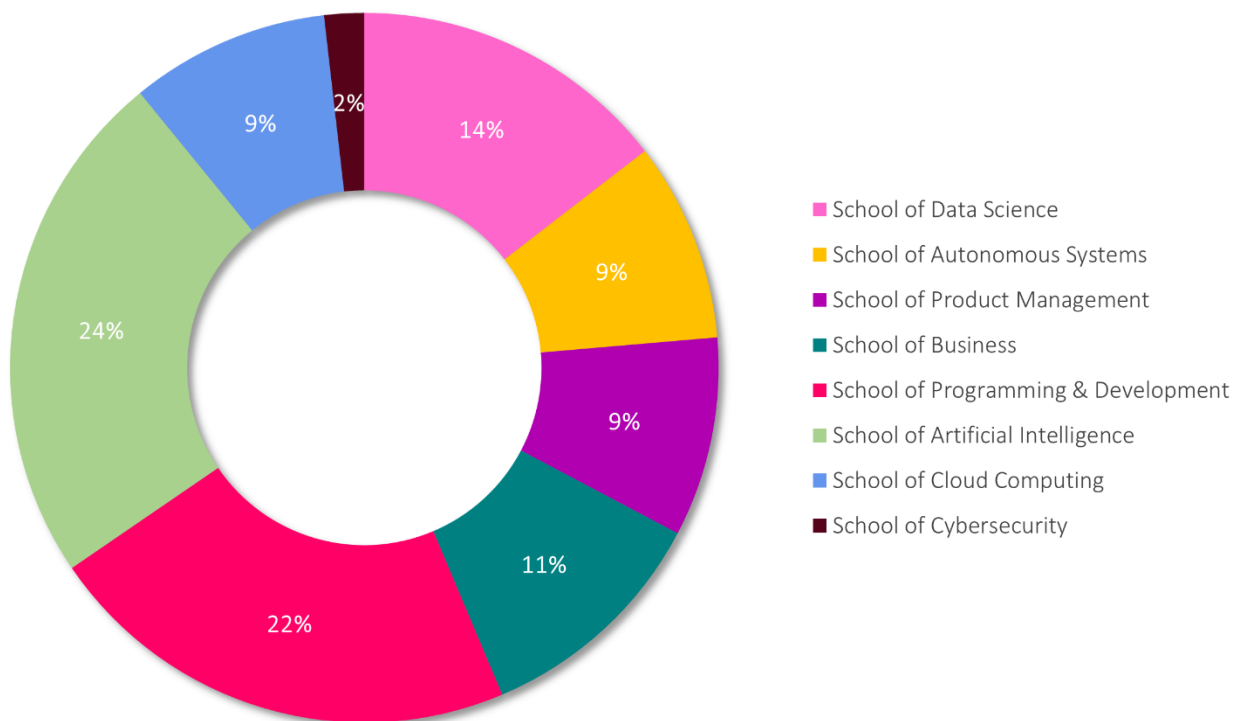

Fig.11: The percentage of schools on Udacity.

The most popular schools are related to the tech area, including AI, Programming & Development and Data Science. Another popular field is Business.

