

Disruption in Higher Education

What Happens Next - 09.16.23

Larry Bernstein:

Welcome to What Happens Next. My name is Larry Bernstein. What Happens Next is a podcast which covers economics, political science, and culture.

Today's topic is Disruption in Higher Education.

Our first speaker is Michael D. Smith who is a Professor of Information Technology and Marketing at Carnegie Mellon, and he has just published a new book entitled *The Abundant University: Remaking Higher Education for a Digital World*.

I want to learn from Michael why he thinks online education will disrupt the university in-person model. Others have been calling for this disruption event for years, so why now? And what will the future of higher ed look like?

Our second speaker is my son Jonathan Bernstein who is a senior at Northwestern. I want to hear the student's perspective. I want to find out from Jonathan how he enjoyed the hybrid model at his university, how he uses online courses to learn at institutions like Wall Street Prep, and how he uses Chat GPT to study.

Let's begin this podcast with Michael Smith.

Michael Smith:

My book is trying to convince my colleagues in higher education of three things. The first is that technology will change higher education. The second is that we in higher education should want to change, and the third is that we have a way to change.

We were told in the early 2010s that technology would change higher education because of the rise of online education. What we missed is that you need to change the credential.

When edX and other online learning came out, people were excited that was going to disrupt higher education. The problem is that unless you have the credential, those online courses aren't going to add up to a four-year degree.

Higher education should want to change. What we know from the data is that if you're a kid born into a family in the top 1% of income, you have a one in four chance of being admitted to a top 80 most selective school.

If you're a kid born in the bottom 20% of income, you have a one in 300 chance of getting access to the same university. Unless we believe that kids born into the top 1% are 77 times more likely to be capable of an elite education than poor kids, then we've got to believe that the current way we allocate access to the scarce resources in higher education is fundamentally unjust.

Every good disruption story is the incumbent died: Blackberry dead, Britannica dead, Blockbuster dead. The one place where we're seeing an industry create a good response to disruption is the entertainment industry.

The entertainment industry realized that there was a difference between their business model and their mission. They realized my mission isn't selling shiny plastic discs. My mission is creating great entertainment in front of an audience, and if I can use technology to fulfill my mission, I'm willing to blow up my business model.

What I'm trying to argue in the book is that we in higher education are still trying to protect our model and I would love for us to make the transition to do a better job to create far more abundance for people who today are excluded from elite higher education.

Larry Bernstein:
What do students want?

Michael Smith:
In higher education, a lot of our students just want to have access to the credentials that would allow them to signal that I'm capable in the workforce.

Is there a better way for us to help people demonstrate those credentials to the job market? There is, I don't think it needs to cost a quarter of a million dollars and take four years. If our mission is to help people gain skills, demonstrate the skills in the workforce, then there are other things we can do to fulfill that mission.

Larry Bernstein:
What is the college's mission? Some members of the academy think it is to create a well-rounded individual. Some say they are in the skill creation business: learning how to write, think critically, make an argument or oral presentation. Still others think it is about learning content. There is no agreement on the mission statement.

Michael Smith:
A lot of people in higher education would argue that our mission should be to create broadly educated members of society. Surveys consistently show that what the market is demanding is the ability to get a job. Currently higher education is the best way to get that job that you need.

What if we created an alternate way for people who just want to get a job, to gain the knowledge they need and signal that knowledge to the workforce? Might that allow those of us in higher education to focus on what we think our mission is, which is to create broadly educated adult.

If I could get all the people out of my class who just want to get a job, I could tailor the class much more to that broad education. There was an article written in the Chronicle of Higher Education by Johann Neem, and the title was “Abolish the Business Major,” and his point was, higher education shouldn’t be about gaining access to the workforce. It should be about these broad learning skills. So, let's get rid of all the majors that are focused on practical outcomes. If we're going to get rid of those majors, we need some other way for people who want to get jobs in those fields to signal their skills. Let's use technology to create some of those other ways.

Larry Bernstein:

Colleges have invested a lot of money in residential living, nicer gyms, and new stadiums. None of these investments makes a more well-rounded individual, builds skills, or improves job placement.

This college spending seems to be a form of student consumption, which is fine if it isn’t subsidized by government taxes. What is going on?

Michael Smith:

I think it is competitive pressures. If the school down the street has big fancy dorms, then I'm going to need big fancy dorms. If I'm going to attract the student to my campus and U.S. News feed into that competition among schools, which drives up the spending and drives up the price.

