Measuring and Comparing the Brand Equity of Pomona College and the 5-C Colleges

How does Pomona College's "brand equity" compare to that of CMC, Pitzer, HMC, and Scripps, as well as the 5-C benchmark?

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Abstract

The reputation and brand name of a college or university is an extremely important quality to alumni, students, prospective students, and outside organizations. Over the past twenty years, the US News and World Report along with other publications have made an entire business out of ranking the “best” colleges each year. In this paper, we use an adapted version of David Aaker’s *Brand Equity Ten* measures in order to build a model that produces the brand equity of each of the Claremont Colleges across a number of specific measures. With data supplied by the Common Dataset as well as the Offices of Institutional Research we were able to delve deeply into what factors are important to the brand equity of each college and how this brand equity has changed over time. Our model provides a way of measuring as well as analyzing brand equity within liberal arts institutions.

I. Introduction

Brand Equity

In today's society, having an established brand can be a significant competitive advantage. Every year, during the Super Bowl, companies pay millions of dollars for advertisement space to reach a massive target audience in hopes of selling their product. In essence, the goal of this advertising is to build a brand name and associations with a product so that consumers will buy this product in the future. The consumers' recognition of an established brand name is a valuable indicator of the company or product's superiority in the market. Imagine for a second that you are a company going out of business—Kodak. While you are no longer able to sell many products and even though your technology might be out of date, there is still a value added to a product by having the name Kodak on the box. When consumers hear the name Kodak they associate it with an established quality brand compared to what might be offered in a generic brand. This quality is known as Kodak's brand equity.

Brand equity is the "value added" endowed to a product of service that a company realizes from a recognizable name as compared to comparable product or service. This measure derives its significance from "brand knowledge" of consumers and can offer an important view into dominance over competing brands. A brand is a distinguishing name and/or symbol (such as a logo, trademark, or package design) intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors. Aaker cites that, "a brand thus signals to the customer the source of the product, and protects both the customer and the producer from competitors who would attempt to provide products that appear to be identical." (Aaker 7 Managing Brand Equity: Capitalizing on the Value of a Brand Name)

The differences between a brand, branding, and brand equity can sometimes be quite confusing. A brand is not just a logo on a product, but rather the sum total of all that is known, thought, felt and perceived about a particular company, service or product. Branding is therefore the process of making products and companies into a brand. Brand equity can be defined as a way to describe a brand and measure its total value. It is therefore the value that a consumer attaches to a certain brand. Given this foundation, brand equity is an important factor when evaluating a product, service, or institution and can provide a useful strategic function to guide future management as well as consumer decisions, thus creating a common denominator. In the accounting world, when one company acquires another company they will pay a price above the market prices because of a premium (goodwill) associated with the company's existing reputation, quality, and name. Although universities and colleges are rarely exposed to this type of evaluation, there undoubtedly exists an intangible value associated with a college's brand name. The aim of this research project is to derive a method to most accurately and thoughtfully measure this brand equity. In this paper, we will also explore the strengths and weaknesses of each of the Claremont Colleges and how liberal arts colleges might change their policy to improve the brand equity of their college.

Brand Equity Models

A review of current literature helps clarify how brand equity can be applied to consumer products. The most notable scholars in the branding field are Professor David Aaker and Kevin Lane Keller. In a paper titled *Measuring Brand Equity Across Products and Markets*, Aaker establishes "The Brand Equity Ten", which are ten measures used to evaluate the brand equity across five dimensions of brand equity (see Table 1). Kevin Lane Keller concentrates much more on the real world applications of the methods for measuring brand equity. Chiefly, he concentrates on what methods are used by corporations and consultants when trying to measure brand equity. In C*onceptualizing, Measuring, and Managing Customer-Based Brand Equity*, Keller lays out the most standard differences between quantitative and qualitative research methods and the comparative methods for measuring those factors within a brand equity model.

Kevin Keller describes the real power of a brand as the "thoughts, feelings, images, beliefs, attitudes, experiences, that exist in the minds of consumers"(Keller 2), while Aaker argues that there is no single way to measure this statistic for many companies. One example he cites is how Intel will gauge consumer sentiment through weekly in-store surveys to see how customers would feel about buying a computer without its trademark "Intel Inside" sticker. Several important factors also associated with brand equity are brand power, recognition, and dominance over competing brands and most definitions assume either explicitly or implicitly that the source of brand equity is derived from the "brand knowledge" of consumers (individuals or organizations) (Keller 2). According to Keller, (1993), brand equity is the effect that brand knowledge has on consumer responses to the marketing of a brand, with the effect occurring when the brand is known and when the consumer possesses favorable, strong and unique brand associations.

