

University Business Models and Value Propositions in the Digital Age

Dr. Uta Wehn

Associate Professor of Water Innovation Studies
IHE Delft Institute for Water Education in partnership with UNESCO

Dr. Alec Ian Gershberg

Chair, Urban Policy Analysis and Management Program
Milano School of International Affairs, Management, and Urban Policy
University of Pennsylvania, Senior Fellow

José Tulio Gálvez Contreras

Ph.D Student, Public and Urban Policy
The New School

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I. Introduction

Higher education has many functions, but one is to provide professional and vocational training to students in order for them to access employment opportunities and build social capital. In addition, the college and university experience serves as an opportunity for the students’ personal growth, social development and awareness, as well as generating in them a sense of independence within a community. Higher education has two primary purposes: equipping students with advanced skills useful in the workplace and furthering human knowledge and understanding of the world.¹ The higher education experience should also provide tacit value through improved quality of life -- however that is defined by the student/client. This is the inherent value proposition at the center of the student-university relationship.

Colleges and universities are facing significant pressure to stay competitive and relevant at a time when the cost of an education is outpacing inflation. Young people today require vocational, technical, as well as technological skills to thrive in a competitive digital labor market.

¹ OECD. (2017) OECD Work On Education Skills. *Directorate for Education and Skills OECD*: 1-25

Higher education centers whose proposition provide their students with some of the necessary training are likely to succeed. The employability rates of the graduates matter. Therefore, as colleges and universities engage on a mission to rethink their business model, this paper proposes these institutions should first focus on the value proposition that they offer their students. The central argument for why colleges and universities should assess their value proposition is anchored on the question of what is the value of a higher education degree in a digital era?

II. Higher Education and Labor Markets Today

Many colleges and universities focus on the need to equip students with specific skills for the labor market as well as to advance their conception of the world. However, higher education attainment was not always a social expectation. Today, to some extent, higher education has become a social norm. In fact, despite much rhetoric to the contrary the return to a university degree is still high and an increasing number of individuals likely need a higher education degree to improve their socioeconomic standing. In some cases -- for some degrees or at specific universities -- higher education can provide a network that will be important throughout students' future careers (e.g. MBAs).

According to the U.S. Census Bureau's American Community Survey, over 60% of existing jobs in the U.S require job applicants to have some type of college degree -- either a bachelor or an associate -- to even consider the job application, while only 36% of the jobs require nothing more than a high school diploma.² The U.S. Census Bureau also reports in 2014 the median earnings of young adults with a bachelor's degree (\$49,900) were 66 percent higher than the median earnings of young adult high school completers (\$30,000). The median earnings of young adult high school completers were 20 percent higher than the median earnings of those without a high school credential (\$25,000).³ According to the Postsecondary Education Opportunity Research Letter (PEORL), the lifetime income of families headed by individuals with a bachelor's degree will be over \$1 million more than the incomes of families headed by those with a high school diploma.⁴ The PEORL states that every dollar spent on a college education produces \$34.85 in increased lifetime income, a decent return on an investment.⁵ So there is, apparently, economic value to the university degree in a general sense, but is this the end of the story for the "value proposition" of higher education?

III. Challenges for Higher Education

The traditional landscape of higher education, populated by public and private universities, community colleges, polytechnics and specialist institutes, is changing rapidly as result of

² Carnavele A., Smith N., and Strohl J. (2010). Help Wanted: Projections of Jobs and Education Requirements Through 2018. *Georgetown University Center on Education and the Workforce*: p. 1-16

³ National Center for Education Statistics. Income of Young Adults. Institute for Education Sciences website <https://nces.ed.gov/fastfacts/display.asp?id=77>

⁴ National University of Sciences and Technology (NUST). (2017). Higher Education Opportunities. Career Development Center website: <http://www.nust.edu.pk/INSTITUTIONS/Directortes/CDC/Pages/Higher-Education-Opportunities.aspx>

⁵ *Ibid.*

globalization, technology, and new labor market innovations.⁶ The cost of higher education is not cheap and the current labor market economy makes it difficult for students to choose between enrolling in an institution or another pathway to learning. Additionally, more and more people are learning by using online resources and various other forms of digital technology, and competition from non-traditional sources (such as Mozilla) is increasing. Access to information is readily accessible and at the fingertips of a person's hand. Statistical research by the National Student Clearinghouse Research Center shows that in the United States, both undergraduate and graduate fall-term enrollment declined by 1.4% equivalent to 19.01 million students in 2016. This drop represents a 1.59 million student decrease, compared to 20.6 million in 2011 when enrollment peaked.⁷

