# College Disrupted

Ryan Craig, published 2015, 237 pages

***A condensation by Sajith Pai***

**Quick Digest**

U.S. universities are not outcome focussed. Rather they are all focussed on delivering the same type of inputs, thanks to the 4 Rs (Rankings, Research, Real Estate and Rah) which characterise the typical university. Additionally Universities have delivered a bundled experience thus far. But as online delivery of education improves, the unbundling of the traditional functions served by the university will accelerate. The elite legacy campuses will persist, but many of the non-elite campuses will be forced to become hybrid universities focused strongly on student learning and outcomes. These hybrid universities will be built around competency-based learning, and will focus on delivering job-relevant capabilities, leading to enhanced student outcomes and satisfaction.

*The chapterwise summary is as follows.*

## Chapter 1

In this chapter, Ryan Craig introduces the reader to the distinctive U.S. higher education system.

- Key highlights include - 6,000 institutions including those that offer 2-year Associate Degrees, employing over 3m people, enrolment of over 20m and revenues of $500b annually, an increase of over 30% from over 15 years ago.
- Over 70% of U.S. high schoolers matriculate (move into college) - the highest level in the world
- Graduation rates hover around 55% (pg 6 but pg 127 says 53%) for 4-year colleges, 29% for 2-yr colleges. In some state univs, less than 25% graduate within 6 years of enrollment. In the top 50 colleges, however graduation rates are 90%+.
- Only 29% of the 20m enrolees are 18-22 year old full-time college students.
- 70% of the 20m are enrolled in public univs (U of Wisconsin), 20% in private non-profits (a la Harvard) and 10% in private for-profits (U of Phoenix)

Craig introduces the concept of the **4 Rs** that dominate the U.S. higher ed landscape. They are

1. Rankings
2. Research
3. Real Estate
4. Rah! (sports)

All of the above while easy to measure and communicate to the outside world, have nothing to do with student outcomes. The result of the above, and especially the drive for rankings, is **isomorphism**, the phenomenon by which U.S. universities acquire similar characteristics in their quest to imitate and catch up with the top 50-ranked (research) universities. (In their book, *The Innovative University*, Clayton Christensen and Henry Eyring refer to this phenomenon as 'Carnegie Creep')

Traditionally the ownership of a degree is correlated with higher incomes - college grads make 85% higher than high school grads over a lifetime - and on the job performance. Craig however doesn't think this is necessarily a cause-effect phenomenon. He asks us to imagine a scenario where the pool of individuals who earned a degree would have demonstrated higher employment levels and income as a result of their initiative, talent and grit (without regard to whether they earned degrees). What if, he asks, degrees are a "playpen for 18-22 year-olds"; put there "until they become safe for the workforce"? This is essentially the self-selection bias at work (any situation in which individuals select themselves into a group).

The next 3 chapters covers the 3 crises of affordability, governance and data in higher education.

## Chapter 2

Affordability of higher education is a key theme in U.S. education today. How has it risen? Let us look at the three segments of U.S. higher ed separately.

- Public universities - due to reduced state funding, universities have to reduce scholarships, grants and take prices up
- Private Non-Profits - high prices albeit with discounts, which lead to complexity in pricing
- For-Profits - rising customer acquisition costs

The affordability issue is also impacted by

- credit transfer barriers between colleges leading to additional credits required to graduate, and more time taken to pass out adding to costs
- declining employability for non-STEM grads; the variance in earnings between STEM and others has been increasing

Law schools in particular have been the canary in the coal mine, says Craig. Historically these are profit centers for univs, but have been impacted considerably by structural changes in job market, and the above themes. Their decline, and the large number of law school closures as well as declining enrolment, holds key messages for universities as a whole.

