

ONLINE PLATFORM COURSES BETWEEN EDUCATION AND BUSINESS

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Abstract

Every year millions of people choose online platform courses to acquire qualitative and practical knowledge. This research aims to portray the effort of online platforms in providing competitive education. Among the advantages of online courses, we can mention the speed, flexibility, financial accessibility, the varied portfolio of available topics, the modern approach, and the regularly updated information. During the difficult situation caused by covid-19 in 2020, online platforms became the trustful support for students around the globe. The courses have suffered countless improvements to contribute to the economic recovery after the pandemic, providing efficient business ideas, cyber knowledge, technological preparation, and various language courses. The mission of Coursera is making the knowledge of some of the world's leading experts available to anyone. The courses resulting from the collaboration between the top universities and the business community have won the appreciation of thousands of people with modest incomes, who otherwise could not benefit from a quality education that would allow them to acquire the knowledge necessary to get a better job. Categories such as Design, Business, Marketing, IT and Software successfully combine innovation in learning and teaching. Udemy, over the years, managed to successfully combine being a business and educate people. The success of online courses among the population of the United States of America is greater than anywhere else, but in 2020 Europeans activity on the Coursera and Udemy platforms has increased significantly.

Keywords: Coursera; Udemy; large scale learning; connective knowledge

JEL Classification: I23, I25, I29

1. Introduction

Lately, open online courses becoming an essential source of information because flexibly provides learning material. Open online courses became widely known to the world in 2011 after professors from Stanford University created educational videos that they made available to the public through free online platforms. In 2012, Coursera, Udacity and Udemy became known, and later edX, among the European platforms such as Futurelearn, OpenLearn and Iversity. (Baturay, 2015, p. 427) If we analyze the profile of the online learners, we will notice that they are vocational students, educators, researchers, hobby students and future students.

Due to the covid-19 pandemic that marked the year 2020, by closing schools and universities around the world, forcing the continuation of the educational process in the virtual environment, the courses provided by online platforms have become very handy. Millions of people have accessed platforms like Coursera, Udemy, edX, Alison, Creative Live to learn from specialists.

2. Literature Review

Korableva O., Durand T., Kalimullina O., Stepanova I. studied the user's satisfaction with the online platforms using the example of Coursera and Open Education. (Korableva O. at al, 2019) Cetina I., Goldbach D., and Manea N. in 2018 conducted a comparative study between the Udemy platform and the platforms: Coursera, Lynda, Udacity, Khan Academy, Codecademy, Bloc, Iversity, based on three criteria: price, quality, and course area. (Cetina I. at al, 2018, p. 50) Shapiro H. B., Lee C. H., Roth N. E. W., Li K., Çetinkaya-Rundel M., & Canelas D. A, to understand better the student's experience with Coursera analyzed 10.954 interviewees: 6.183 from participants in the chemistry course (Introduction to Chemistry), and 3.576 from participants in the statistics course

(Data Analysis and Statistical Inference), they concluded that the main reason for taking or staying in both courses was students' desires to learn and improve their knowledge about the topic. (Shapiro H.B., et al, 2017) Baraka M., Watted A., Haick H., studied the impact of language and culture on motivation to learn in online environments, especially between the English and Arabic participants. (Baraka M., et al, 2016) Baggaley J. specified that online courses tend not to be based on largely accepted instructional principles, and it is a central problem, that massive student numbers are impossible to handle for teachers. (Baggaley J., 2014) The study conducted by the Babson and Quahog research group based on 4.726 institutions with a total of 2.831 responses analyzes the learning outcomes of online courses and face-to-face learning between 2012-2013; online enrollments growth between 2002 - 2012; online student discipline between 2005-2013, and retention of students in 2004, 2009, and 2013. (Allen I.E., Seaman J., 2014) Kay J., Reimann P., Diebold E., & Kummerfeld B. compared teachers, and students view about online courses, and their potential according to modern educational goals. (Kay J. et al, 2013) Murphy and Monk showed that physicians promote massive open online courses for continuing medical education, especially for those in remote locations. (Murphy K.& Monk P.L., 2013, p.165) Romiszowski in his paper emphasizes that massive open online courses practices are not new. (Romiszowski, 2013). Lee Y., Choi J. identified 69 factors that influence students about online courses decisions to dropout and classified them into three main categories: student factors, course/program factors, and environmental factors. (Lee Y, Choi J., 2011)

3. Methodology

Methods and techniques such as scientific observation, documentary analysis and conclusions were used in this article. To provide relevant data, I tracked the activity of the Coursera and Udemy platforms during 2020 and participated in online courses in the Business category. I checked monthly the offer of new courses on platforms and followed their popularity to have an overview of the adaptability of the platforms to people's needs.

