

How Digital Technologies Are Changing Business Education



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Abstract Digital technologies are changing business education. Over the past few years, the topic of digital transformation has been one of the most relevant in the global business community. A powerful driver of digitalization in 2020 was the pandemic. New economic realities, changing expectations and people's behavior, new technologies that make it possible to realize the previously impossible—these are the factors that force all industries to rethink their business and use new opportunities for its growth. How should business schools position themselves in this volatile environment? This article is devoted to the main trends that are calling for a revolution in business education. The author concludes that as a result of forced distancing due to the Covid-19 pandemic, there was an irrevocable large-scale transition to mainly online learning and suggests that the model consisting of three phases best reflects the evolution of online learning in business schools.

Keywords Business school · Digital transformation · Digital technologies · Innovation · Online learning

1 Introduction

Business schools have an important role to play in what the World Economic Forum has called the “The Great Reset” as the world adjusts to the post-COVID-19 pandemic, but to reach their full potential, business schools must change [12]. The same path should be followed by universities and businesses that support them and interact with them. During the pandemic, for example, universities focused on critical work in developing vaccines and medical equipment, as well as areas such as epidemiology. Business schools can also make a valuable contribution to this effort. For example, with experience in supply chain management, operations, and logistics, they can advise on vaccine production and distribution issues, as well as on testing integrity and ethics. In addition to these pressing issues, business schools

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can also help businesses redefine their goals in a post-pandemic world—using their expertise in change management, organizational development, human resources, and information systems to support different models of organization and work, including more decentralized decision-making and remote work [3, 4]. The mission of business schools is changing [6]. Today, their horizons have expanded towards improving the well-being of society, and their interests extend beyond students and businesses to include governments and non-profit organizations.

Business schools are forced to respond to changes in technology, competition, and social expectations—COVID-19 has called on businesses to lead these changes. For example, the Skolkovo Business School and Samsung Electronics have announced a long-term cooperation on the technological development of business education in Russia. This is the first technological partnership of the Skolkovo Business School and the only one known for Russian business education [9].

Today, business schools must be committed to solving problems that affect not only business, but also humanity as a whole. Their agenda should be to apply all their knowledge and skills to address global issues such as climate change, justice, and the advancement of digital technologies and artificial intelligence. Particularly important will be how business schools will encourage innovation and entrepreneurship that will create new businesses and jobs to replace those lost during the pandemic. It is necessary to encourage and guide startups, as well as to advise existing enterprises on how to better adapt to new realities. Their expertise in management, leadership, and strategy can help companies recognize the diverse opportunities they need to thrive in these challenging environments. Thus, business schools are testing grounds for creating more ethical, dynamic, and trustworthy leaders who, in turn, can influence broader social issues.

2 Methodology

Executive training is one of the fastest growing sectors of higher education. MBA (EMBA), business executive programs have always given students the opportunity to expand their real business knowledge in a particular sector and make graduates more competitive in the labor market. The global labor market, which is changing at an unprecedented pace, means that institutions must provide education and skills for jobs that don't even exist yet. Thus, problem-solving, risk-taking, independent learning, and the ability to collaborate with international businesses are all valued today more than ever. A global study by the MBA Association recently demonstrated the scale of the problem by examining how cutting-edge educational institutions are changing the types of education [1]. The report highlights the importance of ensuring that MBA programs are taught in a way that maximizes student engagement and changes typical learning patterns—this is the biggest challenge that senior managers face. Here, mixed learning models come to the rescue, in which priority is given to diversified methods [7].

The use of technology to provide motivational learning is no longer a rarity for business schools—it has now become a daily occurrence. The most innovative technologies help educational institutions revolutionize pedagogy and provide a flexible, progressive, and student-centered approach that focuses on meeting these requirements and delivering skills-based learning. Technology can influence not only what we learn, but also how we learn. Online learning creates a more independent environment, while providing broad and deep collaboration, it can also help develop critical thinking skills and facilitate the application of knowledge, making education more practical and informed. Using technology to prioritize a skills-based learning approach is now critical to business schools, and indeed the success of the entire employment ecosystem, from the careers of individuals to the prosperity of businesses, industries, and the entire economy. And, of course, technology is not only the engine of success, but also a mechanism for ensuring competitive advantage. Business schools that offer an immersive learning environment are ultimately the most attractive in a highly competitive environment.

The business school market has always been one of the most unique and dynamic areas of the educational sector. Serving a fairly ambitious environment, these institutions provide students around the world with a prestigious qualification that serves as a “pass” to lucrative career opportunities at the highest level. However, while most business schools are involved in some form of online recruitment, there is a strong sense in the sector that many of them could make greater use of the potential of digital channels to maximize visibility and impact.

While the entire higher education sector will have to face many-sided changes, they affect business schools in a fundamental way—the contours of the business world are changing. Companies in some industries (for example, retail, hotel and tourism) have been significantly affected by the decline in revenue. Students who have planned a career in these areas are forced to either expect improvements in the situation or move in a different direction [8]. Therefore, we need a model that will serve as a guide for understanding and making decisions in this period. This model considers the transformations of the university, the business world, and the student as the three components of the transformation of the business school.

