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Entitled

The Relationship between Higher Education Comprehensive Internationalization and the *U.S. News and World Report* College Rankings and Reputation Scores

By

Molly J. Watkins

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the

Doctor of Philosophy Degree in Higher Education

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An Abstract of

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The comprehensive internationalization of higher education has long been viewed as important for student development and institutional global research engagement. The reasons for internationalization have been studied in-depth, but few studies exist linking higher education internationalization and institutional reputation, often measured through ranking systems. Grounded in internationalization literature and reputation theories from the field of organizational management, this dissertation examines the relationship between the comprehensive internationalization of higher education and the *U. S. News and World Report* college rankings reputation scores and overall rankings. Using a sample of 259 institutions that both completed the American Council on Education's *2016 Mapping of Internationalization* survey and were ranked in the USNWR college rankings in 2016, this study found that multiple significant correlations exist between internationalization and the USNWR college rankings and reputation scores. Additionally, comprehensive internationalization emerged as a predictor of both reputation scores, explaining 34% of the variance, and of ranking scores, explaining 26.4% of the variance.

For Sophie and Drew - I hope that you set goals and make dreams and put in the work to make them come true. And for Andrew - because this would not have happened without your love and support.

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List of Abbreviations

ACE ……..American Council on Education
ARWU ……..Academic Ranking of World Universities

DAAD ……...German Academic Exchange Service

IAU ……International Association of Universities
IES …….Institute of Educational Sciences
IPEDS ……Integrated postsecondary education data systems

Mapping ……American Council on Education's *Mapping of Internationalization*

NAFSA …….Previously National Association of Foreign Service Advisors, now is only used as NAFSA: Association of International Education

QS ……Quacquarelli Symonds world rankings

SPSS ……Statistical Package for Social Sciences

THE ……..Times Higher Education

USNWR ……U.S. News and World Report college rankings

Chapter One

Introduction

Internationalization as a phenomenon has consistently moved to the strategic forefront of college campuses in the United States as universities strive to develop their students into global citizens and engage faculty in international endeavors (Frey & Whitehead, 2009; Haigh, 2014). The American Council on Education and the professional organization NAFSA: Association of International Educators posit that internationalization of campuses is a broad concept encapsulating student mobility in the form of study abroad and international students in the US, curricular integration, faculty development, university-wide collaborations, and physical locations abroad (American Council on Education, 2017; NAFSA: Association of International Educators, 2017). Multiple studies have looked at the rationale behind internationalization and have identified a variety of motivators for developing internationalization programs such as fiscal growth, global competencies, and political gain (Porter & Vidovich, 2000; Seeber et al., 2016; Zha, 2003).

Regardless of the rationale, the comprehensive internationalization of institutions of higher education has increased dramatically in the last ten years. Since 2003, when the first national measure of comprehensive internationalization of higher education was conducted (Green, 2003), there has been a distinctive growth in the comprehensive internationalization of higher education institutions in the United States. Where only 1% of universities listed their campus internationalizations as high in 2003, in 2016, 30% noted that their level of campus internationalization was high or very high, and 78% reported an acceleration of internationalization (Green, 2003; Helms et al., 2017). In

2016, 49% of the responding institutions listed comprehensive internationalization as one of their top five strategic initiatives, an increase from 28% in 2003 (Green, 2003; Helms et al., 2017). While there are differences among university types, for example, doctoral universities report a higher level of internationalization than bachelor institutions, overall, the focus on internationalization of higher education in the United States has intensified.

At the same time that the emphasis on internationalization has increased on college campuses, institutions have seen greater importance placed on rankings by external constituents as a measure of institutional and academic reputation and global stature (Hazelkorn, 2014b; O'Loughlin et al., 2015). Because rankings can provide a quick indicator of the university's reputation, rankings are important for prospective students, their parents, and future employers (Bowman & Bastedo, 2009; Kehm, 2014; Sauder & Espeland, 2009). Rankings also influence partnerships and research collaborations, national policies related to higher education, and resource allocation (Kehm, 2014). While many faculty do not view rankings as a valid measurement of an institution (Freeland, 2017; Sanoff, 1998), administrators recognize that rankings are important to the greater public, influencing recruitment, reputation, and, in some instances, grant funding (Baughman & Goldman, 1999).

U.S. News and World Report, one of the top ranking systems in the United States, directly measures several university production indicators, including graduation and retention rates, academic reputation, funding, faculty resources, and student selectivity, to develop a composite score for each institution (Millot, 2015; Morse et al., 2017). While these indicators do not include comprehensive internationalization, aspects of internationalization may be traced to specific ranking indicators. This exploratory study

will examine the relationships between different aspects of comprehensive internationalization on the reputation scores and the ranking scores that universities achieve on the *U.S. News and World Report* college rankings.

Problem Statement

According to Knight (2003a), comprehensive internationalization is "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education" (p. 11). Indicators of internationalization include student mobility in the form of study abroad and international students, academic partnerships, and the internationalization of curriculum (Green, 2003; Helms et al., 2017). Comprehensive internationalization has become more of a priority for higher education in recent years as evidenced by over 70% of institutions reporting that their internal funding for internationalization efforts has increased or remained static in 2016 (Helms et al., 2017). However, growing budget cuts across higher education, specifically public higher education, have caused institutions to either cut spending, raise student tuition costs, or use more of their endowments to maintain fiscal stability (Seltzer, 2017; Zalaznick, 2015), potentially placing initiatives that lead to comprehensive internationalization at risk. Studies have shown that student mobility impacts the economic bottom line of universities and the student experience (Ludlum et al., 2013; Syed Gohar et al., 2015; Tyner, 2013), but while international educators tout the importance of internationalization for universities to remain relevant and successful (Gopal & Zha, 2015), less than half of institutions responding to the 2016 *Mapping of internationalization* survey reported internationalization as one of the priorities of higher education (Helms et al., 2017). One challenge is that it is difficult to determine how to

best measure the value of comprehensive internationalization and how internationalization impacts the university and its stakeholders.

The impact of rankings on universities is well-documented and world-wide, with extensive research conducted on how world-wide rankings have affected institutions in Europe, Asia, and Africa (Collins & Park, 2016; Jöns & Hoyler, 2013; McAleer et al., 2019; Overton-de Klerk & Sienaert, 2016). Rankings have been shown to impact university policies and national policies regarding education and to change institutional marketing and branding initiatives (Hazelkorn, 2007; Heffernan & Heffernan, 2018). Rankings placements demonstrate a competitive edge for universities, which could lead to increased revenue flow (Bowman & Bastedo, 2009). Research shows that rankings reflect the reputation of higher education institutions by attracting students, creating institutional partnerships, and opening the door for potential funding (Clarke, 2007; Cremonini et al., 2008; Hazelkorn, 2007). In addition, studies have focused on the way specific aspects of a university impact the rankings. Student retention and graduation rates, small faculty to student ratio, and undergraduate reputation, all impact a university's standing in the rankings (Gnolek et al., 2014). Though Hauptman Komotar (2019) argues that rankings and comprehensive internationalization are linked by showing how some rankings indicators measure international collaboration, rarely have researchers looked at how specific aspects of internationalization link to rankings and to reputation. This study aims to fill that research gap by looking at one aspect of the university – internationalization - and its relationship to rankings and reputation, as one of the rankings indicators. Determining whether there is a connection and what that connection could be between internationalization efforts, reputation scores, and rankings

could help administrators measure the importance of comprehensive internationalizations to a university, helping institutions make sound financial decisions in tight budget times and develop effective international strategic plans.

Purpose and Research Questions

The overarching purpose of this study is to examine the relationship, if any, between comprehensive internationalization, and/or discrete aspects of it, and the *US News and World Report* reputation scores and ranking scores. The following research questions, based on clusters of comprehensive internationalization identified in chapter two, will guide the study:

1. What institutions are ranked and have efforts towards internationalization?
2. What relationship, if any, does comprehensive internationalization have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
3. What relationship, if any, do international students have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
4. What relationship, if any, do faculty and faculty development have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores?
5. What relationship, if any, does curriculum internationalization have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*

6. What relationship, if any, do infrastructure, administration, and funding have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
7. What relationship, if any, does education abroad have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
8. What relationship, if any, does international strategy and articulated commitment to internationalization have with the *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
9. What relationship, if any, do international collaborations and partnerships have with the *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
10. Can institutional peer reputation scores or rankings be predicted by one or a combination of the identified variables of internationalization?

Significance of the Study

Studying the relationship between comprehensive internationalization, reputation, and rankings is significant for both scholars and practitioners. Using rankings as a measure of the public perception and the reputation of universities, determining if internationalization impacts the rankings, and therefore the perception, can help scholars and practitioners understand how internationalization affects an institution. For scholars, this research looks at how the actions of the university affect the rankings. Initially, this research looks at internationalization from a holistic view, providing a deeper

understanding of the influence that comprehensive internationalization has on the university. More specifically, the study delves into individual aspects of internationalization, examining how these clusters of internationalization individually impact rankings and, therefore, reputation. There is limited scholarly work directly connecting comprehensive internationalization and rankings. This research helps to fill a gap in the literature measuring the relationship between internationalization and rankings, adding the university internationalization scholarship. Practitioners can find this study significant in that the results can help inform best ways to allocate resources for internationalization and inform the university-wide strategic planning process. Because administrators recognize that rankings are important to external constituents, the relationship between internationalization, reputation, and rankings can inform best practices. Practitioners within the field of internationalization at universities can use these results to look at internationalization from an intentional perspective, helping to allocate funds more effectively, in order to not only internationalize institutions, but also to increase institutional standings in rankings.