Over the last two decades, colleges and universities tuition and fees have gone through a steep increase. Tuition and fees at four year public institutions have more than doubled and they have increased by more than 50 percent at private four-year and public two-year colleges.⁸ This rate of increase is alarming as it has not been seen in any other sector of the economy. Some tuition and fees burdens are mitigated by colleges and universities being able to increase their grant aid, but at the same time, these sources of funding are eroding. Endowments are suffering major losses as result of the financial crisis, government aid is down, and students, as well as their parents, are stretched thin financially and cannot absorb the above-inflation tuition hikes to which the industry has grown accustomed. Increased real costs should bring a concomitant pressure to increase value.

Globalization is also changing the landscape of higher education. Colleges and universities are not only charged with equipping graduates with advanced skills useful in the workplace as well as furthering understanding of the world, but also they must provide them with training to compete in today's globalized economy. Interconnectedness and digitization of course present great possibilities for the evolution of higher education. Distance education, sophisticated learning-management systems and the opportunity to collaborate with research partners from around the world are just some of the transformational benefits that universities are embracing as result of technological innovations. But significant challenges are also evident.⁹ For all their benefits, many digital technologies are disruptive innovations —and expensive ones. Faculty members used to teaching in one way, may be loath to invest the time to learn new methods, and may lack the budget for needed support. “The online classes, some educators fear, will at best prove a distraction to college administrators; at worst, they will end up diminishing the quality of

⁶ Middlehurst R. (2001). University challenges: borderless higher education, today and tomorrow. *Minerva*, 39, 3–16.

⁷ National Student Clearinghouse Center. 2016. Signature Report 12. Completing College: A National View of Student Attainment Rates – Fall 2010 Cohort. *National Student Clearinghouse Center website*: <https://nscresearchcenter.org/signaturereport12/>

⁸ The College Board. (2017). Tuition and Fees and Room and Board over Time, 1976-77 to 2016-17, Selected Years. *Data available at the College Board Website*: https://trends.collegeboard.org/college-pricing/figures-tables/tuition-and-fees-and-room-and-board-over-time-1976-77_2016-17-selected-years

⁹ Sharma S. (2016). Global Impact of Innovative Technologies in Education. *IOSR Journal of Research & Method in Education (IOSR-JRME)* Volume 6, Issue 2 Ver. I: PP 22-26

on-campus education. Critics point to the earlier correspondence-course mania as a cautionary tale.”¹⁰

Technological innovations, moreover, are also significantly transforming jobs. Some full-time, long-term jobs are evolving into an uneven flow of “on-demand” tasks. Some traditional occupations are no longer required, while new occupations are being created, all the time. The significant impact that technological disruptions are due to have on the world of work means we are experienced a period of significant and fundamental changes. Higher education institutions remain necessary in developing human capacity to provide the skills necessary in emerging labor markets. However, they are challenged to focus on giving students the training necessary to thrive in a technologically-induced economy. The OECD 2017 skills report recognizes that today economies rely on information and communication technologies and devices that had not even been imagined just 30 years ago.¹¹ The set of skills and competencies we need to participate fully in, and benefit from, our hyper-connected societies and increasingly knowledge-based economies has changed profoundly too, along with the timing of their acquisition: no longer just at the start of our lives but via processes of lifelong learning throughout our career.¹² Colleges and universities are challenged to fill in the gaps of providing these new and necessary skills to students of increasingly diverse target and age groups.¹³ For if they don’t, someone will. Commercial providers are increasingly pushing into the education space, particularly for the provision of services of lifelong learners. Moreover, the internet and other digital technologies have significantly lowered the barriers for starting a business and entrepreneurial activities which can be taken up, with differing degrees of success, without any training and education at all.

In sum, the escalating costs of higher education in the face of advancing social mobility and emerging technologies are significantly changing and challenging higher education. So, the challenge these institutions face is how they can stay competitive and relevant. What new strategies should they embrace? How do they implement those strategies? This is forcing greater scrutiny on the business models and, more importantly, the value propositions of higher education institutions. In the digital age, what is the value proposition of higher education for (lifelong) students?