3 Results

There are several stages that universities must go through to become leaders in online learning: rethink teaching, learning, and evaluation; focus on value, not just quality; change the roles of teachers and mentors and include mutual learning in the process; transform business models by constantly looking for new sources of income that can reduce the need for constant increases in tuition fees, reducing operational overhead costs (for example, maintenance of buildings, parking lots, dormitories). Below we will look at the trends that can make a breakthrough in education:

- the algorithm will replace the professor. Students will learn from an algorithm that, with AI support, will provide an individual approach to learning;
- university as a service. We currently have a linear view of education. First, students go through the school system, then most get a bachelor's degree (or specialist), then a master's degree, a small number go to graduate school and an even smaller number to doctoral studies. The problem is that the speed of change in the world is no longer suitable for this educational structure. The study period for any degree program can range from 1 to 5 years, depending on the field. Today's students need to get the education that is in demand and at the time when they need it. Therefore, individual continuing education will become the norm;
- university-assessment center. In the world of artificial intelligence and automation, learning can occur in many ways. Students will learn from each other, on algorithmic systems and public information. However, universities will continue to play an important role as evaluators of training. Therefore, it will be necessary to review the criteria for evaluating training;
- personalization of training. Students of the future will have access to multiple paths of learning the same content. For example, a course in financial accounting, available through algorithmic interaction, animation/video/augmented reality, face-to-face instructions, or any combination of them. Using these assessments, the university of the future will be able to accurately determine the student's learning needs and provide an individual experience;
- solving problems through ethical research. As the impact of artificial intelligence and automation in our lives skyrockets, the need for students to solve problems through ethical research will increase. It's about what problems we want to solve based on what we know. Students will need to evaluate AI algorithms based on their performance as well as their ethical foundations [9];
- healthcare is everywhere. Healthcare management will become an integral part of every business. Consumers expect a high level of hygiene in all areas. The bottom line is that healthcare management will become a top priority for CEOs of companies. The introduction of training programs in this area through the partnership will expand the opportunities of business schools to prepare students for this reality;
- remote work. As a result of Covid-19, organizations were forced to transfer some employees to remote work. It was expected that this would reduce performance, but over time it turned out that the performance level remained the same or even became higher than the previous one. Consequently, this will serve as an incentive for the widespread adoption of remote work in a significant part of organizations. Preparing students for success in this field will be essential [10];
- supply chain optimization. Businesses are re-optimizing their supply chains to eliminate a single point of failure. This will require deeper integration of supply chain management into the business school curriculum;
- the value of alternative investments. During the Covid-19 pandemic, there was renewed interest in alternative investment instruments. This will lead to the revival of fintech curricula in business schools.

At the moment, students are experiencing a period of confusion as a result of the rapid change in the learning environment. The abrupt transition to distance learning has led to a reassessment of the view of the institute of education. Business schools should remember that transformation is not only happening to today's students, but also to their future students who are currently in school. It seems that when developing programs with the transformed student in mind, it is necessary to take into account the following:

- virtual global education. The pandemic has strengthened global ties. Global programs have traditionally suffered from unforeseen circumstances related to travel, immigration barriers. Now there is an opportunity to create a strong virtual global educational environment;
- AI-based career planning and management. Students now expect to use technology tools not only for learning, but also for other aspects of their experience. Career planning and management using artificial intelligence will allow students to receive personalized recommendations on how to imagine their professional life;
- IT infrastructure and financial constraints. Many universities looking to make changes to their programs will face two key aspects. The IT infrastructure of a university usually establishes the architecture that ensures the execution of programs. Schools within a university may not have the right to radically develop a different identity. Covid-19 has provided an innovative incentive, the potential of which will be limited by budget cuts due to reduced enrollment, shifting government subsidies, reduced ability to maintain high tuition fees. These two aspects will have a significant impact on limiting the scope of the business school transformation.

4 Discussion

Thus, we have come to the conclusion that business schools should plan training, taking into account three aspects. The first aspect is continuity of learning—an emphasis on the continued availability of learning opportunities for students during unforeseen interruptions. Business schools should provide training for students at this time. The main focus should be on finding ways to serve during an emergency. At this time, business schools can conduct “emergency distance learning” [11]. Unlike the experience that is planned from the beginning and intended to be used online, emergency distance learning is a temporary shift of teaching in an alternative learning mode due to crisis circumstances. It involves the use of completely remote training solutions that would otherwise be conducted in person or in the form of mixed or hybrid courses. The main goal in these circumstances is not to recreate a solid educational ecosystem, but rather to provide temporary access to training and learning support in a way that can be established quickly and that is reliably accessible during an emergency or crisis. The second aspect is to pay increased attention to educational design. The next step out of the first point will be to develop a consistent student