4. The activity of online platforms

The potential for open educational resources in higher education has long been discussed because many believe it contributes to increase access, reduce cost, and enhance educational quality. While Coursera over the years has developed a partnership with prestigious universities to provide quality free courses, Udemy relies on the courses of business professionals. In the thirteen categories, the price of the courses starts from 11,99 euros and can reach 199,99 euros in the case of business, human resources, and project management courses.

4.1. Coursera

Founded in 2012 by Daphne Koller and Andrew Ng, the online platform Coursera over the years has become the meeting place between leading experts and those who want to learn around the globe. In partnership, with more than 200 universities, the platform provides flexible, job-relevant, free online learning to individuals and organizations. The teaching methods used are primarily information transmission, computer marked assignments, peer assessment, chapter tests and online study groups. (Bates T, 2019) The platform keeps track of all students and staff activity details because learning behaviour allows them to see when participants drop out: after the first week, after the second week, or after watching the introductory videos. These dates are used constantly to improve the courses. According to the Coursera survey data in 2013 the participant's profile was: doctoral students 5.4%, high school students 11.8%, associates 8.2%, bachelor's degree students 42.8% and master's degree students 36.7%. (Baturay, 2015, p. 430) In 2020, the

participant's profile is the following: doctoral students 5,8%, high school students 14%, bachelor's degree students 40,5% and master's degree students 39,7%.

The platform courses are divided into 11 categories, and the educational offer on 31.12.2020 reaches 4.313 courses as we can see in figure no.1. In addition to courses, the 1.782 guided projects represent an excellent opportunity for knowledge testing. For more effective learning, the materials are grouped by level: beginner (46%), intermediate (31%), advanced (3%) and mixed (20%). (<https://www.coursera.org/>) The duration of the courses can be divided into four categories: 2 hours (17%), 1-4 Weeks (27%), 1-3 Months (46%), and 3+ Months (10%).