Determining brand equity is by no means a straightforward measure, and in order to fully understand a company or institution's brand equity you need to take into account a number seemingly abstract values (and thus it can be very difficult to quantify such a measure). By simplifying the method to apply the Brand Equity Ten measures to an institution such as Pomona College, we aim to be able to break down brand equity so that we can expose strengths and weaknesses of each school. By breaking apart brand equity into these ten components we can get a better image of what drives the success of the five Claremont Colleges. In order to successfully develop a methodology to measure the brand equity of liberal arts colleges, we will need to first lay out “The Brand Equity Ten” established by David Aaker. The ten measures are broken down into five dimensions (see Table 1)

Table 1

Aaker's Brand Equity Ten			
Loyalty	Price Premium	Satisfaction/Loyalty	
Perceived Quality	Perceived Quality	Leadership	
Associations/Differentiations	Perceived Value	Brand Personality	Organization and Differentiation
Awareness	Brand Awareness		
Market Behaviro	Market Share	Price and Distribution Indicies	

By using the framework of Aaker’s model and different methods to gauge overall brand equity measures, we can then modify his approach and apply it to our subjects—educational institutions. While countless outside research already exists on product brand management, (in fact brand management has an entire discipline within the field of marketing) we are aware of no academic attempts to measure the brand equity of higher learning institutions. While it is true that many groups such as The Princeton Review and U.S. News & World Report provide college rankings every year, we believe that our model—derived from Aaker’s Brand Equity Ten—does a better job of conveying brand equity by breaking the data into specific factors, measures, and dimensions. To this extent, we aim to use more qualitative factors that help influence a consumer’s perception of the college, resulting in a more accurate and comprehensive measure of brand equity.

The first step in producing our model is carefully investigating which measures will be applicable to liberal arts colleges. The six measures that we will be using are: price premium, satisfaction/loyalty, perceived quality, leadership (quality of reputation among similar institutions and recognition of superiority or the brand among consumers), perceived value, and brand awareness.

We have omitted the one dimension of *Market Behavior* because the factors do not directly apply to the goals or intentions of higher education institutions. The first measure within market behavior is *Market Share* and this does not apply to colleges because the goal and brand of a college is not based on its market breadth but rather excellence in learning. While we considered including a measure for how geographically diverse a college's student body is, we ultimately concluded by today's standards this is essentially irrelevant to the quality of the institution. Most liberal arts colleges grow slowly and are so small that the expansion of their "product" throughout the country is irrelevant to their reputation. The other measure, *Market Price and Distribution Coverage*, is not useful for our research because it only applies to consumer products and makes not sense when applied to the college. Finally, we chose to eliminate the *Organizational Associations* category. Although we believe this factor could be useful in determining brand equity, we believe that our intended measures (such as community outreach programs, sustainability offices, and extracurricular activities) are too difficult to try to quantify in terms of the impact that they have on a college's brand name. While we have not included this factor in our model, it is important to note that these initiatives do play an important role in brand equity. However, because our data comes from a consortium where most of the resources are shared, we believe that there may not be a significant difference in this category and for that reason we also chose to discard the measure.

Important factors in the brand equity of a product might be percentage of stores carrying a brand and percentage of people that have access to the brand; however, this value can't be applied to liberal arts colleges. As we analyze the five Claremont Colleges, we aim to present subtle nuances between the college's brand characteristics. We feel that the strength of our analysis comes from that fact that these institutions are very homogenized in nature and thus these measures should be easy used as comparative measures.

Quantitative vs. Qualitative Measures

Qualitatively measuring brand equity can be very labor intensive and includes factors such as: brand awareness, brand image, and brand personality. A critique of qualitative measures is that these methods limit the researcher's ability to gauge or test the feelings and associations of the subjects (i.e. they are very difficult to quantify). Moreover, it can lead to incorrect interpretations when generalized to the population as a whole. Quantitative measures are believed to provide more confident and defensible strategic and tactical recommendations (Keller 10). Quantitative measures include brand awareness (as is associated with decision making), recognition, recall, image, and brand performance associations. Quantitative measures were originally conceived to help bankers wishing to value the additional intangible premium associated with a company (Aaker and Beil 2-3). However, other scholars such as Bill Moran make the case for a brand equity index composed of three factors: market share, relative price, and durability so that we can account for the combination of qualitative factors with relative pricing measures (Ferris et al). Many companies, such as The Princeton Review produce their own models that are much more quantitative and rely heavily on financial data to determine ratings.

Research Implications and Complications

The tough problem for the researcher is measuring what it means for a college—specifically a liberal arts college—to have brand equity. While it may be easy to associate the product as a liberal arts education, it is less obvious who may be the consumer. Kevin Keller states that "using our unique approach to measure brand equity we combine the measures laid out in the academic papers with the reality of applying them to real world historical and observational data sources". In this way, we aim to establish a comprehensive method to distinguish the brand equity of the Claremont Colleges from one another as well as to provide insight as to where the universities may seek to improve the overall brand equity and future direction that a college may choose to move. While our model does suffer in that it can't exactly explain the difference between a coke and a generic cola, it still does allow us to break brand equity into measures so that we can determine the general strength of the brand equity of each measure. This model will be provided and explained in detail in the next section of this paper. In addition, colleges, just like businesses, realize that reputation (i.e. brand equity) changes over time. Colleges must maintain the quality of their brand through cultivating, managing, and expanding the overall reputation of the institution. For example, colleges are constantly doing this through expansion of their Admissions Offices and, we will argue, their Career Services Offices.