experience based on sound instructional design principles. If the first aspect was focused simply on the continuation of educational services, the second is built on the ideas of developing a high-quality connected experience. Components of such a well-designed online experience include digital learning methodologies, digital learning contexts, tools and simulators, and assistive systems for digital learning [12]. Finally, the third aspect—the future new normal will involve the use of innovative AI-based services for student learning and online communities. For example, IBM Research has announced a long-term collaboration with the MIT Center for Brain and Cognitive Science to jointly explore the capabilities of machine vision, a key aspect of artificial intelligence [2]. The new joint IBM and MIT Laboratory for Brain-inspired Multimedia Machine Comprehension will develop cognitive computing systems that mimic the human ability to perceive data obtained from multiple sources of audiovisual information. Such systems will create a detailed computer model of the world, which can be used in various computer applications in the field of health and education [13]. Thus, creating a future world in which AI-enabled algorithms will serve as professors in key scenarios will revolutionize education.

5 Conclusion

Covid-19 has brought about changes in the university system on a scale that is unprecedented, coinciding with an increase in information technology capabilities due to the advent of artificial intelligence and machine learning—the result will be a global restructuring of the university, and here business schools can take a leading role. Technology is changing the dynamics of education. As educators begin to rethink the learning process, it will also be important to change educational spaces to support this evolution. In the pre-pandemic crisis, business school programs and courses on risk management and improving operational efficiency came to the fore, pushing aside the issues of strategies for a while. What will happen now? The answer to this can only be given by business and its new practices. And business schools that have good corporate connections will certainly take advantage of them. In 2021, business has a much more global mission; the same applies to business schools. Both are able to innovate for the long-term prosperity of our planet [5].

References

1. Bard: The MBA of the future what to look for in a cutting edge business school. <https://gps.bard.edu/the-mba-of-the-future-what-to-look-for-in-a-cutting-edge-business-school> (2019). Accessed 16 March 2021
2. Connect-Wit: IBM research and the Massachusetts institute of technology are exploring the possibilities of artificial intelligence. <https://www.connect-wit.ru/ibm-research-i-massachusettskij-tehnologicheskij-institut-issleduyut-vozmozhnosti-iskusstvennogo-intellekta-v-vos>

- [priyatii-audiovizualnoj-informatsii-podobno-cheloveku.html](#) (2016). Accessed 17 February 2021
3. Di, F.: Does business school research matter? <https://www.topmba.com/mba-programs/does-business-school-research-matter> (2021). Accessed 17 March 2021
 4. Dingel, J.I., Neiman, B.: How many jobs can be done at home? <https://www.nber.org/papers/w26948> (2020). Accessed 17 February 2021
 5. Govindarajan, V., Srivastava, A.: What the shift to virtual learning could mean for the future of higher ed. <https://hbsp.harvard.edu/inspiring-minds/what-the-shift-to-virtual-learning-could-mean-for-the-future-of-higher-ed> (2020). Accessed 17 February 2021
 6. Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A.: The difference between emergency remote teaching and online learning: Educause Review. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning> (2020). Accessed 17 February 2021
 7. Letheren, K., Russell-Bennett, R., Whittaker, L., Whyte, S., Dulleck, U.: The evolution is now: service robots, behavioural bias and emotions. In: Härtel, C.E.J., Zerbe, W.J., Ashkanasy, N.M. (eds.) *Emotions and Service in the Digital Age. Research on Emotion in Organizations*, vol. 16, pp. 27–48. Emerald, Bingley (2020)
 8. MIT News: IBM and MIT to pursue joint research in artificial intelligence, establish new MIT-IBM Watson AI Lab. <https://news.mit.edu/2017/ibm-mit-joint-research-watson-artificial-intelligence-lab-0907> (2017). Accessed 16 March 2021
 9. Moscow School of Management Skolkovo: Skolkovo business school and Samsung announced a technological cooperation. <https://www.skolkovo.ru/news/biznes-shkola-skolkovo-i-samsung-obyavili-o-tehnologicheskom-sotrudnichestve/> (2020). Accessed 17 February 2021
 10. Sousa, M.J., Carmo, M., Gonçalves, A.C., Cruz, R., Martins, J.M.: Creating knowledge and entrepreneurial capacity for HE students with digital education methodologies: differences in the perceptions of students and entrepreneurs. *J. Bus. Res.* **94**(C), 227–240 (2019)
 11. Tazov, Yu.: Business education in the age of the pandemic: all-in online? www.mba.su/articles/biznes_obrazovanie_v_epohu_pandemii_vse_v_onlain/ (2020). Accessed 17 February 2021
 12. The Conversation: No more business as usual: In: “The Great Reset” business schools must lead the way. <https://www.australianimes.co.uk/news/no-more-business-as-usual-in-the-great-reset-business-schools-must-lead-the-way/> (2021). Accessed 16 March 2021
 13. Tufano, P.: How business education should change in the XXI century. <https://www.vedomosti.ru/management/articles/2020/04/05/827203-kak-dolzno> (2020). Accessed 17 February 2021