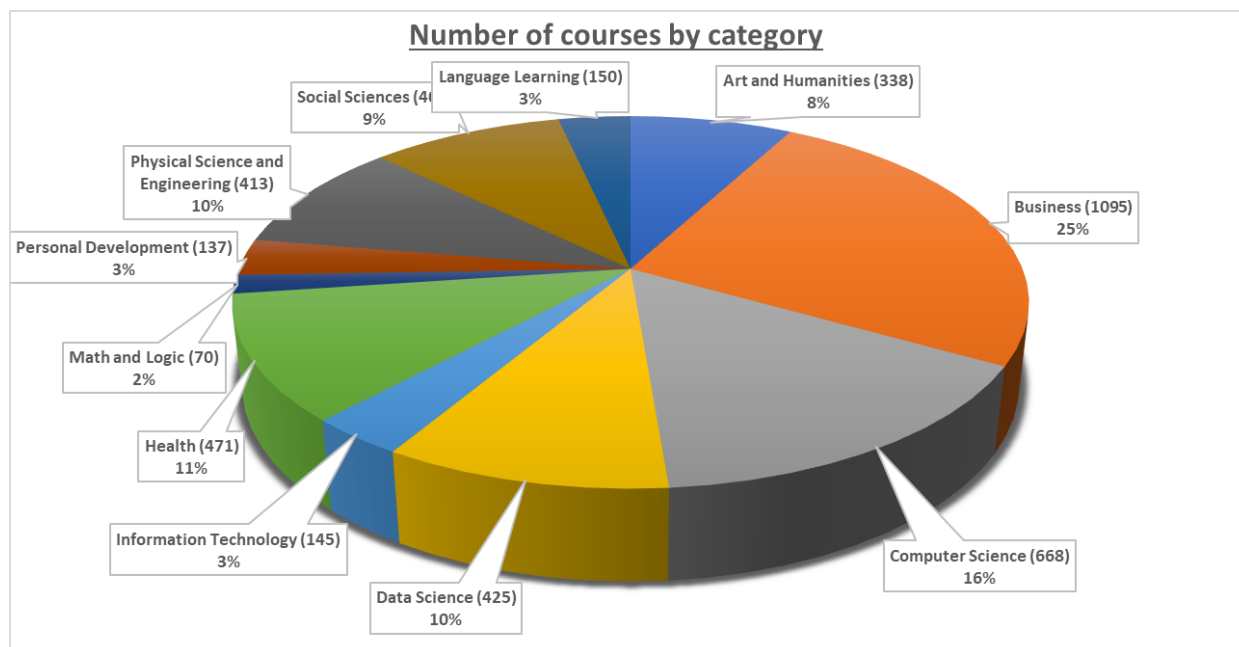


Figure No. 1 Number of courses by category

Source: created by the author, based on information collected from the Coursera platform

Courses in the Art and Humanities category with the three subcategories: History, Music and Art and Philosophy in 2020 recorded an average of 20.975 registrations, with 10.120 more than in 2019 when this number was 10.855. Among the most popular courses, we can mention Buddhism and modern psychology (505.294 number of enrolled) offered by Princeton University; Fundamentals of graphic design (461.746) provided by the California Institute of the Arts (CALARTS); Modern art & ideas (372.566) Fashion as design (228.053) submitted by the Museum of Modern Art (MoMA). Business category with the subcategories Leadership, Management, Finance, Marketing, Entrepreneurship, Business essentials and Business strategy in 2020 recorded an average of 25.694 enrollments, with 7.398 more than 18.296 in 2019. The most appreciated being: Successful negotiation: essential strategies and skills (960.054) offered by the University of Michigan; Financial markets (808.681) provided by Yale University; Personal finance (382.682) given by Universidad Nacional Autónoma de México; Financial engineering and risk management (357.175) submitted by the Columbia University and Project management: the basics for success (334.605) offered by the University of California. Computer Science, with the subcategories Software development, Mobile and Web development, Algorithms, Computer security and networks, Design, and Product in 2020 had an average of 27.747 registrations with 8.484 more than 19.263 in 2019. Courses that have enjoyed great popularity: Programming for everybody (2.030.546) and Python for everybody (943.263) offered by the University of Michigan; Algorithms I (774.220) provided by Princeton University and Python data structures (697.472) submitted by the University of Michigan. Data Science, with the subcategories Probability and statistics, Data analysis and Machine learning in 2020 had an average of 38.988 registrations, with

7.778 more than in 2019 when this number was 31.210. Among the most popular courses of the category, we can mention Machine learning (3.850.168) offered by Stanford University; Neural networks and deep learning (892.451) provided by the DeepLearning.AI; The data scientist's toolbox (596.125) and R Programming (589.431) submitted by Johns Hopkins University. Information Technology with subcategories Cloud Computing, Security, Data management, Networking, Support and Operations in 2020 recorded an average of 24.870 enrollments, with 4.225 more than 20.645 in 2019. The most appreciated courses: Technical support fundamentals (619.144) and Google IT support professional (508.540) offered by Google and Google Cloud platform fundamentals: core infrastructure (456.189) submitted by Google Cloud. Health with the subcategories Animal health, Basic science, Health informatics, Healthcare management, Nutrition, Patient care, Public health, and Research psychology in 2020 recorded an average of 28.622 enrollments, with 7.940 more than 20.682 in 2019. Very appreciated courses: Introduction to psychology (541.223) offered by Yale University; Introduction to food and health (497.123) provided by Stanford University and Child nutrition and cooking (402.823) submitted by Stanford University. Math and logic category in 2020 recorded an average of 27.763 registrations, with 7.371 more than 20.392 in 2019. The best rated courses: Introduction to mathematical thinking (321.661) offered by Stanford University; Data science math skills (239.241) provided by Duke University; Data structures and algorithms (211.288) submitted by the University of California and Álgebra básica (107.582) given by Universidad Nacional Autónoma de México. Personal Development category in 2020 had an average of 19.861 registrations, with 3.274 more than 16.587 in 2019. Highly appreciated courses: Mindshift: break through obstacles to learning and discover your hidden potential (325.643) offered by McMaster University; The science of well-being (321.555) provided by Yale University; Learning how to learn: powerful mental tools (269.891) given by the University of California and Think again: how to understand arguments (261.953) submitted by Duke University. Physical Science and Engineering category in 2020 recorded an average of 17.933 enrollments, with 5.044 more than in 2019 when this number was 12.889. Among the most popular courses, we can mention Robótica (213.732) offered by Universidad Nacional Autónoma de México; Introduction to engineering and mechanics (184.413) provided by Georgia Institute of Technology and Astronomy: exploring time and space (154.253) submitted by University of Arizona. Social Sciences with the subcategories Economics, Education, Law, Governance and Society in 2020 recorded an average of 16.830 enrollments, with 4.541 more than 12.289 in 2019. Popular courses in this category: The power of macroeconomics: economic principles in the real world (209.397) offered by the University of California; Model thinking (156.835) provided by the University of Michigan; Moral foundations of politics (150.134) submitted by Yale University and Learning to teach online (125.084) given by the University of New South Wales. Language Learning in 2020 recorded an average of 64.394 enrollments, with 10.583 more than 53.811 in 2019. The most appreciated courses: English for career development (1.084.524) offered by the University of Pennsylvania; Chinese for beginners (794.022) submitted by Peking University, and Speak English professionally: in person, online & on the phone (501.672) provided by the Georgia Institute of Technology. From the second half of 2020, courses such as First Step Korean, Second Step Korean offered by Yonsei University, French Intermediate course B1-B2 offered by École Polytechnique and Spanish Vocabulary: Meeting People offered by the University of California began to enjoy popularity. All this knowledge is available to those who want it for free.

