

How Competitive Advantages Can Lead to a Great Research University: *A Case Study of UC Berkeley*

What enables a university to become and remain a top-tier research institution? This question is increasingly of interest to university leaders as many grapple with decisions on where to incur deep budget cuts along with strategic investments. UC Berkeley (UCB) has been faced with the need to make budget cuts, and accordingly the Executive Vice Chancellor and Provost recently posed this question to the campus leadership: what made UC Berkeley great and kept it great? This question and subsequent discussions inspired and informed this article. Moreover, this analysis takes a novel approach that can be informative to the leadership of other research universities.

Various approaches have been used to assess the reasons for UCB's excellence. For example, some approaches have focused on the University's leadership or milestones over the past century. However, this analysis takes the approach of focusing on UCB's competitive advantages that have led to its excellence.

While competitive analysis is routine for great companies, some might think that it's not applicable to universities. In contrast to companies, many American-style research universities might be characterized as essentially comprised of independent faculty who pursue their own research interests (as well as teach); and therefore universities don't wield campus-wide competitive strategies. However, as with companies, universities have customers, suppliers, partners, and brands – along with market forces and corresponding competitive dynamics. Therefore, assessing a university's competitive advantages is an opportunity for the university's leaders to gain insight that can inform campus strategic plans as well as cost-cutting decisions.

A university's competitive advantages have different attributes. For example, some competitive advantages pertain to an entire campus or an individual program. Some advantages are applicable against all rivals or just a segment of universities (i.e. only local or international universities). Some advantages are attributable to fortuitous happenstances and others to strategic plans. And most importantly, some advantages are sustainable and while others are not. This article highlights UCB's five campus-wide competitive advantages – both sustainable and potentially unsustainable.

Note that even though this analysis starts with the advantage of UCB having an early market lead, the competitive advantages highlighted in this article should not be interpreted as having a sequential impact; instead, they should be viewed as having a mostly simultaneous impact on UCB's excellence.

Timing Advantage

UCB was founded in 1868 (about two decades before Stanford); and about thirty years later, the University was ranked in the Big Six nationally. Therefore, UCB had

established its faculty excellence and top-tier ranking before many US universities were founded or had developed a critical mass of great faculty and facilities.

The significance of a research university's early market leadership can be seen in the recent Academic Ranking of World Universities. Among the ranking's top 20 universities, only one was founded after World War I – UC San Diego (and that exception is explained below).

An early market lead offers a sustainable competitive advantage in industries with dynamics that reinforce market leads. In the case of research universities, early market leaders have benefited from two dynamics: high barriers to entry, and a self-perpetuating meritocracy system.

High Barriers to Entry: Research universities have huge barriers to entry – especially in engineering and the hard sciences. These barriers include the billions of dollars in infrastructure investments along with the multiple generations of faculty and students that it typically takes to establish a top-ranked research university.

There are a few notable examples of universities that relatively quickly surmounted the high barriers to become top-tier universities. For example, UC San Diego (UCSD) – founded in 1960 – has relatively quickly become a prominent research university. However, in many respects, UCSD didn't start from scratch. Instead, its formation could be characterized as a new division of an existing university powerhouse – the University of California. But what explains UCSD's extraordinary trajectory in comparison to other UC campuses started at about the same time? One explanation is that UCSD had a geographical advantage. In contrast to other UC campuses that were founded at about the same time as the UCSD campus, UCSD filled a large vacuum for a great research university in a region (greater San Diego County) that is not only a highly desirable place to live, but also has a strong economy.

As exemplified by UCSD, affiliation with a top-ranked university is a strategy for a young university endeavoring to expeditiously transcend barriers to becoming a top-tier university. This explains the KAUST and Singapore partnership strategies with current top-tier research universities.

Self-Perpetuating Meritocracy System: The university industry has a meritocracy system that can be defined as: university faculty, administrators and alum who influence many of the factors that drive university excellence. For example, the university meritocracy system is involved with, (1) assessing research proposals for government funding, (2) vetting papers for publication in peer-reviewed journals, (3) inducting faculty into leadership organizations (i.e. the National Academies), (4) nominating researchers for prestigious awards, and even (5) rating university programs on behalf of a variety of university rankings.

In comparison to universities that aren't highly ranked, people affiliated with top-tier

universities are more likely to be integrated into the university meritocracy system. Ultimately, the university meritocracy system drives the rankings that influence top faculty and students when they're choosing among competing universities. Accordingly, this relatively high penetration is a competitive advantage for top-tier universities in that it can self-perpetuate their top-tier ranking.

In comparison to many other universities, UCB's early market leadership has enabled its faculty, administrators and alum to permeate the university meritocracy system. For example, by the late 1950's a large number of UCB faculty were members of the National Academies. Moreover, in comparison to small universities, UCB's large size could amplify its relative penetration of the meritocracy system.

The notion of a self-perpetuating meritocracy system begs two questions. First, can a university deliberately inflate its penetration into the meritocracy system, or is that process largely organic? And second, can a top-ranked university's relatively high penetration of the meritocracy system lead to "ranking inertia" that can temporarily mask that university's decline in excellence? These questions are for another article.