II. Data

In order to collect this data for all factors and tiers, we contacted a variety of resources and offices on all of the campuses of the Claremont Colleges. Using information from the Career Services Offices, Admissions Offices and Institutional Research Offices, we were able to consolidate a data set that spanned the last four years (2007-2011). The majority of the data for our model were gleaned from the “The Common Data Set”, a collaborative effort among data providers in the higher education community and publishers such as the College Board, Peterson's, and U.S. News & World Report.

Additional data, as well qualitative factors came from college review books, online college ratings websites, Admissions Offices, student opinion surveys, and Career Development Offices. All of the quantitative data points are historical values from the last four years. In addition, a number of qualitative factors have been identified and we plan to incorporate into our model that will not be present in traditional college rankings systems. These qualitative measures will be extracted from national publications as well as well as Career Services surveys and outside studies.

III. Methodology

Our method begins by separating the different measures into factors and using data streams to calculate a score for each of the six factors that we have selected from Aaker’s original *Brand Equity Ten*. Within this framework, our approach will measure brand equity from a unique, three-tiered approach. The three tiers that we will be evaluating the brand equity factors on are:

(1) *Prospective Students* - future students weigh a university's brand equity in making a decision whether or not to attend that university. Therefore, we think that it is important to gather information from admissions offices about high school students that apply to each of the 5-C colleges, and the makeup of the freshman classes each year.

(2) *Current Students* - a university's excellence and thus its brand equity is determined by the academics, social experiences, accomplishments, decisions, actions, etc., of its current

students. Current students play a role in maintaining and broadening the brand equity of a liberal arts institution.

(3) *Outsiders' Perceptions* - this includes, but is not limited to recruiters on campus, other potential employers, or graduate schools. We believe this can be reflective of a college's brand equity because by demonstrating a keen interest in a certain campus' graduates these organizations are exposing the implied quality of that institution's graduates and thus building the brand equity of that institution.

Category 1: Loyalty Measures

Loyalty is dubbed the "core" element of brand equity and includes the price premium and satisfaction/loyalty measures. Consumers loyal to a brand allow that company the advantage of price premium (Aaker 106). In our research, we aim to see how the actions and choices of potential students, current students, and future employers specifically portray loyalty to a liberal arts college.

Price premium

Aaker's Definition: Price premium is the premium on outright cost of a good/service that a consumer is willing to pay over a similar product in the same category. Price premium is a relative measure, and in order to measure this factor one must take a set of similar competitors in the same industry and measure the positive (or negative) price differential. Aaker recommends using a "conjoint" or "trade-off" analysis to measure consumer choices. He also claims that price premium can be the "single best measure of brand equity available…any driver of brand equity should affect the price premium" for our analysis (Aaker 107). Price premium presents a crude but useful financial measure of brand strength and in many cases can be helpful to determine brand-building investments, marketing decisions, and future product quality enhancement measures.

Our Method: The four factors that we have selected to account for the price premium associated with attending a university are: average median starting salary, quality of similar institutions that applicants attend, tuition and room & board, and discount from total cost (average financial aid package divided by cost of attending that institution). The discount rate shows how financial aid at similar institutions stacks up with competitions when adjusted for the total cost of attending is taken into account. We believe this is a good representation of the "true cost" of a school's education because it weighs both overall cost and the discount from total price, or financial aid. Because price premium is a relative measure, this statistic will serve to accentuate the differences in the cost of the education *for the average student*.

Next, we believe that, incoming students may weigh cost as a deciding factor upon entering the class, and the relative costs of the different 5C's should demonstrate part of the willingness to attend one school over another. This measure is similar to the first in this category except that it accounts for total cost of an education. The institution sets its price at a specific level, based on cost but also what it believes the education is worth, and therefore it is an important indicator in assessing the relative total cost of the education to the student. Similarly, an incoming student who may not be on financial aid must believe that the value of the education is worth the cost and therefore takes that price to be a reasonable fee in return for the service offered.

Our third factor, average starting salary, we take as a gauge of how employers weigh the worth of new hires through starting salaries and will therefore display a "premium" for one college's graduates over other institutions. While undergraduate institutions are surely not the only means by which employers hire graduates and set their respective salaries, it is undeniable that they do play a significant role in whether or not a candidate is hired. For example, it is hard to deny that, all else equal, a graduate from Harvard may lose out on an offer to someone from a community college. Also, it is certainly true that networking with successful alumni from a college can lead to jobs and higher offers and if an employer attended the same undergraduate school he or she may feel inclined to hire that university's graduates, once again all else equal.