We have a valuable product. If you want to get ahead in the world, you need my four-year degree, and the return on investment of that degree is still high. We're offering a product with a good return on investment and we're increasing our prices to capture more of that surplus we're creating for the customer.

Larry Bernstein:

If you are arguing that colleges are offering a valuable product and that the university can price discriminate to earn the consumer surplus, then why do colleges charge the same price for a sociology and a finance major?

Michael Smith:

That's a great question. My knee-jerk reaction is we don't apply a whole lot of business logic to how we price things. We provide a luxury good where the quality of the product is signaled by the price, the product is the actual degree and how valuable that degree is in the marketplace.

Now, what if I started to judge the quality of students based on their actual skills and not the brand name of the school that gave them those skills?

Larry Bernstein:

I heard that Amazon is creating their own assessments to evaluate job applicants' skills in computer programming. If Amazon can figure this out, then they can hire good candidates at a reasonable price and let the others overpay for graduates of selective universities.

Michael Smith:

What you're talking about is Google and Amazon doing this in the context of coding. Can you demonstrate to me that you have the knowledge necessary to do the job? I'm asking you to do if you can, I don't care where you got your degree from or even if you have a degree.

The efficient market would be one where we're making decisions based on the true quality of the student. The market we live in today is one where we're making decisions based on the proxy, the brand name of the school you went to, Harvard is better than Penn State. Even though there are probably a lot of kids at Penn State who are more qualified, more motivated, better prepared for a particular job than the kid who graduates from Harvard. It's just that I've got to rely on this weak signal.

Larry Bernstein:

I read some study years ago that if you adjust for the higher tuition costs, then the selective schools did not increase lifetime incomes relative to state schools.

Michael Smith:

Paul Tough wrote about this in the New York magazine a couple of weeks ago.

What you're saying is the cost adjusted value of Harvard is what we should be looking at. If you graduate from Harvard, this is the boost in salary you get if you graduate from Penn State, this is the boost in salary you get factored in the difference in cost between the two.

What I still worry about is are we leaving people out by saying you've got to either go to Harvard or Penn State or you've got to have a four-year degree. Could we use new technologies to do a better job of judging people's actual skills? The example I use in the book is from Wired magazine where there's this kid Gilbert, who lives in Brazil, works for the Brazilian state oil company, graduated from the 13th top ranked Brazilian engineering college.

And it just so happens that in his spare time he likes to participate in the Kaggle leaderboard challenge and he's gotten good enough at the Kaggle data analytics challenge that he's risen to the top of the worldwide Kaggle leaderboard and all of a sudden he's getting recruited by Silicon

Valley companies, not because of his major, not because of his GPA, not because of his work experience, but because they can see based on his actual performance on Kaggle, that he's really good at data analytics. That's what I'd love for us to create is something where the evaluation is less based on the brand and more based on the actual skills of the person.

There are some things that are hard to test. When we admit doctoral students, we're looking for a decathlete and the only thing I know is their one-hundred-meter dash time. I know that they can solve small problems quickly in a time test environment. What I don't know is how creative they are. Can they find their own questions? Can they work independently? All these other skills. I'm trying to wrap into how well did you do on the standardized test?

And I was really scratching my head, how do we reduce the signal of that brand name, you graduated from Carnegie Mellon versus you graduated from Point Park College and later that day I was buying a really expensive scanner from a company I'd never heard of solely because it had a 4.9 star rating on Amazon and a whole bunch of positive reviews. And I was like, oh, that's how we reduce brand name. We add information into the market. I'll stay at a complete stranger's home because they have a good star rating on Airbnb. I'll drive home with a stranger because they have good ratings on Uber. Wouldn't it be cool if we could create a different way of credentialing someone that doesn't involve the traditional four-year brand name? That's what I'd love to see us creating.

The feedback loop here is once I create a new way for people who have independent hotels to signal their quality, I give them the incentives to invest in quality. If you're an independent hotel and people are going to assume you're lousy because you're not Hilton affiliated, then I have no incentive to invest in being good. But if I have a way of signaling to the marketplace that I'm not Hilton affiliated, but I'm quite good, then I give you the incentives to invest in your quality. We've got potential job market participants today who we assume are lousy because they don't have a four-year degree, or they don't have a degree from a great institution. If we gave some of them a different way of signaling their value, we would give them new incentives to invest in quality.

Larry Bernstein:

I want to go back to learning content. I was an early adopter of the Teaching Company's Great Courses. I've taken over 20 courses and they are fantastic and inexpensive. If an individual is self-motivated to learn, content is basically free.