Theoretical Framework

This study will be guided by two bodies of research. First, current literature in the field of international education will help determine how to define and categorize internationalization. Though scholars generally disagree on a clear definition of internationalization (Whitsed & Green, 2014), researchers have explored the development of internationalization on college campuses, the changing terminology, and the trends that have developed (Altbach & de Wit, 2015; Knight, 2004, 2013). Research has categorized internationalization on college campus into sections such as student

mobility, partnerships, and curriculum (Green, 2003; Haigh, 2014; Knight, 2013). The ACE *Mapping of internationalization* (2016) has identified six pillars of comprehensive internationalization: articulated institutional commitment; administrative, leadership structure, and staffing; curriculum, co-curriculum, and learning outcomes; faculty policies and practices; student mobility; and collaboration and partnerships (Helms et al., 2017). The extensive body of research on comprehensive internationalization, as explained in chapter two, can be grouped into seven clusters: international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; education abroad; international strategy and articulated commitment; and collaboration and partnerships. Each of these clusters is composed of separate categories. The clusters and categories together guide this study's data collection and analysis.

Literature related to corporate reputation management and higher education reputation management will also guide the study. Research into corporate theories of reputation management have shown that corporate culture and brand development are key to the development of a business's reputation (Davies & Miles, 1998), and the reputation of institutions is key to further success (Feldman et al., 2014). As universities become more business-like in their interactions with stakeholders, institutional behaviors have evolved to engage in brand and reputation management behavior (Collins & Park, 2016; Overton-de Klerk & Sienaert, 2016; Vyacheslavovna et al., 2017). Rankings have been shown to reflect the overall reputation of higher education institutions in the eyes of external stakeholders (Clarke, 2007; Cremonini et al., 2008). Researchers have examined how prospective students view university reputation as well as employers, positioning

reputation management on both sides of the student spectrum (Finch et al., 2013; Suomi, 2014b). Additionally, studies have been conducted showing that internationalization is positively related to institutional reputation (Christensen & Gornitzka, 2017; Delgado-Márquez et al., 2013). This study will draw from reputation management literature from the business management field and literature that relates these business theories to higher education generally and international education specifically in order to position the research within the internationalization and reputation management literature streams.

Assumptions, Delimitations, and Limitations

This secondary data analysis study aims to examine the relationship between comprehensive internationalization as reported in the 2016 *Mapping* data set and the descriptive IPEDs data set and USNWR rankings of the same year. Because reputation is a guiding framework of this research, I will look at the *Mapping* data as it relates to both the indicator of reputation scores and the overall ranking. I will run descriptive statistics, a correlation analysis, and a multiple regression to determine significant results. I am assuming that the data self-reported in the *Mapping* data sets is accurate. I am delimiting the study to four-year comprehensive and liberal arts institutions. There are several limitations to this study. The main limitation is that the data is incomplete. The study can only account for institutions that completed the *Mapping* survey and were also ranked. While many institutions do complete the survey, there are also many who do not or who do and are not ranked. Additionally, the survey is self-reported, so data could be reported inaccurately or with bias. While it is important to keep these limitations in the forefront, this study can still provide a foundation for further investigation into the relationship between university internationalization, reputation, and rankings.

Definitions

In order to fully understand the scope of the study, several definitions are needed. While there could be other meanings of these terms in the educational context, the following definitions are relevant for this study.

ARWU—Academic Ranking of World Universities, a global university ranking system out of China more commonly known as the Shanghai rankings.

Comprehensive internationalization—while this term is fully defined in the literature review, it refers to a process of varying types of international engagement and structure which universities employ (Altbach, 2016; Knight, 2003a).

IPEDS—Integrated postsecondary education data systems. IPEDS is a core national postsecondary data set, compulsory for higher education institutions to complete in order to have access to federal financial aid, consisting of descriptive statistics of individual institutions.

Mapping of internationalization data sets—The *Mapping of internationalization* data sets are developed through a national survey released every five years by the American Council on Education. The surveys, featuring more than 50 questions about university comprehensive internationalization, are completed by universities (Helms et al., 2017). I am using the data set from 2016 in this study.

Rankings—the published ordering of higher education institutions (Morse et al., 2017)

QS—Quacquarelli Symonds world rankings, a global university ranking system based in the United Kingdom.

THE—Times Higher Education world rankings, a global university ranking system out of the United Kingdom

USNWR—US News and World Report College Rankings, a comprehensive ranking system that specifically ranks universities in the United States

Organization of the Study

This study begins with a comprehensive literature review of internationalization, corporate reputation, rankings, and research on how these intersect. The second chapter literature review reveals how the current research into these areas define comprehensive internationalization, reputation, and rankings. These definitions form the basis for the study's methodology. The third chapter on methodology further breaks down the clusters of internationalization into categories and then into variables and discusses how the data on the variables will be analyzed using the reputation scores and the rankings as dependent variables. Chapters four and five will present the results and a discussion of the results, respectively. The discussion will show how the relationship between comprehensive internationalization and rankings can impact both scholarly literature and practitioners in the field.

Chapter Two

Literature Review

This study examined the relationship between the comprehensive internationalization of universities, reputation, and rankings. Data from the *Mapping of Internationalization* (*Mapping)* survey from 2016, administered by the American Council on Education (ACE) and sent to all institutions of higher education, and the *U. S. News and World Report* (USNWR) college rankings, one of the most influential college rankings systems in the United States, was analyzed to trace the relationship between comprehensive internationalization, the specific categories of internationalization as defined in this literature review, and institutional rankings positioning. Because rankings and reputation are closely intertwined, the study was guided by reputation theory.

In order to fully understand the scope of the literature related to the relationship of comprehensive internationalization of higher education and the USNWR college rankings, it is important to explore how the internationalization of higher education has developed on the global scale and how comprehensive internationalization is defined. The first section of this literature review examines the different ways in which internationalization has been portrayed in the higher education context. In addition, the different elements of internationalization are examined in the context of higher education. While this review focuses primarily on comprehensive internationalization rather than fully exploring in depth the literature related to specific aspects of internationalization, the study also examines some of the specific clusters that make up comprehensive internationalization and how these clusters relate individually to institutional rankings.

The second section of this review explores the concept of corporate reputation, the way this idea has developed in organization and management literature, and its relationship to higher education in general and to rankings specifically. The review looks at the significance of reputation, reputation signals, and brand management, and the way these ideas have developed and are portrayed in current scholarly literature. Though the concept of corporate reputation has been limitedly applied to higher education, studies on the intersections between higher education and reputation exist, as do studies examining the relationship between comprehensive internationalization of higher education, reputation, and rankings. This literature review traces work that has been done in the reputation and higher education space and reveals the gaps in the internationalization context.

Finally, this review explores the various rankings systems of higher education, both the U.S.-centric rankings and global rankings. While this particular study focuses solely on a U.S. ranking system, in order for the results to be more applicable to the field of higher education as a whole, it is important that we have a broad understanding of the rankings in general and how the USNWR positions itself within this context. The field of research on rankings and their relevance to higher education is active and growing, with studies taking broad strokes on the impact of rankings to studies exploring specific indicators of the rankings. While this literature review looks at the rankings research broadly, special attention is given to those rankings indicators that focus on reputation and prestige. Finally, this literature review examines how comprehensive internationalization, rankings, and corporate reputation have already intersected in the

literature and discusses the ways in which this study will fill a gap in the research and open doors for further exploration of campus internationalization and college rankings.

Comprehensive Internationalization of Higher Education

Although international student and faculty mobility has been part of U. S. universities since their early years, the concept of campus internationalization has broadened to encompass all aspects of the university community and operations. A variety of definitions of comprehensive internationalization has developed in recent years. Knight (2003a) presents the most recognized definition describing comprehensive internationalization as "the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education" (p. 2). Several rationales for internationalization have developed as well, from attracting students to improving reputation (Cattaneo et al., 2016; Horta, 2009). Scholars, such as Green (2003), have divided comprehensive internationalization into groups or clusters in order to categorize aspects of internationalization. The clusters that develop out of the internationalization literature are: international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and collaborations and partnerships. These clusters form the basis for the research questions explored in this study.

Comprehensive Internationalization Defined

Because internationalization is the action in response to globalization forces, the concepts of globalization and internationalization are often confused (Altbach, 2016). However, internationalization and globalization are inherently different concepts. Hudzik (2015) describes globalization as a much broader concept than internationalization,

encompassing “world spanning forces and factors that transcend borders” (p. 15). Globalization can touch on many areas, including economic markets, technology, social connections, and politics (Stromquist & Monkman, 2014). Internationalization, in contrast, is a process where institutions strive to connect across cultures and participate in work with institutions in other societies (Knight, 2003a). According to Altbach (2016), “Contemporary internationalization is marked by dramatic increases in student mobility and the emergence of regional arrangements… with its many mobility and higher education initiatives, branch campuses, joint-degree programs, and many other interventions” (p. 3). Internationalization has been explained as an outcome of globalization - a means to achieve globalization in the higher education context, with globalization pushing institutions to internationalize (Knight, 2010; Maringe et al., 2013). In the higher education context, globalization creates a need for competitiveness between educational institutions (Stromquist & Monkman, 2014).