A failure of this measure is that a Harvard graduate may get a prestigious offer from Teach for America or a highly esteemed non-profit organization whereas the community college grad may end up working for a technology company in Silicon Valley. While the Harvard student has achieved an exalted position that may be a perfect fit for them, this measure only takes into account average starting salaries of the graduates and the student in Silicon Valley would be perceived as "better" in our model. As economists, we understand that there are certainly disadvantages to our model, however, we believe that all graduates will strive to maximize utility in the long run and that one of the ways to do that will be through a higher starting wage. True, many students will accept lowering paying jobs that are more in-line with their interests, however we believe that this will be the case at any institution and that therefore we may still look to average median starting salary as a means to gauge the price premium of graduates to employers.

Finally, we addressed Aaker's point on how much consumers would be willing to pay for a generic cola instead of a coke, for instance, by looking at similar institutions to which admitted students also applied. In this case we aim to see what tier were the schools that these 5C applicants also considered. By consulting rankings and peer evaluated reputations we are able to subjectively group these alternative schools into tiers in order to compare what other colleges the applicants to the Claremont Colleges consider. This helps us determine what other "product" (in this case not necessarily just education but what level of education) is on the same tier as this college.

Our Factors:

- Average median starting salary of recent graduates
- Where else did accepted students apply/consider?
- Discount from total cost (Average financial aid package / Total Cost)
    - Total Cost = Tuition and Room & Board

Satisfaction/Loyalty

Aaker's Definition: In his paper, Aaker explains that a direct measure for satisfaction can be found by looking at the opinions and actions of existing customers. While Aaker admits that satisfaction and loyalty can be extremely tough to measure, there are a number of dimensions that the researcher should investigate. Some of the questions he asks these consumers are "were you (dissatisfied vs. satisfied vs. delighted) with the product or service during your last experience" and "would you buy the brand on the next opportunity?" (Aaker 108). Aaker acknowledges that it is hard to apply this measure to non-customers but recommends developing a set of satisfaction and loyalty measures with respect to the specific brand industry.

Our Method: In our model, we argue the closest replacement for the relationship to the customer is the relationship of the university to its students. In this sense, we can take the loyalty of the students to be the number of students who are retained after their freshman year as well as the graduation rate. We feel that this indicates students are happy to stay at the college and have enjoyed success in obtaining a degree. We aim to measure the satisfaction of alumni by incorporating the percentage of alumni that give back to the college as well as the overall endowment size—which is mostly funded by alumni donations. While yearly contributions to a school may go under the Annual Fund umbrella, the endowment is mostly fueled by large-scale fundraising efforts known as "campaigns". The reason we are using the endowment is because we feel that it indicates how willing alums are able to go out of their way for the school. In addition, it could be seen as a measure of whether or not successful alums attribute their successes to the college. The endowment measure has been adjusted for the age of the college, in order to account for differences in age. The effect of age on brand equity is taken into account later in our section on brand awareness. In order to address recruiters' satisfaction with 5C employees we look at on campus recruiters' willingness to come back to campus year after year in order to continually recruit recent graduates. However, we admit that measuring the satisfaction of employers/graduate schools is a very difficult factor to measure

Note: Satisfaction/Loyalty does not relate to prospective students because it is an ex post measure.

Our Factors:

- Percentage of alumni that give back to the college
- Endowment size (adjusted for age)
- Freshman retention rate

- Six-year graduation rate
- Recruiters who return to campus to recruit each year

Category 2: Perceived Quality / Leadership Measures

Perceived quality and leadership are two of the most important factors for determining where a brand stands among its peers in the industry. Instead of comparing brands across the entire universe of products, it is more useful for the researcher to compare brands within a similar industry so that the differences in quality as well as dominance among peers can be best judged. An industry comparison of Unileiver, Procter & Gamble, Kimberly Clark, and Johnson & Johnson would be much more useful and insightful than comparing the brand equity of these companies vs. a brand from a different industry such as Exxon Mobile. Perceived quality and leadership measures are comparative in nature and thus for our research in selecting only similar liberal arts institutions we are able to fairly compare the colleges. In this section, we aim to use admissions statistics as well as outside rankings and recognition to portray where liberal arts colleges stand in comparison to their peers and what level of quality is associated with attending such institutions.

Perceived Quality

Aaker's Definition: Aaker states that perceived quality is a core measure of brand equity and highly correlates to the customer's opinion of the brand associated with that product. With that said, he explains that there are a variety of scales by which this factor is measured, such as: "if the brand has high quality, average quality, or inferior quality; is the best, one of the best, one of the worst, or the worst; or has consistent quality vs. inconsistent quality" (Aaker 109). Perceived quality is associated with price elasticity, brand usage, and stock return. Aaker cautions against comparing brand quality across regions and markets, but since we are comparing five similar institutions from a consortium this should not be a relevant problem. He also mentions that it "has the important attribute of being applicable across product classes...[and that] high quality may mean something different for a bank than for a beer" (Aaker 109). We take to be a positive sign for our application to higher education institutions, as they clearly also have preconceived stereotypes (including but not limited to the 5C stereotypes, which we felt were too qualitative to be appropriately accounted for in our study). However, we believe that in measuring perceived quality, the most important tier is the university's current students.