Average rating per organization

Legend:
- School of Cybersecurity
- School of Cloud Computing
- School of Artificial Intelligence
- School of Programming & Development
- School of Business
- School of Product Management
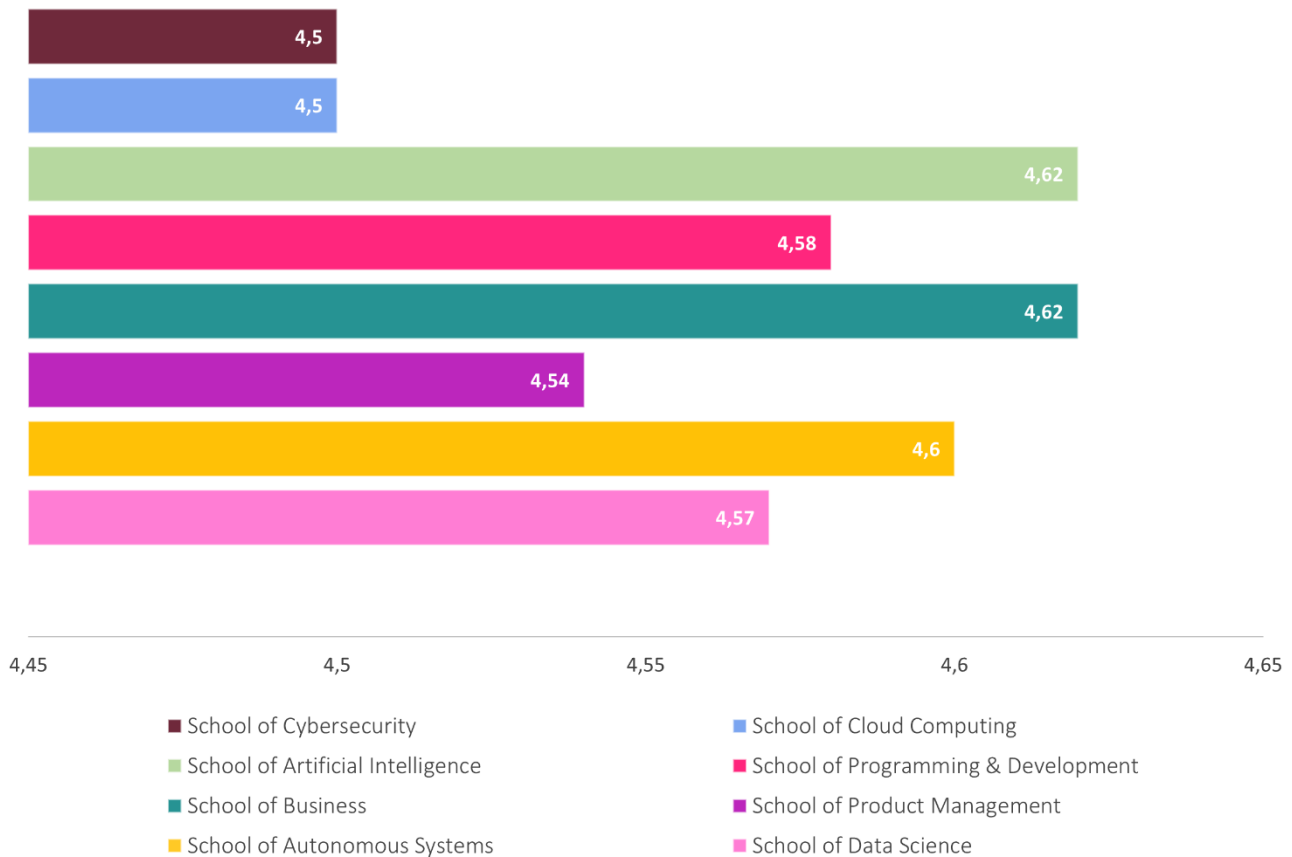- School of Autonomous Systems
- School of Data Science

Fig. 12: Average rating per school.

The maximum score is reached by the most popular learning category: Artificial Intelligence, followed by Business (not so popular, but well received by the audience). This ecosystem involves Nanodegree Programs, defined as credential programs[7].

The biggest advantage of these courses is their feature to offer practical real-world experience, designed for practical applications and career services (Github review, Linkedin profile optimization); the last aspect influencing the perception of the platform. That is the reason for the *pricing*.

The subscription for Nanodegrees starts at $399 per month, while for Coursera the individual courses range from $29 to $99 per month. The price of $399 can be justified due to the provided perks on Udacity, such as personalized feedback, verified certificates, work reviews and personal coaching.

Let's go back to the first part of the report. Fig.1 depicts Udacity's search interest as being the lowest compared to its competitors.

Worldwide statistics (Fig.13), however, show that Udacity has a tremendous influence in Egypt since it is a constant rival of Coursera in the country (Fig.14).
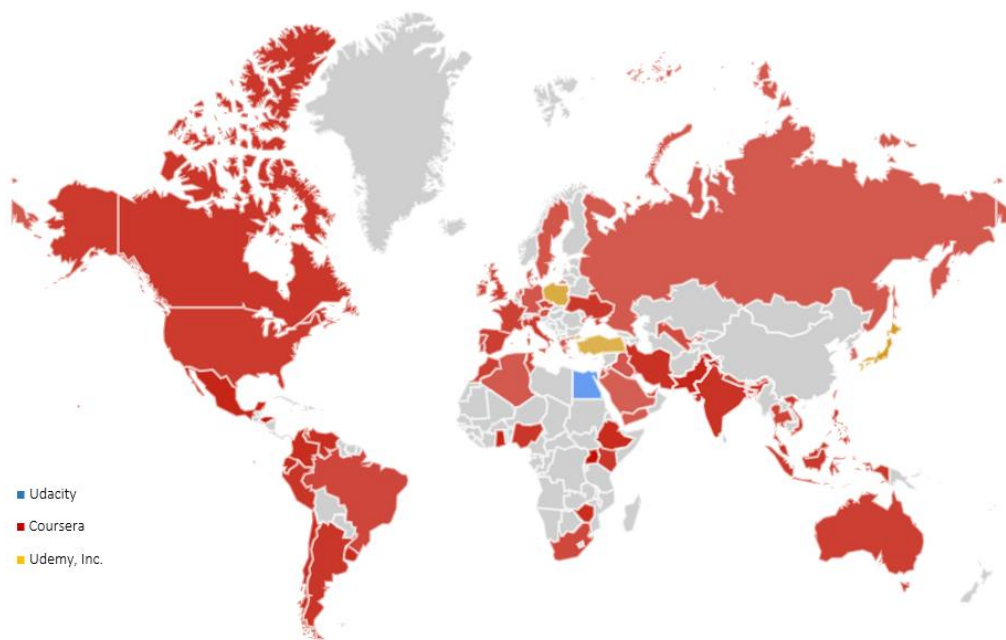
Fig.13: Global statistics for Major players.