Over the years, the concept of internationalization has evolved to include not only student mobility and faculty engagement, but also university strategy, partnerships, and structure (Altbach, 2016; Zha, 2003). In 2000, Schoorman described internationalization as an “ongoing, counterhegemonic educational process that occurs in an international context of knowledge and practice” (p. 6). In this sense, internationalization fulfills a role that disrupts the status quo to position higher education in an increasingly interconnected world (Schoorman, 2000). However, the idea of a “counterhegemonic educational process” when referring to internationalization, seems not to have persisted in the internationalization literature. One of the most accepted and frequently cited definitions of internationalization of higher education places higher education in a more integrative

position (Knight, 2003a). Knight (2003) defines internationalization as "the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education" (p. 2). Others have expanded on this definition by defining internationalization with a stronger sense of purpose. Henze (2014) focuses on how internationalization is reflective of national and institutional policies. He explains that internationalization impacts and is impacted by these policies, becoming a must for institutions (Henze, 2014). Yemini (2015) agrees with Knight and Henze that internationalization is a process but contributes a goal of "instilling in learners a sense of global citizenship" (p. 6). This new definition shifts the focus of internationalization from an institutional goal to a learning outcome emphasis (Yemini, 2015). The concept of internationalization as an integrative process for institutions is continuous throughout the literature.

Background of Comprehensive Internationalization of Higher Education

The internationalization of higher education is not a new phenomenon. Higher education institutions have engaged in international activity throughout history, whether through scholarship or student mobility. From the 18th century through World War II, higher education institutions exchanged scholars, research, and students with institutions in other countries to develop ideas and advanced knowledge (Knight & de Wit, 1995). During this time, the flow of students and scholars was solely about the sharing of academic knowledge and research. After World War II, however, the internationalization of higher education grew exponentially as countries began to view higher education institutions as vehicles for creating cultural exchanges and understanding in addition to following scholarly pursuits (Altbach & de Wit, 2015). Programs such as the Fulbright

commission, the German Academic Exchange Service (DAAD), and the Erasmus Program came into being in the 1940s and 1950s, specifically designed for cultural exchange and the facilitation of student mobility. Some of the motivations for these programs were inherently political, created to overcome political challenges, but the result was a deeper engagement of higher education institutions in international activity (Altbach & de Wit, 2015).

While these programs were primarily focused on cultural education and exchange as well as student mobility (Merkx, 2015), the incentives and motivations surrounding internationalization have continued to evolve. From World War II until the 1980s, the internationalization of higher education was reactive rather than proactive (de Wit, 2011). Beginning in the 1980s, new organization and policy programs developed to encourage internationalization at the university level. In Europe, the Bologna Process was created in 1999, in part to help European institutions work together to be more competitive (van der Wende, 2003). Professional international organizations such as the Forum on Education Abroad, the European Association of International Educators, and the Association of International Education Administrators developed in the early 2000s, both in the US and around the world, to help define and create standards to support specific aspects of internationalization. The American Council on Education (ACE) introduced a sub-group in this time period to conduct internationalization of higher education research and provide support called the Center for Internationalization and Global Engagement, which introduced empirical research into the internationalization process. In the context of higher education, the term “comprehensive internationalization” was first coined by ACE

and then later solidified in the lexicon by NAFSA: Association of International Educators (Hudzik, 2015).

In recent years, however, internationalization has become a proactive initiative preparing for changes in the economic market, labor demands, foreign policy, financial challenges, and global competitiveness following more of a business model in order to remain successful (Knight & de Wit, 1995; Marijk van der, 2007). Altbach and Knight (2007) describe the emergence of a "knowledge society," where economic forces drive the internationalization process (p. 290). They explain how the desire for higher education around the world has increased the need for global institutions and regulatory processes (Altbach & Knight, 2007). In 2016, Altbach further argues that global investment in higher education has strengthened and solidified this "knowledge society" (p. 105). This international trend continues to develop into what Cantwell and Tayler (2013) call the Global Research University. Global research universities emphasize research, local and global placement, and intentional measuring of success, reducing institutional diversity (Cantwell & Taylor, 2013). Nolan and Merkx (2015), however, describe internationalization as a cycle that grows in complexity as development of internationalization in one area, for example study abroad, causes a chain reaction in the development of other areas, such as language studies or faculty engagement. These complex chains that grow internationalization have created the need for senior international officers at higher education institutions to manage increasingly complicated international initiatives (Nolan & Merkx, 2015). Internationalization is a complex process, requiring administrative and academic resources, that has changed higher education.

Rationales for the Internationalization of Higher Education

Scholars and higher education experts alike increasingly emphasize the importance of the internationalization of higher education. In the 2014 International Association of Universities' (IAU) survey, a survey which included 1336 responding institutions from 131 countries, 69% of the respondents listed internationalization as very important (Egron-Polak & Hudson, 2014). The 2016 U.S. based *Mapping of Internationalization* survey, conducted by the ACE, found that 72% of higher education institutions saw a significant growth in internationalization efforts on their campuses between 2011 and 2016 (Helms et al., 2017). The British Council also conducted a study looking at the prevalence of internationalization in higher education in countries around the world. Their research shows that internationalization is becoming more of a priority, with student mobility as the most prevalent aspect of internationalization (Ilieva & Peak, 2016). However, some scholars have examined other areas of mobility, specifically faculty mobility, and found that there are qualitative gains when faculty are engaged internationally, including increased research and professional development (Li, 2020; Serpa et al., 2020). Additionally, the commitment of governments in supporting higher education international initiatives, through legislation and/or funding, has risen (Ilieva & Peak, 2016). Universities have begun prioritizing international student recruitment and outward student mobility as they develop their comprehensive internationalization programs (Egron-Polak & Hudson, 2014; Healey, 2008; Knight, 2014; Youssef, 2014). University leadership with a focus on internationalization helps to promote research and deeper international engagement, and many institutions have senior international officers dedicated to developing international programs and growing the institution's global

footprint (Gul et al., 2019; Nolan, 2015). Professional organizations to support internationalization and private companies to help foster the internationalization business have flourished both in the U.S. and abroad (Holzner & Greenwood, 1995). Rarely is there an institution of higher education that is not currently engaged in some type of international activity.

Several scholars have looked at the rationales behind the increase in internationalization on university campuses. While different regions of the world may have varying cultural motivations for internationalization (Buckner, 2019; Maringe et al., 2013), there are common rationales pushing institutions to internationalize. Some scholars point to the exchange of ideas and research as motivations for internationalization (Enders, 2004; Hudson, 2016; Patel, 2017; Syed Gohar et al., 2015). The IAU survey found that 59% of the respondents cited academic goals as the priority for internationalization (Egron-Polak & Hudson, 2014). Agnew (2013) found that faculty of all disciplines viewed global competencies and cultural and self-awareness as important outcomes of internationalization. In her qualitative study of the perceptions of faculty in the context of internationalizing the curriculum, she argued that internationalization is important to faculty as long as it is examined in a disciplinary context (Agnew, 2013). Zapp and Lerch (2020) further explore internationalization by concluding that more comprehensive internationalization occurs when there is a centralized office and when the university is engaged in international associations. Horta (2009) studied the relationship between international students and research output and showed that an increase in international graduate students on campus positively correlated to the number of international faculty at an institution. Increasing international

students on campus lead to a richer, more varied research output for the faculty as a whole (Horta, 2009). Others have argued that increasing internationalization can lead to a focus on quantity of students and programs rather than on quality, which could inadvertently lead to the breakdown of the university community (Rui, 2003; Youssef, 2014). While academic development may be a motivation for internationalization, the research is divided as to whether or not the academic rationale has consistent positive outcomes; nevertheless, scholars generally agree that knowledge and culturally based motivations for internationalization are important and genuine.

The most frequently mentioned motivation for internationalization of higher education is to increase the reputation and competitiveness of the institution (Cattaneo et al., 2016; Hudson, 2016; Knight, 2004, 2010). Increasing the reputation of the institution attracts more students and generates more income, both in tuition and research dollars, to keep the institution solvent and relevant (Findlay et al., 2012). Seeber, Cattaneo, Huisman, and Paleari (2016) examined the motivations for internationalization through the 2014 IAU survey on internationalization. They found that global competition and the search for prestige were the top rationales for internationalization at top higher education institutions around the world. As a result, universities are increasingly becoming more market-driven, creating a competitive environment where universities are forced to be entrepreneurial to remain relevant (Enders, 2004; Lumby & Foskett, 2016; Rui, 2003; Vaira, 2004). Universities are implementing internationalization strategies to increase the reputation, and therefore the status, of the institution (Egron-Polak & Hudson, 2014; Knight, 2010, 2014; Seeber et al., 2016). Branding and reputation management are key concerns in rankings, and some universities are shifting their priorities towards

internationalization to meet these concerns (Knight, 2004). Reputation drives funding, and economic concerns are frequently mentioned as rationales for internationalization (Egron-Polak & Hudson, 2014; Green, 2003; Healey, 2008; Syed Gohar et al., 2015). In contrast, Hudson (2016) found that funding was not the primary driver for internationalization, as internationalization was still primarily university funded. Hudson did confirm, however, that competitiveness remains one of the important factors motivating internationalization. As multiple studies on internationalization rationale attest, internationalization of higher education and university reputation are tightly linked with a desire for increased competitiveness and funding being primary drivers.