IV. Rethinking the higher education value proposition of the future

There are different classifications of colleges and universities. Their characteristics range from private to public , from community colleges to elites (e.g., the “ivy league”). Each of these types has a distinct business model, with distinct value propositions. One useful way to

¹⁰ Carr N. (2012). The Crisis in Higher Education. *MIT Technology Review*.

¹¹ OECD. (2017). OECD Work On Education Skills. *Directorate for Education and Skills OECD: 1-25*

¹² *Ibid.* (2013). Skills for Life? Key Findings from the Survey of Adult Skills. *Office of the Secretary-General OECD: 1-30*

¹³ Carnavele A., Smith N., and Strohl J. (unknown). Recovery: Projections of Jobs and Education Requirements Through 2020. Executive Summary. *Georgetown University Center on Education and the Workforce: p. 1-14*

distinguish these institutions is to think of them as classified by Kenne and Price's new higher education ecosystem model (see Figure 1) which divides them according to their admission policy (ie, target group), research and learning/teaching orientation, and revenue model:

1. *The 'Ivy League' independents*, which entail highly selective, research intensive, private funding, not-for-profit institutions.
2. *The very lucky few*: highly selective, research intensive, private and public funding.
3. *The vertically integrated*: open access and/or content, learning focused, public and private funding.
4. *The networked for profits (tuition-based)*: open access and/or content, learning focused, private funding, for profit.¹⁴
5. The "*undifferentiated centre*", or the space in which most institutions operate.

The reason why classification systems such as this one are relevant in our current context is because the way colleges and universities are conceived now, are likely to change in the future, and a typology of universities is likely to yield a typology of business models and value propositions. Table 1 further examines the key characteristics of the different types of institutions in this typology or 'ecosystem' leaving open the question of the distinct value proposition for each type. This is a topic to be explored in the near future.

Higher education business models need to encompass more than how they operate financially, but rather focus on what they offer their students. Students require new skills that will allow them to adapt in highly competitive environments that are continuously changing due to digital transformations. Students need to be able to communicate effectively, understand how to use and manage ever new digital technologies, be able to be self-starters, creative and entrepreneurial. Additionally, the traditional educational disciplines such as medicine and engineering and law will have to combine efforts with other multidisciplinary careers. History and the arts studies, for example, will become more relevant in the digital era as these forms of expressions will help inform the changing landscape in the workforce which is also influenced by political, economical, globalization, and natural factors.

An innovative framework could entail university and colleges rethinking their current business model approach by focusing on what Osterwalder et al. (2014) call the value proposition canvas (see Figure 2). It will force higher education institutions to focus on their customers – the students – and only thereafter on their own strategies and revenue models.¹⁵ Students are looking for access to knowledge and education services across new platforms and with more flexible delivery options. To be competitive and to meet these expectations, universities will need to invest in expensive facilities and infrastructure. Universities administrators must therefore rethink their business model by focusing on the students. As they begin to do so, they must ask themselves specific questions in regard to their students. What do students and lifelong learners need to

¹⁴ Kenne T. and Price I. (2012). Disruptive innovation and the higher education ecosystem post-2012. *Leadership Foundation for Higher Education*.

¹⁵ Osterwalder, A., Pigneur, Y., Bernada, G., Smith, A. (2014). *Value Proposition Design: How to Create Products and Services Customers Want*, John Wiley & Sons.

learn? What type of skills and competencies do students need to succeed in an environment of ever increasing technological change, automation and labor market challenge? How do you best empower their learning? While these aren't new questions, the answers are shifting rapidly. The value proposition canvas allow us to analyse the student needs (the demand side) in detail, taking into account the 'pains' (obstacles, risks, negative outcomes) and 'gains' (aspired positive outcomes) the students are experiencing during their enrolment, study time and graduation.

Higher education institutions should understand who the students are that they serve and what it is that they are trying to do by serving this audience. Additionally, it is imperative for colleges and universities to consider how they deliver their services to students, while acknowledging the nature of their relationship with their students.