Michael Smith:

Without the credential. One of our master's students who is taking a machine learning class here at Carnegie Mellon, and what he said was, "I wasn't understanding the professor at all in the class, but I went to this online site called Stat Quest and I was able to learn the material on Stat

Quest and then I took the exams.” And if you break that down, what it says is that the knowledge is free and the credential costs \$20,000. That strikes me as an economic inefficiency.

Larry Bernstein:

I'll give you a personal anecdote on that idea. I graduated from Penn a year early and after two years working at Salomon Brothers, I was accepted to Harvard Business School but was deferred a year because I was too young. At the time, I lived across the street from Brooklyn Law School. I called the admissions department and asked if I could take some night classes. And the admissions director said please apply and take the LSATs. I asked her if she could make an exception for me as I had been accepted to Harvard. She said hang on; I have the admissions guidelines here. I hear her turning the pages, and she said, “nope there's nothing in here that says if you get into Harvard, you can be automatically admitted into Brooklyn Law School.” You are going to have to apply like everybody else.

So, I was not going to take the LSATs and write a bunch of essays to take two-night classes at Brooklyn Law School. I bought the textbooks for corporations and for tax. The woman behind the counter asked if I would like to buy a name plate for the classroom. So, I buy my name plate, and I sneak into the night school tax class. The professor opens with his first question, what is the definition of income? And my hand is the first one up.

After that class, I saw one of my Penn fraternity brothers in the hallway. He says, “Larry, what are you doing here at Brooklyn Law?”

I tell him, “Outside now.” I told him that I was crashing a couple of night law courses. He complained that it was totally unfair. Law school was costing him a fortune, but it won't cost me a dime. I told him that “I'm only getting an education, but you're getting a degree.”

Now you assumed there was a market failure related to credentials versus knowledge. But that is not what I observed. Firms like Salomon Brothers where I worked were excellent at spotting talent internally. Maybe there were problems selecting candidates from the outside, but when individuals get the job, firms can determine very quickly who is productive.

Michael Smith:

I think the HR processes that we use today rely heavily on signals to screen applications. Whoever gets access to those signals is strongly influenced by wealth. That's the market failure I'm worried about is the kid who gets screened out because they went to Duquesne Business School. They're every bit as smart as the kids who graduated from Harvard Business School. They just don't have the credentials. One of the things I document in the book is number of hiring managers who say, “if you didn't graduate from the top three business school, we just throw your application in the trash.”

Larry Bernstein:

Zvi Galil spoke on this podcast. He is the former Dean of Computing at Georgia Tech. The school now offers students an online degree that is the same as the on-campus degree, and they get thousands of students to sign up. Georgia Tech's computer science department is ranked 8th in the country by US News. It is relatively inexpensive at \$5800 for ten courses to get a one-year master's degree in computer science. You're not going to believe this, but Georgia Tech cut the price by 12%.

Of note, the online students are almost exclusively Americans and that there is a substantial international student body for the on-campus program. I suspect that is because the international students want to get into the US and get a work visa here. Also, many of the American online students prefer to stay in their local community and work part-time. What do you think of Georgia Tech's desire to bring down price for the same online degree?

Michael Smith:

Georgia Tech's decision to do the online computer science masters was brilliant, and it was creating this sort of abundance that I'm trying to talk about in the book. I love the idea that it's appealing to working professionals. If you think about how rapidly technology is changing, the need for skills in the marketplace, we're going to have to have ways to teach students who are working professionally. Not everybody can take a year and a half off to get a master's degree. We're going to have to have some way of allowing people who are working to develop those new skills that they need to do their job.

Larry Bernstein:

How effective was hybrid education during COVID?

Michael Smith:

What we did during Covid is not a good measure for the potential of online learning. If you could get the right professor using the right technology with the right amount of preparation, we could do a lot better. Could we do a better job of using data about the student, about what the student's background is, what their learning style is? Do they learn by example? They learn by theory. If we could combine that data and customize how the education is delivered, we could do even better.

Larry Bernstein:

Warren Buffett looks for the moat in every business that protects the incumbent firm from competitors. The moat for liberal arts colleges is the small seminar. They are expensive to offer students, but if the professor is great, and the students are eager and motivated, it can be a great

experience. I am sure your colleagues will point to the seminar as the critical variable in what makes in-person superior to online schooling.