Clusters of Internationalization

Many scholars of comprehensive internationalization have attempted to break down the individual action items of internationalization into understandable and achievable themes, creating more complex and thorough categories as the understanding of internationalization has evolved. While some have posited that internationalization is better categorized at the faculty and research level (Marcello et al., 2019), most scholars have examined internationalization in broad, institutional level categories. In 1992, Arum and Van de Water divided internationalization into three components: international studies, international educational exchange, and technical cooperation (Arum & Van de Water, 1992). Green (2003) further created six inclusive categories: articulated commitment, academic offerings, organizational infrastructure, external funding, institutional investment in faculty, and international students and student programs. The original 2003 *Mapping of Internationalization* survey, produced in the U.S. by the ACE, is based upon these six pillars. Mace and Pearl (2019) build on the pillars created by

Green to show how these pillars can be used as a rubric for evaluating internationalization. Others take an alternate view, dividing internationalization into action (programs and faculty and student activity), competency (educational outcomes), ethos (culture and cultural awareness), and process (embedding internationalization into the process elements of the institution) (Zha, 2003). Haigh (2014) suggests a layered categorization of internationalization, building categories from the localized in recruiting international students to the broad concept of creating education for world consciousness. Table 1 summarizes the various ways in which scholars have organized internationalization from 1992 to present.

Table 1

Summary of Internationalization Clusters as Proposed by Various Researchers

Scholars	Clusters
Arum & Van de Water (1992)	International Education Exchange International Studies Technical Cooperation
Holzner & Greenwood (1995)	Leadership and administration Faculty recruitment Faculty development Faculty reward systems Curriculum development Interinstitutional linkages and agreements Public/private partnerships International studies and educational consortia International fundraising

Scholars	Clusters
Green (2003)	Articulated commitment
	Academic offerings
	Organizational infrastructure
	External funding
	Institutional investment in faculty
	International students and student programs
Zha (2003)	Governance
	Operations
	Support Services
	Academic Programs
	Research and Scholarly Collaboration
	Extra-Curricular Activities
	External Relations
Wächter (2003)	Individual internationalization
	Academic unit internationalization
	Institutional internationalization
	System level internationalization
Knight (2004)	Strategy
	Policies
	Programs at home and abroad
Haigh (2014)	Recruiting international students
	Teaching international students
	Growing the university with international staff
	Compliance with international standards
	Internationalization at home
	Education for global citizenship
	E-learning
	Education for planetary consciousness
Egron-Polak & Hudson's (2014) IAU Survey	International Policy/Strategy and Infrastructural Support
	Funding
	International Student Enrollment
	Outgoing student mobility
	Recruitment of International Students
	Faculty Members International Experience and Mobility
	Internationalization at Home
	Learning Outcomes
	Joint and Double Degree Programs
	Language Study
Nolan (2015)	Student and faculty mobility
	Internationalization at home
	International Partnerships
	Policy

Scholars	Clusters
Helms et al. (2017)	Articulated institutional commitment Student mobility Collaboration and partnerships Faculty policies and practices Administrative structure and staffing Curriculum, co-curriculum, and learning outcomes

There are several common threads throughout the many differing ways of categorizing comprehensive internationalization. Most of the scholars who have suggested ways of organizing internationalization include both attracting and serving international students as an important element of internationalization (Arum & Van de Water, 1992; Green, 2003; Haigh, 2014; Helms et al., 2017). Other common themes include faculty and faculty development (Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Wächter, 2003), as well as internationalizing the curriculum, which includes the idea of internationalization at home (Arum & Van de Water, 1992; Green, 2003; Haigh, 2014; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan, 2015; Wächter, 2003). Infrastructure, administration, and funding can also be positioned together as important themes throughout the literature (Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan, 2015). Study abroad, the act of sending students outside of their home institutions and countries for short term (one week to one year) educational experiences, is not explicitly stated in any of the categories, though it is referenced through student mobility, programs abroad, international education exchange, and educational consortia (Arum & Van de Water, 1992; Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan, 2015). Finally, international strategy and partnerships emerge as ongoing themes (Arum & Van de Water, 1992; Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Knight, 2004; Nolan, 2015; Zha, 2003).

Based on the literature to date, the following seven clusters of comprehensive internationalization emerge: international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and collaborations and partnerships. While these clusters are similar to Helms et al. (2017) in ACE's *Mapping of Internationalization* survey, the six pillars presented in that survey combine international students and study abroad students into one pillar of student mobility. Based on the prevailing literature, however, international students and study abroad each become important as individual clusters.

Corporate Reputation

Literature on comprehensive internationalization reveals that the internationalization of institutions is not new, but the way in which it manifests and the rationale for internationalization have changed throughout the years. One of the leading rationales for internationalization is to increase an institution's reputation. Reputation is highly researched and valued in the corporate world as it directly relates to perception and sales. Corporate reputation is the way in which a company is viewed through the eyes of the public, which, in turn, allows the company to market its goods (Fombrun, 2012). Corporate reputation research shows how signals and brand management help to create identity, leading to public confidence and financial stability (Barnett & Pollock, 2012; Feldman et al., 2014). Several scholars have applied corporate reputation theory to higher education, linking a reliance on reputation to institutional solvency and success (Alter & Reback, 2014; Bagley & Portnoi, 2014). A variety of factors impact university reputation,

and aspects of internationalization are increasingly growing in importance for an institution's image and strength (Hazelkorn, 2016).

Development of Corporate Reputation Scholarship

Corporate reputation as a recognized concept began in the business sector with the advent of instant knowledge and news. Companies learned that successes and failures could be publicized immediately, creating an overall impression of the company in consumers' minds (Rindova & Martins, 2012). This perception allowed stakeholders to compare companies to determine value, creating a reputation (Rindova & Martins, 2012). Reputation helps launch companies into success or create challenges for companies to overcome (Feldman et al., 2014). Fombrun (2012), one of the seminal scholars in the field, defines corporate reputation as "a collective assessment of a company's attractiveness to a specific set of stakeholders relative to a reference group of companies with which the company competes for resources" (p. 100). He argues that reputation comes from an evaluation of the company's past experiences (Fombrun, 2012). Other scholars concur that corporate reputation reflects the public's perception and develops over time (Barnett et al., 2006), and then reputation is connected to the public confidence that the company will remain predictable over time (Barnett & Pollock, 2012). Foreman, Whetten, and Mackey (2012) state that reputation serves as a reflection of the "effectiveness of [a company's] performance - as a predictor of that organization's ability to meet future performance-related expectations" (p. 184). Reputation also helps to define the legitimacy of the company or institution (Miotto et al., 2020). Reputation, in this sense, is the perception that stakeholders have of a company and can reflect past performance, predict future performances, or reflect present circumstances because these

circumstances are known in the public perception (Dowling & Gardberg, 2012; Lange et al., 2011).

Reputation is an important aspect in driving the success of a company, with research showing that 61% of customer interactions with companies are a direct result of the customer's positive perception of that company (Fombrun & Low, 2011). Changing or building a reputation takes significant resources, both financial and personnel, and takes time (Fombrun & Low, 2011). Common threads that can impact a corporation's reputation center around the overall culture that is built and perceived, including the relationship that the company has to the community (Davies & Miles, 1998). Companies with strong, positive reputations can set standards for other companies to follow (Dowling, 2016). As companies develop strong, positive reputations, trust in the organization develops, causing the positive impact of the company to essentially snowball (Dowling, 2016). The reverse can occur as well, with companies with negative reputations being judged more harshly and struggling to overcome their unfavorable impression.

An important concept in the field of corporate reputation is that companies emit certain signals that influence public perception. Reputation is connected to signals that the company sends to various stakeholders, often through looking at the history of the company (Davies & Miles, 1998; Noe, 2012). These signals can reflect the market, economics, institutional culture, social engagement, and strategy of a company (Fombrun & Shanley, 1990). Signals that a company sends also communicate the value of the company and its breadth of appeal (Rindova & Martins, 2012). Fombrun and Shanley (1990) studied a segment of Fortune 500 companies to determine how these various

signals impacted reputation. They concluded that the diversification of the company, meaning a diversification of products, services, and relationship to the public, impacted reputation positively. Media presence, however, tended to have a negative impact on reputation (Fombrun & Shanley, 1990). Of course, in the late 1980s and early 1990s, the definition of media presence would be very different from today's media saturation, potentially invalidating some of the media-related findings. Another study found that institutions with lower reputations could improve their reputation stature by imitating those institutions with higher reputations, sending out signals of success that become self-fulfilling (Deephouse & Carter, 2005).

Signals that a company sends often merge the concepts of the company's identity, status, brand, and image. Reputation is an external representation of a company's identity (Foreman et al., 2012), and the development of the brand is a direct marketing tool to build reputation. Specifically, the branding of a company helps to build credibility and perpetuate that company's reputation (Aaker, 2007). Maier (2016) conducted a qualitative study by speaking with marketing managers of non-profit organizations to learn their perspective on corporate reputation. He found that brand identity, which helps to form reputation, is important in order to keep non-profit organizations from becoming invisible (Maier, 2016). While branding is not the same as reputation, a strong brand can enhance and solidify the reputation of an institution (Argenti & Druckenmiller, 2004; Potgieter & Doubell, 2020). Branding is a strategy used to help build and perpetuate reputation.