## Chapter 3

Higher Ed governance is failing due to

- unclear objectives: unlike other non-profits, univs have multiple and not always synchronized objectives. As an example take sports which does nothing to students' learning but keeps alumni happy
- shared governance with multiple stakeholders and shared governance
    - The failure on governance has been accentuated particularly by rise in non-teaching admin staff (referred to as 'deanlets'). This admin bloat is a key reason for higher ed's growing cost base. Each of these hires are driven by well-meaning reasons - many of the hires deal with semi-academic issues such as mental health, sexual assault or disabilities issues. The net effect however is increased staffing which does not aid in student learning.

The manifestation of poor governance can be seen in how it is impacted by and impacts the 4 Rs. Rankings such as that of U.S. News reward expenditure on students, and this encourages univ admin to spend - typically on real estate, sports (rah!) and allocation to research. Typically most of research done is quantity and not quality-driven.

The consequence of this allocation to the wrong kind of research is that faculty members' promotion is led by their publishing output; they are not incentivized for student outcomes / better teaching for tuition-paying students. Few trustees today have teaching quality on the agenda.

Another manifestation of the failure of governance lies in that few of the selective institutions are transforming lives of the poor or racially disadvantaged. The benefits of higher ed, and access to selective univs are typically going to the better-off in these disadvantaged communities, e.g., 75% of students in top 200 colleges come from the upper income quartile. Only 5% come from the bottom quartile. Clearly, colleges are failing to live up to their end of the social bargain that comes from state funding.

## Chapter 4

This chapter explores the crisis of data in higher ed. Data in higher ed is almost always used to measure inputs, and rarely to measure outcomes (except for 4 Rs) or even agree on what constitutes the right outcomes.

Where outcomes are tracked, such as graduation rates or completion, we do not always track all students. Part-timers are not tracked rigorously. This is manifested in poor completion rates as shared in Chapter 1.

We also don't track or measure quality of learning, or what exactly students learned. This is in some ways linked to the fact that in higher education, payments are made for inputs, and not for outcomes (such as in medicine). This is manifested in the fact that there are no clear agreed-upon metrics to determine whether there is a problem.

Craig illustrates this through the story of the band Van Halen's insistence on no brown M&M candies in the dressing room. They used this as a '**signal metric**' to determine the event organizer's attention to detail. Higher education needs such signal metrics to gauge progress and determine concerns.

Thanks to education moving online and the rise of big data analytics, we may soon be able to start tracking learning and effectiveness of specific interventions.

## Chapter 5

Analyzing the MOOC phenomenon, Ryan Craig says, MOOCs will stay irrelevant unless they lead to a widely accepted credential for the job market. But most prestigious institutions are reluctant to issue credentials for their MOOC offerings for fear it will devalue their physical offering.

MOOCs also have the following failings

- Few (<5%) complete courses
- Most enrolees already have degrees
- Increasingly, traffic seems to be declining on a per-MOOC basis. The days of the 6-figure MOOC seem to be over.

Overall the MO part of MOOCs is the issue. Online courses are fine, but massive and open make them ineffective from the student point of view.

How can online courses address the 3 challenges of accessibility, affordability and efficacy? Craig believes that technology will play a decisive role in answering this query, not by replicating the traditional on ground experience, but by reimagining the complete experience to create an entirely new experience. Here he asks us to consider the iPhone and how it reinvented the smartphone category, then dominated by Nokia and Blackberry, when it launched in '07.

Another industry that education could learn form in creating intense consumer engagement is the gambling industry, says Craig. Casinos, and slot machines use knowledge of consumer psychology in creating 'digital hooks' to engage and monetize customers.

Craig refers to 3 developments, linked to advances in technology, that are helping us solve for problems of accessibility and efficacy

1. **Competency-based learning or education** (CBE): This starts with capabilities required by employers and works backward to build assessments to judge / measure capabilities, and then determines the required curricula. Done well, CBE reduces the cost of delivery of online education by half. It is also higher on efficacy - as it replaces the credit-hour model where you have to demonstrate mastery in an arbitrary period of time.
    a. Craig illustrates this with a quote from Sebastian Thrun, MOOC pioneer and founder of Udacity, who says that when some one fails,

we given them a C or a D, and send them off to the next class. As opposed to this, when we are learning cycling, we keep at it till we master it.