Michael Smith:

My pushback is I have the chief data officer at UPMC, the hospital come and talked to my managing disruption class, and last year he came in and he said, "We've looked at our data and what we've discovered is that for most doctor patient interactions, telehealth yields equivalent health outcomes.

In higher education, we're going to find that there's some things that need to be done in person, but a lot more things than we realize can be done remotely. The example in the book is Arizona State's organic chemistry. How do you teach organic chemistry online? 13 weeks of organic chemistry works perfectly fine online, and the labs must be done in person. They redesigned the experience. We deliver the online stuff online, and then we bring our students in for a one-week intensive organic chemistry lab experience where you do two labs a day for five days. The students who did the online plus a one week intensive had equivalent knowledge of organic chemistry labs as the people who did the residential experience. What I'd love for us in higher education to say is we've got these new tools, let's figure out how to use them for the benefit of the students.

Larry Bernstein:

I loved residential college living. The Quad at Penn was great, and the fraternity house was even better. Can we create residential living for college students who do not live on campus or even go to the same school. Think Old School for college kids.

Michael Smith:

We saw that during Covid. We're seeing a lot of people who are taking online classes but living in the community. Live in Rome, Italy while you take classes online. You can live in a community your age in a world-class city, and we can give you that same community, fraternity, whatever you want to call it, experience, and give you online learning. We unbundle those things and recombine them in a new way.

Larry Bernstein:

Let's end on a note of optimism.

Michael Smith:

I'm optimistic that higher education is moving. When I started giving talks about this, there was anger towards the idea that technology would change how we deliver education. I'm starting to see much more receptiveness among my colleagues to the idea that we need a new system, not as

a replacement, but as an alternative for students who don't fit into the traditional four-year degree.

Larry Bernstein:

Thanks Michael, it is now time to switch to our second speaker, my son Jonathan Bernstein, who will tell us about the disruption in higher education from the student's perspective.

Jonathan Bernstein:

I am Jonathan Bernstein. I am a rising senior at Northwestern studying cognitive science and entrepreneurship.

Larry Bernstein:

Jon, tell me about your first year as a freshman and your experience with COVID.

Jonathan Bernstein:

My first year at Northwestern was 2020, which was the first year of the hybrid online model. And to say the least, it was problematic. The online classes were not engaging nor cohesive. They were mostly lectures, intro classes. I could not connect with other students in those classes, and we did not have a smaller group interaction.

Larry Bernstein:

Did it get better the second year?

Jonathan Bernstein:

Surprisingly, it did not get better. The second year of online learning, Northwestern was a bit slow, and we transitioned back to in-person, but there was no improvement really between the first year and the next.

Larry Bernstein:

Tell us about some of your online learning experiences?

Jonathan Bernstein:

My online academic experience apart from university has been extremely positive.

I took the online class at Wall Street Prep on technical finance, and I really enjoyed this class. It focused on accounting, financial modeling and analysis.

Larry Bernstein:

And why was the course successful?

Jonathan Bernstein:

The course was very efficient and effective. It would start with a high-level overview. We would then break down to the nitty gritty quantitative aspects. This really worked for me in developing an understanding of financial modeling, but also how to do it myself.

Larry Bernstein:

Tell us about your online course in coding.

Jonathan Bernstein:

My coding experience was also very positive. I started with Code Academy, which is an online course. However, it was slow, and I didn't feel engaged, so I went on YouTube. I typed in teach me how to code in R. I went through about five or six videos, and I settled on an individual who appeared smart and who I enjoyed listening to. This was a 10-hour course, and it's organized on YouTube where you can click and skip to what lesson you want to go to.

He also included a zip file where I could download the assignments and follow what he was doing on YouTube.

Larry Bernstein:

How did your YouTube teacher make any money?

Jonathan Bernstein:

There were ads running.

Larry Bernstein:

Did you find the advertisements annoying?

Jonathan Bernstein:

Usually, I do. However, I'm gaining so much from this video, I really didn't mind.

Larry Bernstein:

How do you plan to learn after graduating from Northwestern?

Jonathan Bernstein:

I have an entrepreneurship minor where I've developed the soft skills that an MBA provides. However, for the more technical skills, I could either learn this on the job or through these online courses. In many finance jobs, there is a one- or two-year training program, and a lot of them use

Wall Street Prep where they have their new graduates take these classes and then they'll have a retired banker come in and reinforce this knowledge.

Larry Bernstein:

How have you started using Chat GBT to improve your studying?