Our Method: Every year publications such as U.S. News & World Report rank all liberal arts schools based on what factors they feel are important to being the "best" college institution. These rankings are then used by prospective students and future employers to gauge how these institutions compared to their peer institutions. In the same way, prospective students use SAT scores, acceptance rates, matriculation rates, students in top decile of high school class and percentage of students unemployed at graduation to determine the quality of the students that attend a given university. We perceive these characteristics to most closely reflect the "perceived quality" of the educational institutions' to outside organizations and prospective students.

Our Factors:

- Independent college rankings (US News & World Report, USA Today, The Princeton Review)
- Matriculation rate

- Acceptance rate
- Top decile of high school class
- SAT scores
- Percentage of graduating class unemployed at graduation
- Awards/School Recognition

Leadership

Aaker's Definition: Aaker explains that the purpose of leadership is to determine where the brand stands in relation to constantly evolving competition. Aaker defines three dimensions within leadership. The first is syndrome or merit—defined as whether or not customers are buying into the brand concept and thus making it a sales leader in the industry. Second, innovation, or whether a brand is moving ahead in technology and setting the curve. Third, leadership includes customer acceptance - is the brand growing in popularity and considered a trendy or "bandwagon" product.

Our Method: Leadership is a very important quality for top liberal arts colleges because without strong leadership the college will not be able to attract high caliber students, professors, and administrators. We believe that these two factors cover both whether or not the brand is "moving ahead" in improving the overall quality of its students and whether or not the college is growing in popularity among potential students. For this category, the school's application growth as a percent every year falls into the third category because it represents the growing popularity of the brand. It is important to distinguish (from a brand equity standpoint) that a superior institution will already receive a larger number of applications, and this fact will be reflected in the perceived quality section. However, for a brand to be a leader in its industry it must also have the "brand growth" that Aaker alludes to in *Managing Brand Equity: Capitalizing on the Value of Brand Name*. Thus we use application growth to see if the institution is growing in popularity as well as what Aaker (perhaps confusingly) coins as trending. Finally, we address the universities' attempts to physically maintain superiority by analyzing recent expenditures and fundraising efforts in order to promote new buildings and facilities on campus to improve the overall atmosphere and/or functionality.

Our Factors:

- Application growth compared to last year (as a percent)
- Recent large scale fundraising efforts
- Number of scholarly publications (measured by appearances on Google Scholar)

Category 3: Associations / Differentiations Measures

Association and Differentiation measures involve comparing a brand's image within a specific brand industry. Association / Differentiation is structured around three main factors: perceived value, brand personality, and organization associations. Associations are important because they help improve and broaden the image that is portrayed through a product. Differentiation is how a product is distinguished from its competitors and account for how these factors support a price premium associated attractive margin. Differentiation is a bottom line measure and many times it the most important factors behind building a new brand. One of the limits of differentiation is that it is a static measure, but following differentiation over time can provide a great deal of insight which direction the product is moving. This fact is important to our research because by their nature, colleges are always changing and thus this significantly affects a college's brand equity. In this section, we aim to measure the additional value derived from the offerings and associations an institution maintains (other than direct academic credentials) as well as any additional value associated derived from the resources that the college maintains.

Perceived Value

Aaker's Definition: The perceived value is defined as the summary indicator of the brand's success at creating the value proposition (i.e. the functional benefit of the product). In basic terms, what Aaker means by this is: does the product create value? The two main criteria for that are whether the brand (a) provides good value for the money and (b) whether there are characteristic or intrinsic qualities to buy this brand over competitors (Aaker 111). Although the latter may seem like a rough definition of brand equity itself, Aaker believes that value relates more to the "functional benefits and the practical utility of buying and using the brand" (Aaker 112). In that sense, he is not necessarily describing a comparison between the two brands themselves but instead assessing the utility that the similar products of different brands give to the customer. He also stresses that when measuring perceived value, it is important to consider comparable brands within an industry to accurately determine how much value one company's product has over another in the same industry. We believe that this bias is minimized in our specific study because we are looking at different liberal arts colleges within the same consortium. However, if you were to apply our model to Ivy League schools or State Universities that there may be too many discrepancies to fairly compare value.

Our Method: In building our model for this section, we seek to look at other outside references for value as well as calculate our own. We looked at The Princeton Review's rankings on "Best Values Among Colleges" as well as the colleges' information about financial aid and cost. The reason why we have included the financial aid metrics in this section is because we believe financial aid describes the colleges' willingness (and ability) to invest in its students. Many liberal arts institutions supplement the cost of their education that further indicates the college's belief in the value of its students. In addition, we include a variable called "discount rate" which is the average median starting salary over the cost of tuition, room and board for that year, to determine the value of a 5C education compared to its cost.