2. **Adaptive learning**: Combining adaptive learning with CBE is the killer app of online education. While adaptive learning is distinct from CBE, it usually accompanies it. Adaptive learning allows students to learn at their own pace by varying each future lesson in accordance with their performance or progress thus far. Adaptive learning is seeing a surge thanks to the availability of telemetry data due to tablet / phone usage. Telemetry data includes stuff such as movement in tablet, is student switching in and out of the program, ambient noise etc. Factoring in this data enables better program and delivery design.
3. **Gamification**: In video games, players are able to focus energies due to interactivity and competition. Thus integrating rewards and recognition such as badges, leaderboards, challenges into curricula can help enhance student engagement and improve outcomes.

Craig also highlights the simplicity in design of higher ed services - something that even a stoned freshman should be able to figure out, he says. This is something that is missing from the present credit hour model. He also highlights designing the CBE system for total immersion - which is the biggest advantage that a physical learning environment provides. He says that an online system can enable this by striving to create 'flow', or a zone of intense focus on learning. This can be done by enabling an environment of challenging work that stretches the individual, with clear goals and consistent feedback.

## Chapter 6

**A degree is an opaque bundle of many signals**, including (1) specific knowledge and skills represented by the program of study (2) general education (3) stick-to-itiveness to complete a multi-year endeavour (4) certification that the individual met the institution's standard of admission (6) intangible benefits such as building a network and access to transformative experiences.

To enable all of the above, colleges have combined content and functions into a single bundle for which they charge 'tuition and fees'. The content bundle includes remedial course work, general education courses and advanced courses. But the larger part of the bundle includes all the things univs take on that dont relate to student outcomes. As Anant Agarwal of edX asks "Universities are responsible for admissions, research, facilities management, housing, health care, credentialing, food service, athletic facilities, career guidance and placement, and much more. Which of these items should be at the core of a university and add value to that experience?" These functions don't add time-to-credential, as the content bundle does, they add to the cost reducing the return on investment for students.

**Unbundling** has led to dramatic transformations in industries such as music, airlines and newspapers. Now this trend is impacting universities as well.

Typically bundling is sustainable if 3 conditions are met

- Economies of scale in production: efficiencies in creating and delivering different parts of the bundle together, exist. As an example university has an advantage in delivering classes in french literature and business studies together.
- Heterogenous demands of consumers: i.e., consumers value different elements in the bundle differently
- Simplification: customers appreciate simplifying the purchase decision by buying the bundle, rather than shop around for different parts.

Given the above criteria for bundling, the degree will certainly persist for a while. Craig here explores the possibility of education providers transitioning from selling bundled degrees to unbundled courses, structured akin to how an adobe or salesforce.com sells its software as a service (SAAS). Craig calls this **Education as a Service or EAAS**.

The biggest threat that universities are likely to face for their bundled product results from the data that is emerging for what the job market is asking for and what the univ is providing. This is emerging thanks to the rise of **competency-management platforms** that allow job seekers to upload rich transcripts, which can be analyzed by algorithms basis specific job requirements. This will lead eventually to a full-blown **human capital marketplace**, with a clear correlation between educational qualifications and job availability, and eventually a more homogenous education market with most people graduating from in-demand courses such as programming and business.

Until these competency-led platforms gain widespread acceptance, badges or stackable credentials won't gain much traction. Still in this intermediate phase, there could be possibilities for **double-click degrees**, these are transparent transcripts which enable a clear understanding of each course and the specific competency, or skill, pertaining to employer's need that it instills. He gives the example of Linn State College in Missouri, which gives the graduating student a degree accompanied by a transcript that reports a job readiness score - one that the employer an double-click to learn a lot more about the course and the competencies that the student has demonstrated.

## Chapter 7

In this chapter, Craig outlines a series of actions that the univ can pursue to prepare for the great unbundling that is on hand.