Jonathan Bernstein:

Chat GBT is a fantastic resource for learning technical skills, and it really functioned as a TA or a tutor. I would say, please explain this topic to me, then can you give me a quiz? If I get something wrong, I ask it to explain it to me. I can specify what I wanted to go in depth in. And this was very effective as if I took an online quiz with Quizlet, for example. There would be no further depth other than I'm right or wrong and I had to figure it out. I've really enjoyed this interactive aspect. I would get something wrong. It would explain it to me. Then I would say, hit me again. And eventually I would become very confident and move on.

Larry Bernstein:

From your perspective as a student, where do you see online education going?

Jonathan Bernstein:

The online learning experience is not a spectrum. It's binary. You're in the classroom or you are at your computer doing it at your convenience. When you get in the middle, you are losing significant aspects on either side. So, the optimal online experience is one where I can work on my studies and continue this class in a very efficient manner. If I have 20 minutes right now in between meetings, I can hop on, review a topic, and reinforce this so I can learn quicker and implement this knowledge very effectively.

Larry Bernstein:

Where has collaboration been most successful at Northwestern?

Jonathan Bernstein:

My entrepreneurship class is extremely collaborative. Most of the time I am pitching a business idea to my fellow students and working on my public speaking skills and being creative. One of my entrepreneurship professors had recently won first place in the New York City startup competition. So, being able to learn directly from a very accomplished entrepreneur is priceless.

Larry Bernstein:

You live in a residential college, what are the benefits of living with your fellow students?

Jonathan Bernstein:

Living with my friends has been valuable and a lot of fun. One person living in the house, we were in the same computer science class, and we would be able to work together every night, where we'd be grinding on the same assignment.

Larry Bernstein:

How did Northwestern professors handle students that cheated on their exams?

Jonathan Bernstein:

Professors were upfront in that we know that some of you're going to cheat and one, it's not okay. And two, we're going to implement some security measures. There's some software that locks your browser so you're not able to do anything else on your computer and not able to exit the quiz. They did change by making the final exam open book.

Larry Bernstein:

Tell us about your experience with academic clubs.

Jonathan Bernstein:

I've run the business healthcare undergraduate club at Northwestern. And this experience has been extremely positive.

It's funny because you did the podcast. I've run the speaker events in which I get speakers in finance and healthcare to come speak with us.

So, our most notable speaker was my former boss, David Bunning. He was fantastic, and I got a rather large crowd as I reached out to the economics major list and sent this out Kellogg. The students enjoyed having him come in to not only get his perspective, but I know some students of ours were able to approach him for an internship or a reference. So, this also really helped our students' career opportunities.

Larry Bernstein:

If you were enrolled at an online university and you had a club and asked people to join it and participate by Zoom, would it work effectively?

Jonathan Bernstein:

Not at all. We had some club meetings on Zoom. People wouldn't show up. People would have their cameras and mics off. It felt like you were talking to the screen. It was no fun. And the engagement, which is the core of this whole club, is not there.

Larry Bernstein:

Jonathan, I end each episode with a note of optimism. What are you optimistic about as it relates to online education?

Jonathan Bernstein:

I am very optimistic that more and more people will be able to gain a solid education, even though that may only primarily be in technical skills.

Larry Bernstein:

Thanks to Michael and Jonathan for joining us today.

If you missed last week's show, check it out. The podcast was The Art of Conversation. Our first speaker was Paula Marantz Cohen who is the Dean of the Honors College at Drexel University. Paula has a new book entitled Talking Cure: An Essay on the Civilizing Power of Conversation. Paula spoke about what is critical to a successful conversation and why we should care.

Our second speaker was Darren Schwartz who is our What Happens Next Film Critic. Darren reviewed three of my favorite films that deal directly with talk. They were Woody Allen's Annie Hall, David Mamet's Glengarry Glen Ross, and Spike Jonze's movie Her.

Darren's discussion was very entertaining, and I hope you will enjoy it.

I now want to make a plug for next week's podcast with Stanford Law Professor Michael McConnell who has a new book that was just released entitled Agreeing to Disagree: How the Establishment Clause Protects Religious Diversity and Freedom of Conscience.

Michael thinks that separation of church and state has been misunderstood. The government should not endorse any specific religion or require secular views in public institutions.

You can find our previous episodes and transcripts on our website whathappensnextin6minutes.com. Please subscribe to our weekly emails and follow us on Apple Podcasts or Spotify.

Thank you for joining us today, good-bye.