Our Factors:

- Average financial aid offered
- Percentage of students on financial aid
- Discount rate: (Average median starting salary / Total cost of attending a college)
- Independent college rankings of value (Value measure rather than reputation)

Category 4: Awareness Measure

Brand Awareness is a component of brand equity that might not be relevant to all products. However, for our investigation, brand awareness is a very important factor and may correlate closely with other factors such as leadership and satisfaction. Awareness may not initially seem like an important factor for liberal arts colleges given that they are most liberal arts colleges are under the radar, have small campuses, and have little name recognition. However, we argue that awareness is extremely important to the brand equity of a college because awareness can effect the actions and recruiting decisions of prospective employers or graduate schools—which in turn can directly affect the school's reputation in the long run.

Brand Awareness

Aaker's Definition: This factor reflects the "salience of the brand in the customers mind" (Aaker 114). Most importantly, brand awareness is what affects the perceptions and attitudes of consumers. Aaker proposes three of the most important factors: brand dominance, brand knowledge, and brand opinion. In addition to these three factors, he believes there are differing levels of awareness: recognition (the ability to successfully recognize a product of that brand), recall (the ability to recall different brands in a given industry) and top-of-mind (the first brand that is mentioned during a customer's recollection).

Our Method: For this factor, we address the colleges' brand awareness over two tiers, the consumers of education (current students) and the consumers of graduates (firms, graduate schools, and fellowships). In the first tier, the data we deemed to be important were the universities' ages as well as the number of times the school has been reported in a major news publication. We believe that having a longer school history can have significant effects on that school's reputation and brand equity, but that also that significant, recent press coverage can promote the brand of a college.

In the second tier, we look at specific data from graduating classes to explain postgraduate plans and the awareness of firms, graduate programs and fellowship committees. Rather than just measure general awareness of these postgraduate "consumers" by looking at whether students had plans or not (had accepted an offer, accepted into grad school or were intending on doing a fellowship) we choose to look at students who will work for *top* companies (such as Fortune 500 companies, etc.), *top* graduate schools (in their field) or accept the most *prominent* fellowships (like the Fulbright, Watson, Rhodes Scholarships, and other fellowships).

Our Factors:

- University Age
- Number of times the school and been reported in a major news publication (2007-2011)
- Number of times an academic from the college has produced work catalogued by Google Scholar
- Students working at Fortune 500 companies
- Students going to top graduate program and students receiving top fellowships

Other Factors

As we accumulated data streams for each of these six factors, we were forced to omit potentially valuable information that could enhance our model. Unfortunately, we were not able to compile data for all these streams or across all years. Some of the data we did not include are: student surveys on prestige/respect, the number of students who have published work, other measures of high school performance (more than just the SAT), number of professors with PhD's, and recruiters per capita (that may be unique to one school instead of all 5C's). Were we to have more time and more resources, or should we apply our model to other universities as well, we believe we would like to include these into our model so that it may be more comprehensive and robust.

Method for Aggregating "Measure Scores"

In order to aggregate the factors within each measure, we used a method where we determine the maximum value (or score) from any of the schools in that category and then calculate a score from 1-100 for that score for each factor. Each other school received a score from 1-100 by taking the difference of their score from the maximum score and then dividing that by the maximum score. This way we get an adjusted score that takes into account how each school did in comparison to the other 5 colleges. The "factor scores" (which are the scores within each factor) are then averaged in order to determine the "measure score". In cases where a smaller score is better (for example acceptance rate) we calculated the opposite of the measure. In other words, we took the minimum score and then adjusted the rest of the schools' scores so that they were adjusted to represent their score compared to the minimum score within that category. The numbers shown in our tables show the aggregated factor scores (i.e. the *measure scores*) of each school on each year

$$\textit{Factor Score} = \frac{\text{(factor score of school – maximum factor score from the 5 colleges)}}{\text{maximum factor score}}$$

Measure Score = mean (all factor scores within a measure for school)

IV. Results

One of the strongest differences between our model and conventional rankings methods is that most rankings systems boil down to one all encompassing "score". However, the advantage of breaking brand equity is to give "score" for each measure. This allows us to produce more specific conclusions because we are able to break down the brand equity into smaller more useful categories.

In this section, we investigate the results of our model for each brand equity measure and conclude how the colleges stack up against each of their peer institutions. We look at what areas some of the colleges are strong in, and what areas they could improve upon. By aggregating the factor data were able to get an overall score that we feel best portrays the strength each college has with respect to each brand equity measure.

The price premium results show a strong score from Harvey Mudd College. Harvey Mudd produces the highest paid graduates (on average) each year as well as it scored well among peer institution comparison including schools such as MIT, Stanford, and California Institute of Technology. In maintaining with Aaker's description of price premium as percentage premium on outright cost Harvey Mudd's excellent discount on total cost, helps it to score the best in this category.