Corporate Reputation Theory and Higher Education

Non-profit institutions of higher education cannot be directly equated with for-profit corporations, but higher education institutions are also impacted by their reputations and market forces. Universities and the education that they provide can be viewed as consumer goods and are directly related to market trends (Bagley & Portnoi, 2014; Cremonini et al., 2008). In fact, some scholars argue that reputation is more important for non-profit organizations, including many universities, than for profit driven companies (Morphew & Swanson, 2011). One example is that as higher education institutions compete for students, the image that universities portray, in other words their reputation, has an impact on student and faculty recruitment (Davies, 1992). A recent study shows that increases in university reputation are directly related to increases in student applications (Alter & Reback, 2014). Reputation has a relationship with student identification and feelings of positivity towards institutions and student satisfaction (Kuoppakangas et al., 2019; Troy et al., 2018). In this sense, higher education does reflect Fombrun's (2012) definition of corporate reputation claiming that reputation develops as a result of past experiences. In the context of higher education, the reputation of the institutions created from past research initiatives and branding efforts builds and strengthens a university's reputation. Additionally, reputation in the higher education context is also predictive of future performance, as a strong reputation can lead to increased student applications and population which further strengthens the institution (Barron & Rolfe, 2012). Further research on the impact of reputation and higher education shows that the reputation of institutions of higher education is directly correlated to the future careers of students and the employer perceptions and expectations

when hiring students, whether the students continued in the academic arena or moved to the corporate world after graduation (Finch et al., 2013; Pinheiro et al., 2017). Because the reputation of an institution can impact where students choose to apply and what companies choose to hire graduates, reputation becomes as important to the success of higher education institutions as it is to profit-driven corporations. The upcoming discussion of rankings and the rankings indicators reveal that the reputation signals that institutions send are very similar to the items measured in most of the ranking systems.

Higher education is frequently tied to the development of a positive brand identity, which increases the competitiveness of the institution (Knight, 2004; Vyacheslavovna et al., 2017). Multiple studies have looked at the impact of the visual identity and brand of the institution to see how they increase reputation and competitiveness (Alessandri et al., 2007; Arpan et al., 2003). Similar to the corporate world, the signals that a higher education institution sends, e.g. types of research, faculty to student ratio, and financial security, enhance the reputation of an institution (Cyrenne & Grant, 2009). Multiple voices, from students, faculty, research, etc. contribute to the development of a university brand (Tienari et al., 2015; Wæraas & Solbakk Marianne, 2009). O'Loughlin, MacPhail, and Msetfi (2015) conducted a qualitative study looking at faculty perceptions of reputation. This study demonstrated that faculty viewed branding as important in establishing reputation, both to promote the individual faculty member and the institution, but required significant resources and communication (O'Loughlin et al., 2015). Developing a strong brand is a direct result of clear strategies of communication designed to increase reputation. The strategic communication centered around brand and identity can link research and institutional academic success to

reputation (Overton-de Klerk & Sienaert, 2016). Overton-de Klerk and Sienaert (2016) found that brand relevance is enhanced by strategic communication and connecting with stakeholders, both in the form of international partners and in alumni, to create and perpetuate a cohesive brand strategy. Other researchers have also demonstrated that branding and reputation building is linked to partnerships (Suomi, 2014a). Branding and reputation development can lead to the creation of brand niches, where research may be shifted to specific interdisciplinary areas to strategically identify unique spaces for universities to develop their brand (Barrow, 1996). One example of universities finding a brand niche to improve reputation is the merger of three Finnish institutions into one new university, Aalto University (Aula & Tienari, 2011). The new institutions used a targeted communication strategy to develop a new brand that focused the potential of new research by combining resources and agendas. By focusing on the idea that reputation can be driven by positive predictors of future performance (Foreman et al., 2012), the new institution developed a strong initial reputation (Aula & Tienari, 2011). Communication and intentionality in developing a brand seems to influence the institution's overall reputation.

Reputation is also directly tied to an institution of higher education's perception of itself. The internalization of reputation by faculty and students can impact their attitudes towards their institution (Steiner et al., 2013). As faculty and students internalize the outward reputation into an internal identity, perceptions of reputation can be perpetuated within the institutions. Additionally, students relate to universities and form brand loyalty based on their trust and commitment of the reputation of an institution (Barros et al., 2020). This phenomenon can be positive or negative. If faculty and

students view the institution as having a strong reputation in one area, research shows that they assume that the university is strong in other areas as well (O'Loughlin et al., 2015). The reverse is also true that if a university is perceived as having a weak reputation, the faculty and students develop negative attitudes towards the institution (Steiner et al., 2013). Therefore, the reputation of an institution not only impacts external stakeholders, such as prospective students and partners, but also can inform the psyche of the university itself.

Reputation and Rankings in Higher Education

As evidenced by the preceding literature, reputation is an important aspect of universities. Measuring reputation, however, is challenging. There are very few studies that show how universities can influence or grow their reputations, unless the study is in the context of rankings; therefore, one of the ways in which reputation and institutional success is measured is through the various national and global ranking systems. In recent years, three trends have developed in the global context of higher education: global positioning for attracting faculty and students, increased accountability and transparency, and striving for world class excellence (Hazelkorn, 2016). These trends serve to form the reputation of an institution and are measured in the rankings. These trends connect rankings and reputation to the comprehensive internationalization of universities, the focus of this study.

Background of Rankings and Prominent Indicators

Rankings systems are driven by growth and broad appeal of higher education, but rankings also exist in response to increased competition in the higher education arena (Dill & Soo, 2005). Today, four types of rankings have become relevant in higher

education: elite rankings (rankings which look at specific types of schools), national rankings (like USNWR), global rankings, and supra-national rankings (government instated rankings designed to formalize and definitively rank institutions within a region or country) (Hazelkorn, 2016). Regulations for rankings have also developed, specifically the Berlin principles, to help standardize the many rankings systems (Sanoff, 2007). Each ranking system outlines specific indicators, demonstrating quality of teaching, research, and reputation - the main items measured in rankings (Taylor & Braddock, 2007). However, because quality is challenging to measure, the rankings use proxies as their indicators for quality. The USNWR, for example, focuses on measuring inputs (types of students admitted) and outputs (graduation rates, research productivity, etc.) of higher education institutions to represent quality (Shin & Toutkoushian, 2011). Additionally, many ranking systems attempt to measure the reputation of the institution.

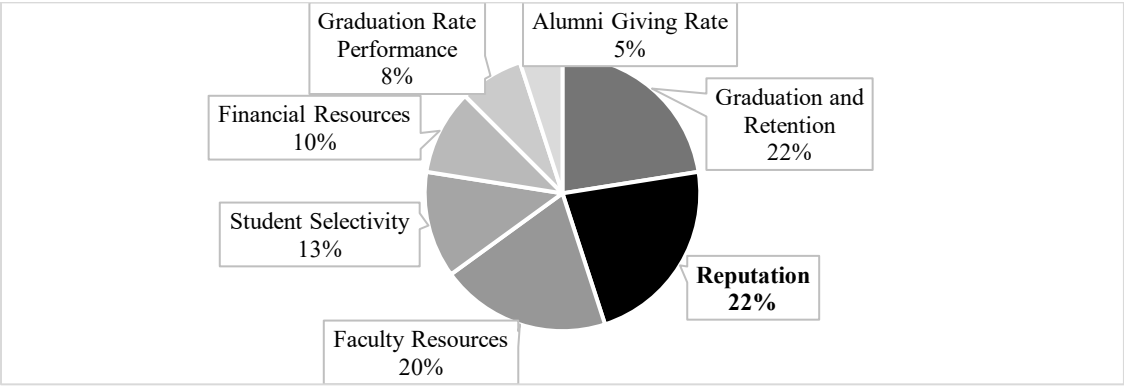
USNWR quickly emerged as one of the most recognized and influential rankings systems in the United States (Sanoff, 2007), though this system only ranks U.S. institutions and is critiqued for its oversimplification and focus on research and reputation rather than on teaching quality (Altbach, 2012). While the methodology has changed over the years, in 2016, USNWR based its rankings on seven indicators: graduation and retention, reputation, faculty resources, student selectivity, financial resources, graduate performance, and alumni giving (Morse & Brooks, 2015). Figure 1 shows the indicators and their percentage of the total of the USNWR indicators from 2016.

As the higher education landscape became more competitive, various international ranking systems developed to measure higher education on a more global scale. These international rankings have grown to be an important tool for measuring

universities, placing higher education in an international framework, informing student choice, and influencing university funding models (Boulton, 2011; Hazelkorn, 2014b; Locke, 2014). Twenty-three international rankings systems have developed since the initial international ranking, the Academic Ranking of World Universities (ARWU), was released in 2003. Three of these systems have become the standard by which many governments and universities use to benchmark and make decisions: the ARWU, formerly known as the Shanghai Ranking; the Times Higher Education ranking (THE); and the QS World University Rankings (QS). This literature review focuses on the research done on USNWR, AWRU, THE, and QS, as these four ranking systems are prominent in the field. Each of the four rankings has its own set of indicators and methodology. The indicators show what each ranking methodology measures. Figures 1 through 4 represent the indicators and the percentages of each indicator of the USNWR, ARWU, THE, and QS ranking systems for comparison.