Under a value proposition framework, colleges and universities can outline a roadmap based on three important components on the supply side:

- (1) the services which the value proposition of a higher education degrees is built around
- (2) the 'pain relievers' outlining how the colleges and universities alleviate student burdens in a changing and fast paced society, and
- (3) the 'gains creators': colleges and universities degrees have in generating positive outcomes and benefits from the services they provide to students.¹⁶

First, *by considering the profile of target student population in detail colleges and universities can know how to outline the bundle of services* being offered to their students in ways that are attractive enough for students wanting to partake in their education. The second aspect, *pain relievers, makes explicit how the higher education institutions will alleviate specific student pains before, during, and after the students complete their degrees* – i.e. access to decent paying jobs. The colleges will be able to show which of all the student pains the proposition is addressing, eliminating, or reducing. Third, the *gain creators make explicit how higher education create desired outcomes for students*.

The value proposition framework suggests that once colleges and universities thoroughly understand their student profiles, their specific pains, gains and needs, then they can identify solutions for these specific problems. This is what is considered the 'problem-solution fit': when the features of the value proposition match the characteristics of the customer segment profile.

What does all this have to do with the business model of higher education? Colleges and universities must bear in mind that successful businesses have more than just a value proposition. They have a great overall business model that makes the value proposition possible: key activities, resources and partners; customer relationships and channels for different segments; and, not least, a sound cost structure and revenue model. For traditional colleges and university to stay competitive, it is imperative they start identifying the range of new developments and the challenges they pose. By looking at the value proposition that colleges and universities offer to

¹⁶ Osterwalder, A., Pigneur, Y., Bernada, G., Smith, A. (2014). Value Proposition Design: How to Create Products and Services Customers Want, John Wiley & Sons.

students as the core of their business model, essentially these institutions will be providing positioning statements that explain what benefits they provide and how they do it uniquely well. Moving forward, the question becomes whether colleges and universities of today have what it takes to design great business models and value propositions with pain relievers and gain creators that match real students' needs, pains and gains?

VI. Conclusions: understanding and creating value in higher education

Learning in the 21st century is undergoing great transformation with the expansion of globalization. More and more people are learning by using online resources and various other forms of digital technology. Access to information is readily accessible and at the fingertips of a person's hand. The cost of higher education is also not cheap and the current labor market economy makes it difficult for students to choose among whether to enroll in an institution or choose to work.

Colleges and universities face daunting challenges to long-established business models. These institutions are under extraordinary pressure to produce more and better-trained, skilled graduates while doing so with decreasing revenues. Despite constrained budgets for some, colleges and universities are also expected to provide more services for students and the community - i.g. town-gown revitalization efforts. They are further expected to innovate within their curriculum and co-curriculum by providing new pedagogies, delivery models, high-impact learning experiences, and technologies. Meanwhile, steadily climbing costs of higher education inhibit potential applicants from pursuing and completing degree programs.¹⁷

Colleges and universities engage these challenges in myriad ways, including with leadership and management practices based largely on tradition. But, if the current array of higher education institutions are to survive and succeed, they need to change their business model approach. Rather than focusing on the traditional model of expecting students to enroll just because a higher degree is necessary in the labor market, they should truly focus on what the students actually need to thrive in a fast pace and changing labor market.

This focus on each institution's value proposition will be conditioned in part by where an institution fits within the typology of universities, as well as where it wishes to position itself in the future. The exercise will not be easy or, necessarily, encouraging for any given institution. Analysts and administrators must be willing to accept that there may not be a market for what they are selling. Whether or not any given institution can thrive will depend in part on a clear-eyed view of the value proposition and the institution's capacity to evolve to meet it within the constraints of its business model, resources, and human capabilities and will.