*Note: For countries depicted with grey, the search doesn't have enough information to present.
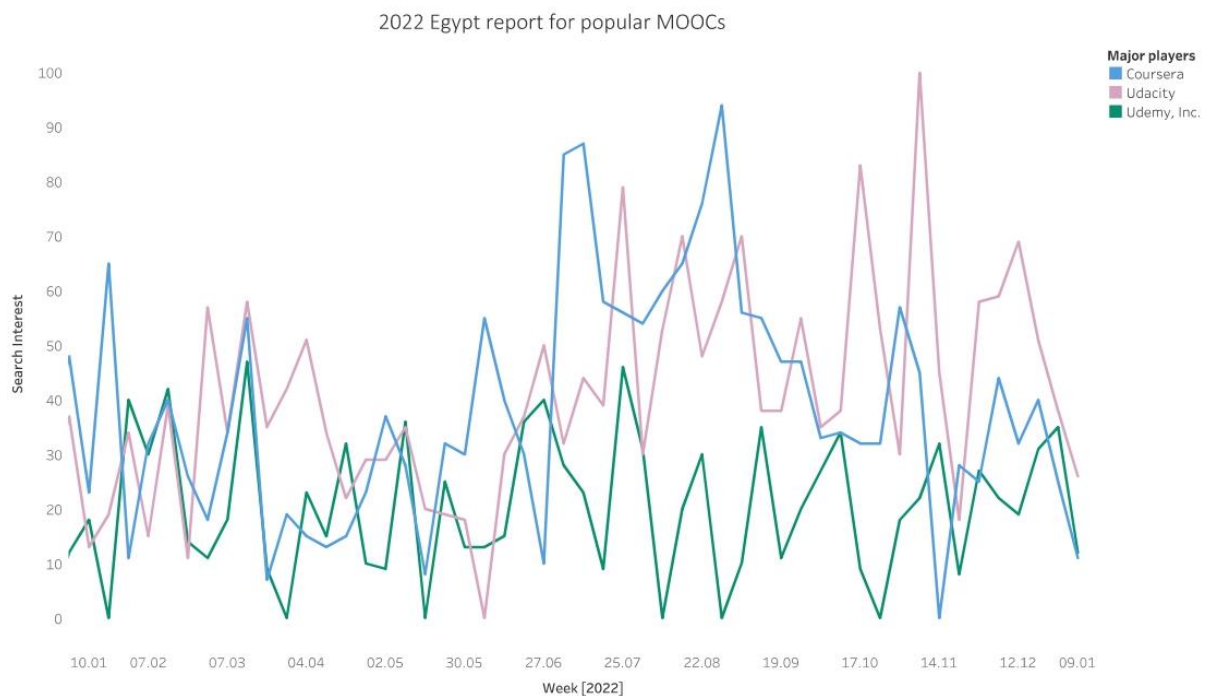

Fig.14: Major players in Egypt.

It's not surprising since Udacity's partnership with the Egyptian Government develops software increasing talent, reaching up to 12x ROI expansion[8].

Conclusion

The research focused on the analysis of the most well-known MOOCs in comparison with Udacity, all leading in the international IT training Market.

The evaluation considered the IDC MarketScape assessment significant to analyze the accuracy of Udacity's performance and ability to impose in the industry.

The *key capabilities* on the platform consist in Nanodegree programs which give the ability to the students to enter and experience *real-life challenges*.

Furthermore, it's important to note that the LinkedIn profile revision and GitHub reviews are assured by *professionals*, but set side by side with popular vendors, the main disadvantage is represented by the expensive monthly subscription and the lack of unproven credentials for Nanodegrees. It is somehow justified by the quality of the courses; all delivered information is constantly updated and the courses are held by industry experts.

References

[1]: https://www.udacity.com/

[2]: https://www.prnewswire.com/news-releases/smart-education-and-learning-market-size-worth-423-2-billion-by-2025-grand-view-research-inc--827599711.html

[3]: https://trends.google.com/trends/?geo=US

[4]: https://upskillwise.com/reviews/coursera/

[5]: https://blog.coursera.org/new-coursera-start-finish-learning-paths-starting-new-career/

[6]: https://learnopoly.com/udemy-vs-coursera/

[7]: https://www.udacity.com/blog/2016/07/nanodegree-101.html

[8]: https://www.udacity.com/government/overview

Abbreviations

HPE	Hewlett Packard Enterprise Company
IDC	International Data Corporation
MOOC	Massive open online course
ROI	Return of Investment

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