Figure 1

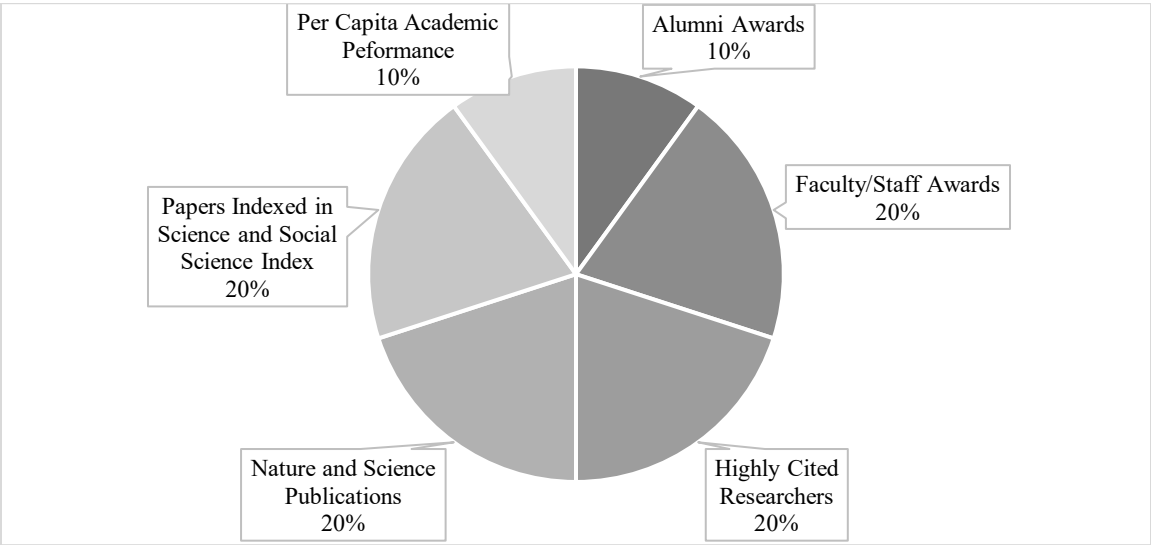
USNWR Indicators and Percentages, Reputation Bolded



Note: Adapted from "The U. S. News rankings: A close look at the methodology," by R. J. Morse and E. Brooks, 2015, *Best Colleges*, pp. 68-72. Copyright 2015 by US News and World Report, LP.

Figure 2

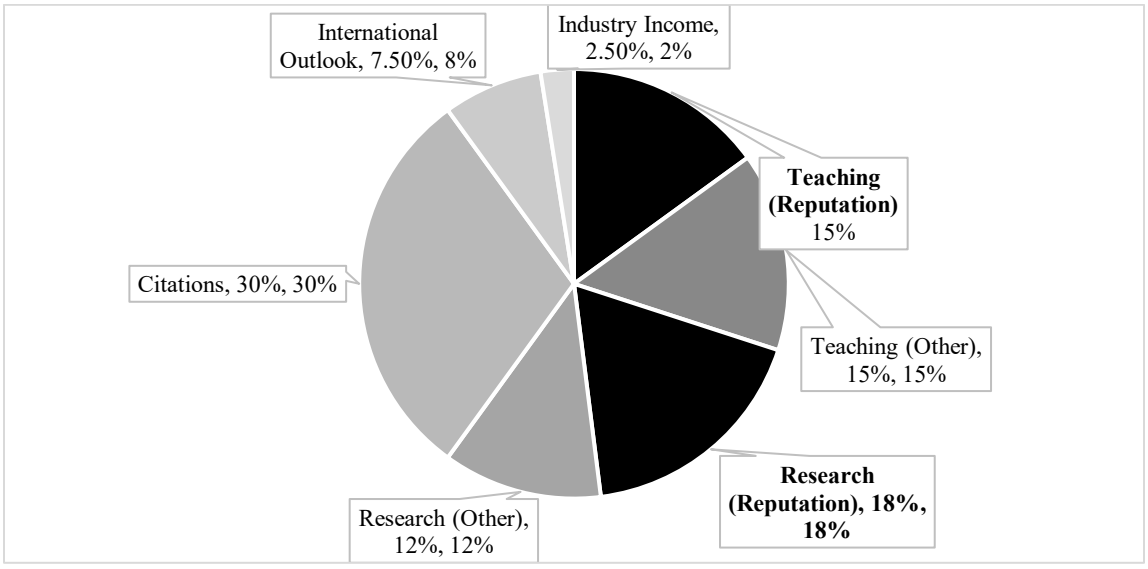
ARWU Indicators and Percentages



Note: Adapted from "Methodology," by Academic Ranking of World Universities, 2017. Copyright 2017 by Academic Ranking of World Universities.

Figure 3

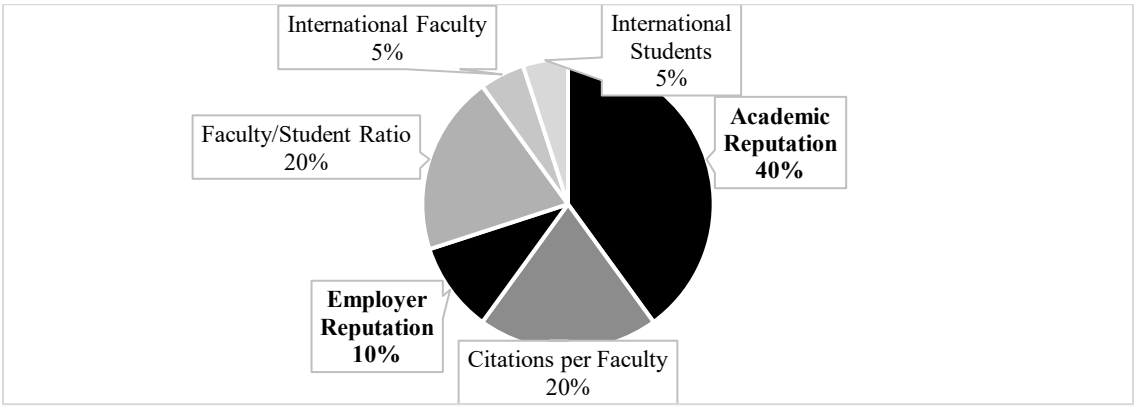
THE Indicators and Percentages, Reputation Bolded



Note: Adapted from "World University Rankings 2018 Methodology," by Times Higher Education, 2017. Copyright 2018 by Times Higher Education.

Figure 4

QS Indicators and Percentages, Reputation Bolded



Note: Adapted from "Methodology," by QS World Universities, 2018, *QS Top Universities*. Copyright 2018 by QS World Universities.

As the figures show, the indicators vary across the different ranking systems, but a few themes emerge. First, the rankings attempt to measure research productivity in some fashion, whether through citations, publications, or awards. The exception is USNWR, which does measure faculty resources, but more from a student-centered perspective (Morse & Brooks, 2015). The rankings also measure student/teaching outcomes, though in unique ways. USNWR measures student outcomes by looking at retention and graduation rates, while the international ranking systems look more closely at faculty/student ratio. Finally, all of the rankings measure reputation, with reputation indicators representing 20% of the USNWR overall score, 27% of the rankings score, and 50% of the QS ranking score (Morse & Brooks, 2015; QS Top Universities, 2018; Times Higher Education, 2017). The ARWU indirectly measures reputation, by calculating awards and recognition of alumni, faculty, and staff, only including those awards that are highly publicized such as Nobel Prizes (Academic Ranking of World Universities, 2017).

These awards help to form the reputation of the institution. Overall, reputation is a significant indicator in the major rankings systems.

Importance and Impact of Rankings on Higher Education

In the past few decades, rankings have increasingly demonstrated guiding influences over university leaders across the world. It is common for university strategic initiatives to be developed in an effort to improve an institution's standings in the various ranking systems. A 2016 survey of higher education institutions around the world revealed that 83% percent of the responding institutions were dissatisfied with their rankings placement, 84% of the institutions were actively engaged in strategies aimed at moving up in the rankings, and 88% of university leaders wanted to improve their ranking status (Hazelkorn, 2016). A separate pan-European study showed that 86% of institutions monitored rankings and 60% had dedicated human resources focusing on rankings (Hazelkorn et al., 2014). The same study found that 71% of the institutions felt that rankings influenced university strategic decision making (Hazelkorn et al., 2014). While U.S. institutions have largely been outside the push to rise in world rankings (Hazelkorn, 2014a), national rankings such as the USNWR college rankings, and lately more world rankings, are rising in importance in the U.S. (Helms et al., 2017).

University leaders are concentrating efforts on improving ranking scores, using rankings as a benchmarking tool to compare institutions and measure performance, both in the U.S. and world-wide (Altbach, 2012; Espeland & Sauder, 2016; Rauhvargers, 2014). Eighty percent of higher education leaders report using world-rankings as ways to benchmark against other institutions both nationally and internationally (Hazelkorn et al., 2014). This benchmarking, in turn, can help universities position themselves in the global

context and within their own governments (O'Connell, 2013). Standings in the rankings can also negatively or positively impact the depth and breadth of partnership with top institutions (Hazelkorn et al., 2014). Governments and funding agencies have restricted resources to top universities in several countries based upon standings in rankings (Boulton, 2011; Rauhvargers, 2014). Because governments use benchmarking to compare higher education institutions and determine resource allocation, governments influence higher education institutions by financially supporting partnerships and collaborations with other top institutions around the world (Liu & Cheng, 2011). The use of rankings to determine research partnerships and collaborations can put pressure on institutions to increase their international standing. In this sense, rankings can impact the relationship that governments and funding agencies have with universities.