Among the Coursera categories, Language learning managed to attract the most entries in 2020, followed by Art and Humanities in which the Music and Art subcategory was successful, especially those related to music production. The third place is occupied by Computer science, in which the courses tried to adapt to the needs of the new daily digital life as we can see in figure 2.

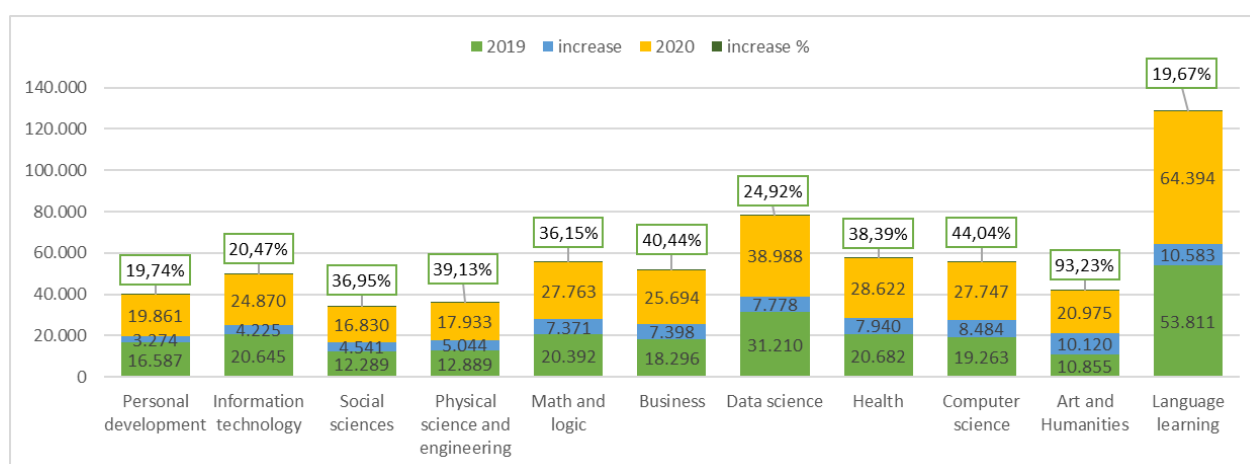


Figure No. 2 The growth of the average number of enrolled students from 1.01.2019 to 1.01.2021 over categories

Source: created by the author, based on information collected from the Coursera platform