Price Premium	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	90.60	91.21	81.83	96.32	83.66
2008-2009	89.18	89.33	80.29	95.35	81.87
2009-2010	87.78	89.84	77.96	94.91	79.08
2010-2011	90.68	90.41	77.07	97.77	82.55
Average	89.56	90.20	79.29	96.09	81.79

In aggregating the satisfaction/loyalty measure, the results paint a nice picture as to how satisfied the students are at each school. Pomona's score is somewhat exaggerated by the size of its endowment per student (adjusted for age), but Pomona also leads the other colleges in the

Satisfaction/Loyalty	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	99.68	82.03	65.23	72.73	72.68
2008-2009	99.31	90.57	70.69	81.31	83.56
2009-2010	98.21	80.52	64.17	70.60	73.78
2010-2011	97.75	79.39	62.26	67.04	69.84
Average	98.74	83.13	65.59	72.92	74.97

freshman retention rate, graduation rate, and alumni contributions. The scores of Pomona

College and Claremont Mckenna College (the colleges with the best scores in this section), indicate that when it comes to measuring the brand equity of a college these colleges present the strongest evidence that the actions of the individuals at these colleges are the strongest in this category. It must be noted that Pomona displays an advantage over the other colleges, which is partially driven by its endowment size (per person).

The perceived quality measure for all of the schools seems to exhibit similar results and this may be due to the nature of a liberal arts education. The perceived quality of a liberal arts college is very much based upon the perceived quality of a liberal arts education as a whole. Because the schools provide a similar environment (by providing similar types of majors, extracurricular activities, and other opportunities) this may be an explanation for why the scores are similar. In addition, the colleges all have very tough admissions standards and our use of the admissions statistics in determining perceived quality (such as SAT scores, acceptance rate and matriculation rate) coupled with small percentages of graduates who are unemployed combines

Perceived Quality	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	88.01	89.42	62.88	85.43	64.22
2008-2009	96.75	90.39	70.59	77.36	71.22
2009-2010	98.59	91.80	80.19	79.26	59.18
2010-2011	98.26	95.41	70.23	82.47	72.45
Average	95.40	91.75	70.97	81.13	66.77

to give us somewhat similar answers.

Leadership is the brand equity measure that accounts for whether or not a college is a leading institution and continually building upon their brand equity. In this case, Harvey Mudd and Pomona lead the measure, but CMC's average score is brought down by a year where their admissions office saw an almost 10% decrease in applicants (2009-2010). Although CMC as an institution has made strides to be a "leading brand" over the past 15 years, they still lag behind Harvey Mudd and Pomona College when it comes to our measures. What these data tells us is that leadership is a quality that comes across strong from HMC and Pomona but is subject to a number of very volatile measures.

Leadership	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	85.45	66.23	70.67	78.13	79.89
2008-2009	75.65	84.78	50.89	58.02	54.51
2009-2010	68.44	43.39	61.65	65.42	82.62
2010-2011	85.71	89.29	82.14	97.91	57.14
Average	78.81	70.92	66.34	74.87	68.54

For perceived value we see that Harvey Mudd dominates the pack, with Pomona and CMC about equal. This is mostly due to the category average median starting salary over cost. Because HMC's graduates go on to receive significantly higher starting pay this measure seriously bolstered the school in the perceived value category, although the school also always has a higher percentage of students on financial aid than any other 5C.

Although Pomona and CMC are in a virtual deadlock in second place, it is also noteworthy that they achieve their rankings in different ways. Over the four-year period the two schools split years on who offered a larger average financial aid package, yet Pomona consistently had a higher percentage of students on financial aid. To make up for this, our average median starting salary over cost factor overwhelmingly went in CMC's favor, which may in large part reflect the school's business focus that can lead to higher paying jobs. While Pomona prides itself in its diversity across all disciplines and CMC focuses on this core area, it may also serve as an indicator of the differences between the two schools' Career Services Offices.

Perceived Value	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	87.40	87.71	74.26	96.39	76.74
2008-2009	88.52	88.02	78.50	96.95	78.56
2009-2010	81.94	83.53	72.60	94.03	72.55
2010-2011	87.50	83.52	69.16	97.33	74.10
Average	86.34	85.69	73.63	96.18	75.48

In the brand awareness category, we once again see Pomona leading the pack with CMC close behind. Among the categories with the biggest differences between the 5C's are: age, fellowships, appearances in major news publications and Google Scholar appearances. Pomona's age (almost 40 years older than the next oldest school, Harvey Mudd) helps to account for its "awareness" in the community as it has been around the longest and was the only school established in the nineteenth century. It is interesting to note that CMC led the field significantly in the major news publication category (perhaps partially a testament to a recent scandal), which has also increased their awareness throughout the community and inflated their score. With that said, Pomona also dominates in the Google Scholar factor which perhaps indicates its strong presence within academia.

According to our aggregation method, Pitzer, while having significantly more students obtain prestigious fellowships, is no better off than Scripps or Harvey Mudd due to a lack of appearances in the news and in academia. This may reflect the individual priorities of the colleges, as Pitzer prides itself in receiving these fellowships whereas, for example, Harvey Mudd may choose to focus on research and publications.