Rankings also impact student and faculty recruitment. Parents and students use rankings as a signal of the quality of an institution, specifically when looking at more elite universities (Altbach, 2012; Avery et al., 2004; Bowman & Bastedo, 2009; Monks & Ehrenberg, 1999). As universities move into the higher echelon of the rankings, studies show that their acceptance rate decreases, meaning more students apply but fewer are accepted (Bowman & Bastedo, 2009). Rankings, therefore, perpetuate a cycle where, as universities move higher in the rankings, they are perceived as more elite, their acceptance rate decreases, and they continue to move up the rankings. Research shows that this movement towards the elite is more characteristic of national universities rather than liberal arts colleges and that universities in cities have an advantage over those in rural areas (Bowman & Bastedo, 2009; Guironnet & Peypoch, 2018). Higher standing in USNWR, in particular, has been shown to positively impact the number of applications a

university receives (Luca & Smith, 2013), which can lead to a feedback loop between undergraduate reputation and USNWR (Namazifar, 2019). Rankings also positively impact student mobility, with students studying in other countries at highly ranked institutions in order to improve their job prospects (Findlay et al., 2012). Clark (2007) looked at student access and choice in relationship to rankings in the U.S. context. The study found that rankings increase student stratification. In contrast, however, U.S. employers did not seem influenced by international ranking systems (Clarke, 2007). Rankings also impact faculty recruitment and research. Higher ranked institutions attract more prolific and renowned researchers and faculty (Kehm, 2014). Schools which are ranked higher have the opportunity to develop more partnerships and collaborations with other institutions improving the overall opportunities for faculty research (O'Connell, 2013). Because rankings impact student and faculty recruitment and research, competition between institutions and the internationalization of higher education have propelled rankings forward (Teichler, 2011).

As higher education becomes more competitive in its search for students, faculty, and funding, the reputation of the university becomes increasingly important. Rankings have become the main vehicle for measuring the reputation of higher education institutions, causing some institutions to engage in behaviors specifically designed to increase rankings (Collins & Park, 2016). Many ranking systems, including USNWR, attempt to measure the reputation of the institution. Interestingly, by measuring and ranking the reputation of institutions, rankings impact the reputation of universities (Bastedo & Bowman, 2010; Safón, 2019; Zha, 2009). Bastedo and Bowman (2010) found that while rankings impact reputation, the reputation of an institution also impacts how

peers assess the reputation of the university, specifically how deans and presidents perceive institutions. In a later work, Bowman and Bastedo (2011) discovered that rankings impact reputation only in the first iterations of ranking systems. As ranking systems become more established, they do not consistently impact reputation as it becomes increasingly difficult to affect reputation change in institutions (Bowman & Bastedo, 2011). Rankings influence the competitive nature of institutions and divide institutions by reputation (Brankovic et al., 2018; Clarke, 2007; Locke, 2011; Monks & Ehrenberg, 1999). Additionally, some argue that rankings, by affecting reputation, privilege previously higher ranked institutions and reinforce notions of power and prestige (Altbach, 2012; Pusser & Marginson, 2013). Stakeholders in higher education, including parents, students, and other universities, look to rankings as a reputation measurement (Kehm, 2014; Marginson, 2014; Rauhvargers, 2014). Students value reputation and use the rankings to measure success (Hazelkorn, 2016). As a result, rankings can be seen as an investment in reputation rather than an investment in quality (Locke, 2011), as research shows that there is a direct correlation between national investment in higher education and position in the rankings (Hauptman, 2006). The reputation of an institution then impacts the perception of quality of the institution.

While rankings certainly have an impact on universities, researchers and university administrations generally agree and can provide evidence to show that rankings are inherently flawed in their measurement of universities (Avery et al., 2004). Rankings measure perception rather than reality, and focus on reputation rather than quality (Shin, 2011). Education quality is rarely measured by rankings; instead, metrics such as retention, faculty to student ratio, and graduation rates are used as proxies for

educational quality (Altbach, 2012; Kehm, 2014; Syed Gohar et al., 2015). Marginson (2014) argues that rankings are not regulated and provides suggestions for criteria to evaluate rankings systems in order to improve their accuracy. Clark (2007) demonstrates that rankings benefit high achieving students while negatively impacting the access of higher education to low income, underrepresented students. Soh (2015) analyzes the impact of academic and non-academic measures on rankings. The study demonstrated that inconsistencies in the rankings and in which indicators mattered were prevalent, revealing concerns about the consistency of ranking systems (Soh, 2015). Rankings have also been criticized for being too profit driven (Hazelkorn, 2016), with universities focusing on the rankings rather than on university quality (Yudkevich et al., 2016). Some scholars argue that rankings have the potential to improve to increase their relevance, but changes in indicators are important to improve how ranking systems measure universities (Aithal & P. M, 2020; Shin & Shin, 2020) Regardless of their flaws and lack of credibility, ranking systems are important to universities because they impact funding, student and faculty recruitment, and reputation; therefore, universities strive to find ways to impact their standings in the rankings.

Efforts of Universities to Improve Their Rankings

Research shows that it is extremely difficult for universities to move their positions in the rankings (Martin, 2015). Analysis has shown that universities move very slowly up or down the rankings scales. After examining USNWR over a ten-year period from 1988-1998, Morphew and Swanson (2011) found that only 29 U.S. schools cycled in and out of the top 25 schools. Additionally, 55% of the top institutions world-wide were the same regardless of the ranking scale or citation index used (Chen & Liao, 2012).

The reputation surveys, a subjective indicator, have had only a 5% response rate (Rauhvargers, 2011). Universities, however, still strive to improve their rankings score and look at the indicators of rankings to determine what actions or reporting changes can raise their national and international standings. The top institutions world-wide have top down governance, financial resources, and focus in improving their rankings positions (Salmi, 2011). Evidence suggests that universities are adapting to the rankings environment and making changes specifically with the goals of increasing their rankings scores (Hazelkorn, 2007, 2014b). Because many of the rankings are biased towards schools with strong scientific research performance (Williams & de Rassenfosse, 2016), some elements that impact the rankings are competitive hiring of faculty and the number of senior faculty in the science, engineering, and medicine fields (Cantwell & Taylor, 2013; Ehrenberg, 2002; Hazelkorn, 2015); however, Baughman and Goldman (1999) found that there was not a clear causal relationship between a lower rankings score and faculty scholarship. This particular study was narrow in focus, looking primarily at admission rankings (Baughman & Goldman, 1999), and was conducted before the advent of the world ranking phenomenon. Aldieri, Kotsemir, and Vinci (2018) examined European universities in Germany, Russia, France, Italy, and the United Kingdom to determine whether research collaborations impacted rankings. They found that an increase in the number of collaborations between institutions had a significant impact on the research performance indicators in rankings (Aldieri et al., 2018). Tie (2012) looked at the efforts of the University of Malay to increase its standing in the rankings by emphasizing faculty publishing in specific high impact journals. The university had doubled its position in the rankings by 2012 (Tie, 2012). As of 2018, the university had

risen another 50 spots. Growing an endowment, receiving grants and other governmental resources, and raising alumni donations can also have a positive impact on rankings (Cantwell & Taylor, 2013; Daraio et al., 2015; Ehrenberg, 2002; Syed Gohar et al., 2015).

The manner in which data are reported can affect a university's ranking as well. Daraio, Bonaccorsi, and Simar (2014) argue that investing in data integration systems to increase efficiency and accuracy of reporting can positively impact a university's standing in the rankings. Espeland and Sauder (2016) found that improving in the USNWR requires an expert analyst to effectively game the rankings system. Data optimization and manipulation are becoming common strategies to help institutions improve in rankings (Morphew & Swanson, 2011). According to Hazelkorn (2015), world-wide higher education leaders reported that 74% manipulated data to move up in the international rankings system. Focusing on data reporting and strategically calculating data points can impact a university's rank.

Finally, creating effective marketing campaigns and narratives that promote current rankings standings and the university as a whole can have an impact on rankings, specifically on the reputation scores of rankings (Gnolek et al., 2014; Heffernan & Heffernan, 2018). Seventy six percent of European higher education leaders report using rankings as a marketing tool (Hazelkorn et al., 2014), while half of universities world-wide used rankings for publicity purposes to enhance prestige (Hazelkorn, 2015). Aalto University in Finland, discussed earlier, merged three institutions into one and used a targeted marketing and communication campaign to successfully develop the new

institution's reputation and ranking (Aula & Tienari, 2011). Intentional marketing and communication are effective ways of improving an institution's rank.