In 2020, due to the difficult situation in the world caused by the covid-19 pandemic, the platform introduced a series of new courses on the agenda. The average enrollment of these new courses is 27.532. As expected, the new courses have a strong connection with covid-19. Only 43 managed to attract over 1.550 enrollments, of which 12 are Guided projects. Certainly, the most popular course is Covid-19 contact tracing, the interactive course offered by Johns Hopkins University and held by Emily Gurley, which from its appearance until 1.01.2021 managed to attract 1.109.716 participants. The second place is occupied by the strategic course held by Morgan Katz, called Strategies for Assisted Living Communities during Covid-19 with some 180.124 students. The University of Toronto tried to meet the needs of millions with the practical course Mind control: managing your mental health during Covid-19 under the guidance of Steve Joordens, who soon managed to attract 141.840 enrollments. A popular course among nurses is Strategies for Senior Housing Communities during Covid-19 held by Juliana Bilowich with many 120.357 students. Designed for the business community, Managing supply chain disruption during the Covid-19 course provided by the University of Illinois garnered 75.853 entries. University of Michigan with courses High stakes leadership: leading in times of crisis (44.617 enrolled), Resilient teaching through times of crisis and change (3.331 enrolled) wants to help a smooth adaptation of those in leadership positions. The guided projects, especially Using Covid-19 data to make supply chain logistics decisions in spreadsheets, offers the possibility for participants to gain long term job-relevant skills.

4.2. Udemý

Udemý is a platform for experts, a leader in learning and training that helps participants achieve their goals. In general, the price of the courses starts at 12,99 €. The philosophy of instructors is that unlike talent, which is universal, opportunities are not. Thus, through their work, they constantly try to transform the lives of the students, being their bridge of opportunity. The Udemý platform founded by Eren Bali, has courses in over 65 languages. (<https://about.udemy.com/>) Most courses on the main Udemý platform have a price, but there is a secondary platform called "Udemý Free Resource Center" where the courses are free.

Courses in the Software Development category can be grouped by duration: between 0-2 hours (7.842 courses), 3-6 hours (7.532), 7-16 hours (6.266) and over 17 hours (2.470). In addition to the courses, are incorporated 511 coding exercises and 553 practical tests for deepening

knowledge. The average price of courses in this category is 107,62 €. Progress in your rhythm is guaranteed. Participants evaluate the courses they attended, providing feedback and a vote of confidence to instructors. Courses in the Business category are available in 28 languages, divided into three levels: expert (362 courses), intermediate (2.070) and a beginner (5.984). The average price of the courses in this category is 80,75€. A guaranty for quality from the instructors is that those who are dissatisfied can request a refund in 30 days from the start of the purchased course. The offer in Finance and accounting with the subcategories looks like this: Investments and trading (2.740 courses), Finance (1.200), Accounting and bookkeeping (856), Cryptocurrencies and blockchain (533), Financial modelling and analysis (355), Finance and accounting (392), Financial management tools (245), Fees and taxes (197), Compliance (109) and Preparation for exams and certifications in the financial field (172). On average, the price of courses is 100,42 €. IT & software category offers courses with topics such as Oracle Certification (527 courses), Python (506), Linux (355), Cisco CCNA (343), Cyber Security (338), Windows server (238), Java (209), Comp TIA A+ (169), Comp TIA Security+ (129), Fundamentals of Programming (127), Citrix (153) for an average of 97,72 €. Office productivity is a category designed for corporation peoples, with topics like Excel (1.200 courses), Microsoft Word (301), PowerPoint (288), Excel VBA (163), Microsoft Access (141), Microsoft Outlook 95), SAP (81), Microsoft Power BI (57), Google Sheets (50), OneNote (38) at the average price of 119,93 €. Personal development is a category in which from Leadership (428 courses), Communication skills (379), Time management (305), Stress management (305), Interview skills (217) to CV writing (218) are found a lot of courses that are meant to offer steep by steep practical plans for an average of 69,96 €. The Design category consists of courses with creative and modern topics such as 3D and animation (333 courses), Graphic illustration (535), Web design (831), Architectural design (840), Game design (437), Fashion creation (326) and Interior Design (282) at an average price of 68,11€. In the complex category of Marketing, the courses are grouped around major topics such as Digital Marketing (599 courses), SEO (548), Affiliate Marketing (351), Email Marketing (258), Google Analytics (95), Advertising 2), Google Ads (239), Blogging (172), WordPress (108), Business Branding (99). Seth Godin's courses are successful, for example, Seth Godin's Value Creation Master Class, Modern Marketing with Seth Godin and Seth Godin on Presenting to Persuade. Lifestyle category, with topics such as Cooking (269), Art of makeup (180), Hypnosis (149), Hairstyle (125), Dog training (117) to name just a few, in 2020 was not on the top of preferences. In table 3, we can see the preference of participants in 2020.