Brand Awareness	Pomona	CMC	Pitzer	HMC	Scripps
2007-2008	89.05	81.09	56.42	65.33	61.61
2008-2009	87.23	85.80	69.47	65.10	66.34
2009-2010	85.95	85.41	66.62	64.26	65.44
2010-2011	89.05	82.05	63.44	61.36	63.21
Average	87.82	83.59	63.99	64.01	64.15

V. Conclusion

Looking back over this analysis and within the different measures we are able to get a picture of the overall brand equity of each college. We can see what areas of brand equity some of the colleges are strong in and where others are lacking. For the most part, Pitzer's lower scores might all be attributed to it only having been around for a small fraction of time compared to the rest of the colleges. Pomona College, Harvey Mudd and Claremont Mckenna come out of this analysis with each having strong scores in most of our measures and leading the 5-C colleges when it comes to brand equity.

Pomona College (Pomona) leads the 5-C colleges in the satisfaction/loyalty, perceived quality, leadership, and brand awareness, but does not keep up as well as CMC and Harvey Mudd in the price premium category—a one of the most important brand equity measures. Claremont McKenna College (CMC) leads the 5-C colleges in the perceived quality, perceived value and brand awareness categories, but struggles to keep pace in the satisfaction/loyalty measure. CMC may want to consider how it could best improve the retention of current students because this is one of the main factors that are pulling the satisfaction/loyalty measure down. Harvey Mudd College (HMC) leads the price premium and perceived value measures, two of the most important factors in this analysis. From this, we can deduce that HMC has a strong established brand equity across all three of our tiers and thus the college has done a great job in establishing itself among its peers. One area HMC lags behind the other is brand awareness and this may just be due to the fact that the college—by its nature—is not well known outside of its main disciplines. Pitzer College (Pitzer) lagged behind most of the other colleges in nearly every category. While this is not surprising, due to the youth and lack of resources available compared to the other colleges, it would be interesting to see if Pitzer continues to improve in the scales over a long period of time. For a number of measures, chiefly leadership, perceived quality Pitzer can be seen as making good improvements to their brand equity as compared to other colleges. A continuation of this improvement as well as concentration on some of the measures that it is lacking in (brand awareness and satisfaction/loyalty) would improve the college's brand equity as a whole. Scripps College (Scripps) doesn't score above average in many of the measures but does in fact benefit from the brand equity of the other colleges. While the comparative measures put Scripps at the bottom of most of the scores, there is no doubt that Scripps's brand equity is improved by having such close ties with the other colleges.

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Organizational Associations

Aker's Definition: Organizational Associations considers the people, programs, organizations, and values that inherently lie behind the brand. This factor helps to differentiate very similar products with the same attributes. Many times organizational associations will include showing concern for customers (or the environment by being green), being innovative, striving for quality, having visibility, and being community centered. Aaker gives the example of the Ronald McDonald House and how it adds to the image, interest and community involvement other than what the company normally provides—fast food. Organizational associations are a very important factor in measuring the brand equity of liberal arts colleges because colleges are much more than academic institutions. A major component of their value comes from the non-academic based programs, and it could be argued that the experiences provide some of the greatest value to students

Our Method: Colleges are filled with countless organizations, academies, programs, and initiatives. For example, many programs that 5C institutions have started are community outreach programs that seek to better relationships between the college and local communities. These programs play an important supplemental role in the education of students and enhance the values behind the brand. In addition, many of the campuses have made agreements to make their campuses more sustainable with some even creating sustainability offices that foster environmental awareness and action. Finally, colleges host a myriad of extracurricular activities that demonstrate a strong commitment to enhancing student benefits outside of the classroom as well. By expanding these programs a university can improve its image to outsiders while not solely focusing on its core line of business, providing a liberal arts education. We will measure this by scoring each school's efforts to (and funds devoted to) the betterment of the local community, sustainability initiatives and other awards and recognition the schools receive outside of their academic realm.

Our Factors:

- Community Outreach – including organizations such as the Draper Center, Pitzer Community Engagement Center, Scripps Academy, Upward Bound, Community Programs / Offices
- Sustainability Initiatives / Offices (Awards, etc) (Green@CMC, pitzer-green bike, firestone center for restoration ecology, hmc- center for environmental studies)

-"A product is something that is made in a factory; a brand is something that is bought by a customer. A product can be copied by a competitor; a brand is unique. A product can be quickly outdated; a successful brand is timeless." (Stephen King, WPP Group, London - from Aaker 1) (Managing Brand Equity: Capitalizing on the Value of a Brand Name)
-Our Reaserach makes is relevant and makes sense becasue brand equity is all about differentiation (
-Aaker states that the number of brands today is proliferating, however this may not be the case with educational institutions. Instead each university tries to gain prominence and reputation over other existing schools. (Managing Brand Equity: Capitalizing on the Value of a Brand Name)
-"Brand equity is a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers." (Aaker 15 Managing Brand Equity: Capitalizing on the Value of a Brand Name)