1. Refocus academic programs on competencies employers care about. ACT, the leading assessment org, states that 95% of all jobs can be expressed as a combination of 3-5 fundamental skills, including 3 that form the ability composite (applied math, reading for info, locating info), assessment of which is the best predictor of job performance. In addition to these cognitive skills, employers also look for other skills such as written and verbal

communication skills, critical thinking and complex problem-solving skills. For lower-level jobs the employers look for work attitude and self-management skills such as punctuality, time management, motivation, work ethic etc., over and above communication and cognitive skills. Stressing the delivery of these skills in the context of their degree offerings could prove highly differentiable for universities.

2. Discourage students from pausing their degrees. Fewer than 5% of students who pause twice complete their degrees. This pausing is one reason why community-college completion rates are below 20%, and only about 55% of students complete their degrees at 4-year colleges. Pausing is also influenced by the increasing complexity of pathways, led by large course choices, for students as they gather credits to complete the degree.
3. Enhance rigour of academic offerings. Given the stress universities place on student satisfaction, and faculty focus on research, the university gives the student an easy ride, with limited focus on student instruction and learning outcomes.
4. Make better connections with employers  a la the German apprenticeship model, structuring course content and training to directly address industry needs.
5. End isomorphism, or trying to turn your campus into a clone of the top 50 research-led universities that dominate the rankings marketplace.
6. End the not-invented-here mindset - use ideas, course content, practices used in other peer group institutes.

## Chapter 8

Craig explores how U.S. universities stand to benefit from exporting their high quality education brand (54 of the top 100 universities as per the Academic Ranking of World Universities are in the U.S.) to the world. Given the high tuition fees that presently limit demand for education in the U.S., and the challenges of setting up campuses abroad, universities need to consider exporting their education via an online hybrid model that enables a low ticket size.

Rather than the halfway attempts of elite U.S. univs such as edX or Coursera, Craig thinks it will be a non-elite private university, or even a fully online plater who will likely create a program that will capture the online market for western education in China or India. As an analogy, we could look at the airline market, where it is not United's Ted or Delta's Song, which won the discount airline war, but instead Southwest and Ryanair, which rethought their entire business model and strategy around this. Going by this, it is unlikely if an edX or HBX will win the online market.

## Chapter 9

In this chapter Craig talks about breaking from the chains of  "it has always been thus", which constrains many univs from experimenting and innovating. He highlights Michael Crow of Arizona State University as an example of a higher ed

leader, who has innovated, without falling into the trap of isomorphism, to put ASU on the map of higher ed innovators, dramtically growing numbers of students served with improved outcomes even as rankings improve.

## Chapter 10

Craig explores the different types of players in the higher ed market. He believes that despite the present ills that plague the for-profit private sector in the U.S., primarily as a result of the misguided actions of the U.S. Department of Education, they are still best placed to ride the next wave of higher ed technology, thanks to their R&D budgets and investments in more nimble ed tech startups, and critically access to distribution through the students that they directly reach. **Distribution brawn defeats product brains in education**, says Ryan Craig, highlighting the importance of distribution in determining success in ed tech.

## Chapter 11

This chapter is devoted to criticism of the misguided actions of the U.S. Department of Education (ED)while regulating the for-profit sector. This chapter is relevant only for those from the U.S. market, or those studying it.

## Chapter 12

In this concluding chapter, Craig talks about the 2-tier system of higher education that we are moving towards -

- the bundled elite univ
- the unbundled univ for everybody else

While this seems appalling at first glance, this is a more honest system than it actually appears, Craig says. Non-elite institutions will have no choice but to abandon isomorphism and focus on best outcomes for students. Increasingly, these Tier 2 institutions will also be more outcome-focussed, using innovations such as double-click degrees and electronic portfolios to make competencies visible to employers. Over time, the outcome gap between elite and non-elite institutions will shrink. Employers will view the traditional degree in the way we view debutantes today (as a curiosity).