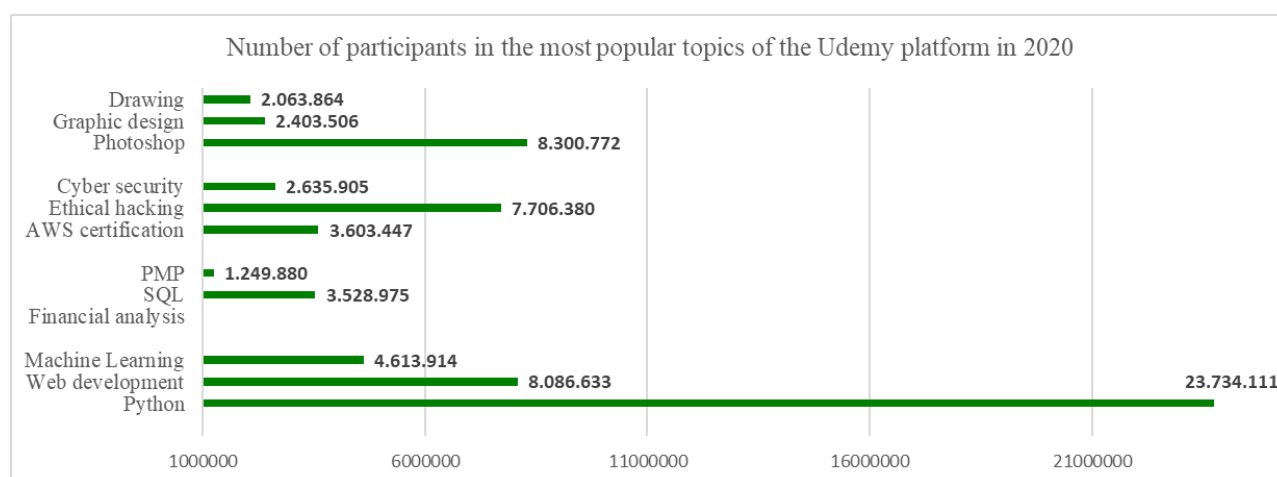


Figure No.3 Number of participants in the most popular topics of the UdeMy platform in 2020
Source: created by the author, based on information collected from the UdeMy platform

In Photography and Video category due to the reset of social interactions in the digital world, the number of students has increased, and the average price for a course reaches 109,85 euros in 2020. In Health and Fitness, with the subcategories, General Health (1,969 courses), Fitness (958), Mental Health (853), Yoga (824), Nutrition (799), Sports (684), Dance (576), Meditation (466), Self-defense (452) the average price of a course is 100,84 €. Quick certification courses such as Therapeutic Art Life Coach (149,99 €), Internationally Accredited Certificate in Nutrition (129,99 €), Herbalism: Introduction & Medicine Making Certificate (129,99 €), Cognitive Behavioral Therapy (CBT) Practitioner Certificate (129,99 €) doubled the number of participants in 2020. In the Music category, can be chosen courses lasting between 0-2 hours (3,031), 3-6 hours (1.259), 7-16 hours (452) and over 17 hours (59). The 320 courses in Music Production and 115 in Music Composition was popular. Teaching and academic activities is a relatively recent category that combines preparatory courses for the Baccalaureate exam, and qualitative language courses: Chinese (328), English (1,043), Spanish (325), French (278), German (271), Japanese (243) and Arabic (226).

6. Conclusions

Technological advances and the accessibility of the internet have contributed to changing the educational process. In 2020 the popularity of online courses is undeniable. Thanks to collaborations with prestigious universities, the Coursera platform is in the first place in the preferences of those who want to acquire qualitative knowledge. The participant's profile in 2020 at the Coursera platform was the following: doctoral students 5,8%, high school students 14%, bachelor's degree students 40,5% and master's degree students 39,7%. Categories such as Foreign languages (on average 64.394 enrollments), Computer science (on average 27.747 enrollments) and Business (on average 25.694 enrollments) are being the most popular in the analyzed period. The 172 Guided projects were designed to help improve practical knowledge. The combination of an online business and the need for flexible education at moderate costs was the basis for creating the Udemy platform. In 2020 the enrolled number increased significantly, and the courses have undergone continuous improvements. In general, the price of the courses starts at 12,99 €. The Software Development category incorporated 511 coding exercises and 553 practical tests for deeper knowledge. The difficult situation caused by covid-19, the Coursera platform saw as an opportunity to help students with webinars, free exercises, practical guided projects and the Udemy platform as a business, trying to sell courses at "promotions".

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