Geography Advantage

As the first research universities in California to gain world-class status, UCB and Stanford developed a regional duopoly of great research universities. Later (with support from the University of California), UC San Francisco emerged as a top medical and life sciences university. Its programs largely complement UCB's programs; and along with Stanford, the three research universities now comprise a regional research university oligopoly. But this isn't just any region; it encompasses a vast geography, has an extraordinary economy, and is a desirable place to live.

Vast Geography: The UCB-UCSF-Stanford regional oligopoly covers a large geography that is centered on the Bay Area but arguably extends to northern California, and even overlaps neighboring states as well as central California. By comparison, consider the dozens of world-class research universities densely located in the Boston area, and in the Tri-State area (that includes Yale, Columbia, Princeton, NYU and other prestigious universities).

Strong Economy: As the epicenter for this regional university oligopoly, the Bay Area alone is the 25th largest economy on the planet. It's a top center for R&D-oriented industries including information technology, biotechnology and cleantech. Some of these attributes are happenstance but others can be attributed – in part, to UCB. For example, UCB (along with Stanford and UCSF) spearheaded the biotechnology and information technology industries.

Desirable Quality of Life: The region in which UCB is located has world-class quality of life including climate, culture and recreation. It's considered a highly desirable place to work, live and raise a family. Accordingly, the Bay Area has a population of over 7 million, and northern California has population of about 15 million.

This geographical advantage has enabled UCB to derive a significant competitive advantage over its many rivals that aren't located in highly desirable regions. More specifically, when other key competitive attributes are approximately equal (i.e. compensation for faculty) between UCB and an out-of-region rival university, many top faculty and students choose UCB over the rival because they want to live in this region.

The importance of location explains why some universities – including Carnegie Mellon University – have established satellite campuses in areas such as Silicon Valley.

Funding Advantage

Great research universities need to establish competitive advantages that will garner the funds required to establish and maintain great faculty and facilities. UCB's funding advantage becomes evident when compared with the funding advantage of its regional rival – Stanford.

UCB has historically enjoyed a competitive advantage in obtaining generous funding from the State of California. Between the formative years of the 1920s into the 1960s, the State was a large source of funds for the University. In contrast, Stanford has established and maintains a competitive advantage in attracting funds from corporate sponsors and donors of research. In FY2009, Stanford received \$217 million in part through 57 industrial affiliated programs. In comparison, UCB received \$58 million via industry-sponsored research.

These two funding strategies aren't absolute differentiators. For example, Stanford has obtained funding from the State of California, and UCB benefits from funding from the Department of Energy via the University's operational and geographical relationship with the Lawrence Berkeley National Lab.

More importantly, UCB's funding strategies don't necessarily offer sustainable competitive advantages. For example, UCB's state funding has waned, and therefore the University has increased its funding from industry (as exemplified by the recent \$500 million agreement with BP), as well as from donors (as exemplified by the current Campaign for Berkeley's \$3 billion goal).

Brand Advantage

Educational excellence and access is a combination that UCB has cultivated as a differentiator in comparison to other top-tier universities – especially private elite universities. This combination has become a distinction of the UCB brand, and many speculate that this distinction helps attract and retain great faculty. However, UCB's practice of essentially matching the faculty compensation offers of poaching competitor universities seems to indicate that UCB's excellence and access isn't a primary competitive advantage in retaining top faculty (though it's probably at least a tertiary factor). In the competition for faculty, private elite universities counter the UCB brand's

combination of excellence and access via need-blind admissions as well as diverse student bodies (and faculty).

However, the recent \$110 million Hewlett Challenge to endow 100 faculty chairs at UCB is evidence that UCB's brand can be a source of competitive advantage in obtaining philanthropic funds used to help attract and retain great faculty. In the context of competing for large donations, the unique combination that UCB has over private elite competitors is not excellence and *mere* access, it's excellence and *mass* access – on the scale that can impact societal mobility.

Declining budget support from State of California could jeopardize the sustainability of this UCB competitive differentiator associated with mass access (especially for the middle class).

International Market Segment Advantage

When competing against rival research universities in other countries, UCB leverages the four competitive advantages highlighted above, but it also leverages an additional competitive advantage: the exceptional qualities of the US university system. These qualities include an open intellectual environment, faculty governance, and excellence driven by peer-review, as well as the farsighted financial support from the US government and corporations.

However, globalization has led other countries to realize the benefits of the US university system, study our system, and work to emulate it in their own countries. In the long-term, this trend will nullify a competitive advantage that UCB and other top US universities have had over many research universities outside of the US.

Summary

An analysis of a top-tier university's competitive advantages can provide insight into how that university achieved its excellence. These advantages can include early leadership (maintained by high competitive barriers and a self-perpetuating meritocracy system), geographic, funding and brand differentiators, as well as advantages applicable to certain market segments and specific campus programs.

In addition to providing insight into how a university becomes a top-tier research institution, this type of competitive analysis can also help inform a university's leadership on how to sustain research excellence – especially in face of severe budget cuts and other changes such as the globalization of the university industry.

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