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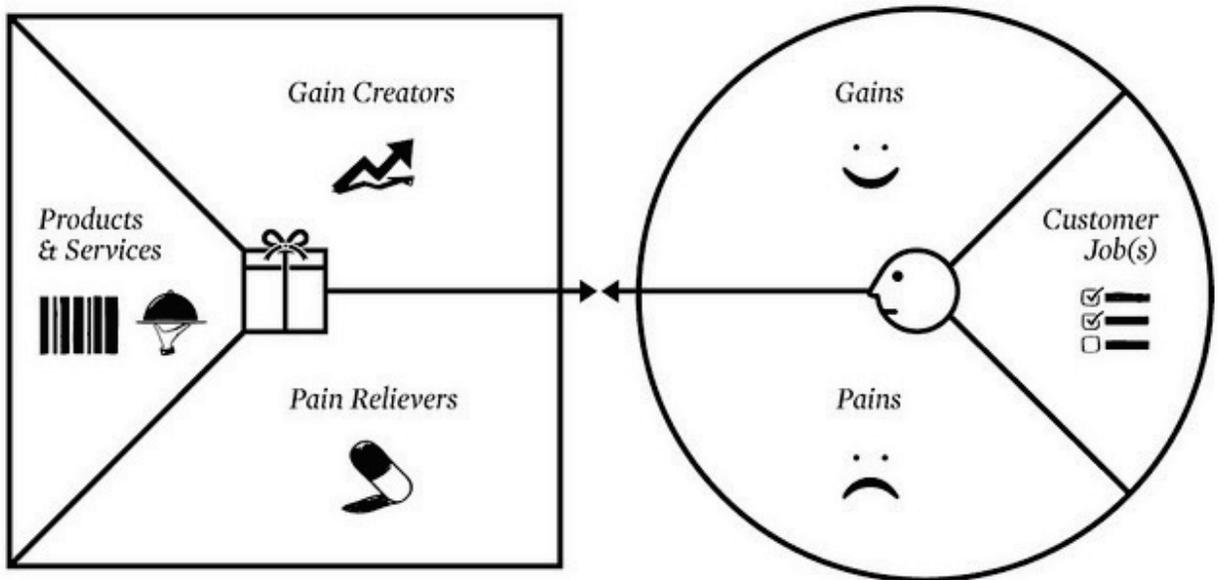
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Figure 1: Higher education Ecosystem and University Typology



Source: Price and Kennie (2012)
<http://shura.shu.ac.uk/5030/>

Figure 2: The Value Proposition Canvas



Source: Osterwalder et al. (2014)

Table 1: Description of Categories of Colleges and Universities based on Kenne and Price's disruptive innovation and the higher education ecosystem post-2012

Categories	Unique Features	Value Proposition
Ivy League Independent (Q1)	<ul style="list-style-type: none"> • Elite, most selective group of colleges and universities • Admissions rates of 33 percent or less • High academic standards and strict admissions requirements • Cross-disciplinary education • Provide the key link between global science and scholarship and a nation's scientific and knowledge system. • Produce much of the new information and analysis that leads to important advances in technology and contributes to better understanding of the human condition through the social sciences and humanities • Contribute to culture, technology, and society and international institutions that link to global intellectual and scientific trends. • Offer four-year and graduate education 	??
The Very Lucky Few (Q2)	<ul style="list-style-type: none"> • Highly selective admissions • Research intensive institutions • Competitive environment • Public, offer lower tuition, especially for students who are residents of the state where a college is located • Private, rely mainly on tuition, fees and private sources of funding • Produce much of the new information and analysis that leads to important advances in technology and contributes to better understanding of the human condition through the social sciences and humanities • Contribute to culture, technology, and society and international institutions that link to global intellectual and scientific trends. • Mostly four-year and graduate education 	??
The vertically integrated (Q3)	<ul style="list-style-type: none"> • Competitive • Open access and/or content, learning focused • Prioritize the knowledge and skills they teach students based on reflection and feedback • Two-year, four-year, post-graduate • Public, offer lower tuition, especially for students who are residents of the state where a college is located • Private, rely mainly on tuition, fees and private sources of funding • Both, liberal arts and technical education 	??

	<ul style="list-style-type: none"> • offer specialized training in particular industry or career • responsible for the largest increases in graduation rates across the states over the past decade • faculty engage students in creative thinking and encourage interaction and debate • offer two-year, four-year, graduate education 	
The networked for profits (tuition-based) (Q4)	<ul style="list-style-type: none"> • Operate as business ventures – making profits for shareholders and providing education for students • Moderately competitive • Open access and/or content, learning focused • Only rely on tuition, fees and private sources of funding • Offer a variety of degree programs which typically prepare students for a specific career • Tend to have higher costs • Credits earned may not transfer to other institutions 	??
Undifferentiated Centre	<ul style="list-style-type: none"> • 40 to 50 percent of institutions? • Increasingly squeezed but not always uncomfortable. • Mobility to Q1-Q4 is questionable, so then what? 	??