Comprehensive Internationalization, Reputation, and Rankings

Very little empirical research has related comprehensive internationalization or the clusters of internationalization to the rankings themselves. Though several studies show that rankings are a motivation for internationalization (Hudzik, 2015; Ilieva & Peak, 2016; Jöns & Hoyler, 2013; Locke, 2014; Zapp & Ramirez, 2019), little research focuses on the impact that internationalization has on an institution's standing in the rankings. The limited research that exists has largely taken place outside of the U.S., with few researchers in the U.S. examining internationalization and rankings. In many other countries, such as China, Singapore, Korea, Russia, France, and Malaysia, internationalization and the process of internationalization is perceived as having direct ties to rankings, specifically the international rankings. However, it is unclear whether or not internationalization has an impact on the USNWR rankings (Stearns & Smith, 2016). With the express purpose of raising French institutional standings in the world rankings, France passed a guidance that allowed university presidents to have the power to develop internationalization strategies, hire top faculty researchers, and enter into international collaborations (Siganos, 2008). China developed a specific strategic plan to internationalize a few of its elite universities in order to move up in the rankings (Huang, 2015). These high performing institutions in China have implemented strategic efforts to increase student mobility, creating partnerships to send its students abroad, in order to raise the prestige of the university (Cebolla-Boado et al., 2018). Influential Italian universities are increasing their internationalization initiatives in order to raise their

reputation standings in the rankings (Cattaneo et al., 2016). Top tier Malaysian institutions are putting resources into attracting international students in order to grow in numbers and prestige (Tan & Goh, 2014). Hong Kong has made internationalization a priority, creating clear strategic internationalization goals that involve increasing funding for international engagement, recruiting international students and faculty, supporting faculty and faculty development, internationalizing the curriculum, and developing new collaborative research (Mok & Cheung, 2011). Schools implementing these new strategies in Hong Kong, Malaysia, and mainland China have steadily increased their stature in the rankings, presumably as a result of their comprehensive internationalization strategies. Schools in the U.S. have not focused on global rankings, but are seeing the effects of these rankings as policies in other countries can inhibit schools in those countries from partnering with under-ranked U. S. institutions (Stearns & Smith, 2016). At this time, however, there is a dearth of literature connecting U.S. institutions and their internationalization efforts to rankings.

Regardless of the limited research on the relationship of campus internationalization and university rankings, elements of internationalizations seem to influence the reputation of universities, which has in turn led to global recognition. Many of the seven clusters of internationalization as identified in the literature - i.e., international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and collaborations and partnerships - show some links to reputation and rankings. Specifically, international students, faculty development, funding, internationalizing the curriculum, and collaborations and partnerships can

impact reputation and rankings. Some scholars have demonstrated that attracting and retaining large numbers of international students has a positive impact on rankings (Cebolla-Boado et al., 2018; Tai, 2007). Engaging faculty in internationalization also increases research productivity and partnerships (Childress, 2009). Many universities have engaged in global partnerships and collaborations, which increases institutional visibility and brand recognition (Engwall, 2016; Overton-de Klerk & Sienaert, 2016). Additionally, schools with high rankings typically are more committed to research collaborations (Buckner, 2020). Increasing university funding, including funding to support international activities, seems to be another indicator of a positive rankings score (Tai, 2007). Evidence does suggest that the internationalization of higher education increases institutional funding (Forest, 2004), creating a connection between internationalization, funding, and rankings. Internationalizing the curriculum, an aspect of comprehensive internationalization, however, has not been shown to have an impact on rankings, though it does have a positive impact on students and their education (Patel, 2017). The research connecting comprehensive internationalization, reputation, and rankings, however, is limited.

One study conducted in Europe did extensively look at the intersection between internationalization, rankings, and reputation. Delgado-Marquez, Escudero-Torres, and Hurtado-Torres (2013) studied how the internationalization of universities related to corporate reputation. They looked at the top 50 institutions world-wide according to the Times Higher Education rankings scores. Delgado-Marquez, Escudero-Torres, and Hurtado-Torres then compared the general and the reputation index to the IAU 2010 survey to determine whether internationalization, as defined by the percentages of

international faculty and international students, impacted the overall reputation scores. They found that internationalization had a positive impact on reputation indicator scores in rankings (Delgado-Márquez et al., 2013). Interestingly, they also found that internationalization only had a moderate impact on the academic quality indicators (citations, student faculty ratio, and graduate employability) (Delgado-Márquez et al., 2013). While this study is revealing in that it demonstrates a connection between internationalization, reputation, and rankings, the definition of internationalization it follows is limited as it only defines internationalization as the percentages of international faculty and international students. Also, the study only focuses on the top 50 institutions world-wide. Whether or not the results can be generalized to institutions not in this extremely top tier category is questionable. Delgado-Marquez, Escudero-Torres, and Hurtado-Torres's study is one of the few efforts to explore the relationship between campus internationalization and university ranking.

Theoretical Framework

One theoretical framework does not encapsulate how to view the relationship between the comprehensive internationalization of higher education and the USNWR ranking of colleges and their reputation scores. In order to create a model to guide this study, I combined several sources of research on comprehensive internationalization and its composite categories. I identified seven clusters of internationalization, based on the extensive research on the comprehensive internationalization of higher education (listed in Table 1), including international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and collaboration and partnerships.

Finally, while there is not a definitive theory of corporate reputation to follow, this study is grounded in the research on reputation in the profit and non-profit world and the intersection of reputation research and higher education. Scholars in the management field agree that a positive reputation is essential for a successful enterprise (Barnett & Pollock, 2012; Maier, 2016); however, reputation is challenging to measure effectively. As a result, for the purposes of this study, university rankings scores and their sub-reputation scores represented a proxy for university reputation.

Summary

This review examined the literature surrounding the comprehensive internationalization of universities, research on corporate reputation, and the rankings of higher education institutions. There are several main ideas that emerge from the review. First, comprehensive internationalization is a well-studied field. Many researchers have looked at how to define and categorize internationalization and demonstrated how internationalization has impacted higher education. While there is a wealth of research that identifies the components of comprehensive internationalization, seven specific components emerge into core clusters: international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and international collaborations and partnerships.

This review then explored research on corporate reputation and its application to higher education. Institutional reputation has been identified as important, not only to the corporate world, but also to higher education. Experts in this field agree that reputation is crucial to the success of an organization, but they also acknowledge that building a

positive reputation is a time-consuming process involving branding and signaling. Reputation is important in higher education as it can impact the competitiveness of the institution, leading to more students, stronger faculty and faculty research, and more research funding. Therefore, it is important for higher education institutions to monitor and measure reputation.

Rankings are one way in which reputation is measured and augmented. The importance of the various ranking systems has grown in the past ten years, with extensive literature on the effect rankings have on higher education and what initiatives institutions can engage in to improve their rankings position. The most prominent U.S. rankings is the USNWR, which ranks the top U.S. institutions every year, though there are several notable international rankings as well. While rankings are shown to be flawed, they gain in significance for students and parents, and even funding agencies, as they provide a benchmark by which universities can be measured.

Literature surrounding the comprehensive internationalization in higher education, reputation, and rankings is extensive, but almost no studies have connected these concepts directly. This study examined comprehensive internationalization of higher education and to determine how internationalization as a whole and the identified seven clusters were related to the USNWR ranking score and to the USNWR reputation scores, filling a gap in the literature and shedding more light on how reputation, as reflected in the rankings, is influenced by internationalization.

Chapter Three

Methodology

This study looks at the internationalization of higher education, specifically the internationalization of four-year institutions, to determine the relationship that comprehensive internationalization of higher education as a whole, and specific clusters and categories of internationalization, have on the *US News and World Report* (USNWR) college rankings. This study examines the significance of internationalization on USNWR rankings and reputation scores in a single year, using the 2016 data. The clusters derived from the literature on comprehensive internationalization are: international students; faculty and faculty development; curriculum internationalization; infrastructure, administration, and funding; study abroad; international strategy and articulated commitment; and collaboration and partnerships.

The specific research questions focus on comprehensive internationalization and each of the clusters of internationalization and how they relate to the USNWR college rankings and reputation scores. The specific research questions are:

1. What institutions are ranked and have efforts towards internationalization?
2. What relationship, if any, does comprehensive internationalization have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
3. What relationship, if any, do international students have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*

4. What relationship, if any, do faculty and faculty development have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores?
5. What relationship, if any, does curriculum internationalization have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
6. What relationship, if any, do infrastructure, administration, and funding have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
7. What relationship, if any, does education abroad have with *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
8. What relationship, if any, does international strategy and articulated commitment to internationalization have with the *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
9. What relationship, if any, do international collaborations and partnerships have with the *U.S. News and World Report* rankings and with the *U.S. News and World Report* peer reputation scores*?*
10. Can institutional peer reputation scores or rankings be predicted by one or a combination of the identified variables of internationalization?

This methodology chapter explains in detail how the study was developed, conducted, and analyzed. First, I will provide an overview of the statistical method

and research design that was used to answer the research questions, followed by a detailed explanation of the secondary data that was used, how it was gathered, and how it was adapted for this specific study. I will then explain the data analysis used, showing how the results were analyzed to answer the research questions. Finally, I will discuss the assumptions, limitations, and delimitations inherent in the study and in the data.

Research Design

This study employed a secondary data analysis to determine the relationship between internationalization and USNWR reputation scores and rankings. Secondary data analysis takes existing data sets gathered by other parties and combines these data sets to answer the research questions. Using data from multiple existing sources and bringing them together for analysis allows for a rich compilation of seemingly disparate data to look at questions in a unique way. In order to effectively employ a secondary data analysis, it is important that the data be comprehensive, extensive, and in its raw form (Butin, 2010). If a data set is only available in aggregate form or is not compatible with other data sets that are explored, then a full analysis is not possible. For this study, I used the American Council on Education's *Mapping of Internationalization* data set from 2017, collected in 2016, along with the USNWR data from 2016. I also used the Integrated Postsecondary Data Set (IPEDs) data set from 2016. These three data sets formed a larger data set of raw data from which I analyzed the data to answer the research questions. This secondary data research design is appropriate to answer the research questions because the data on higher education internationalization and rankings is already collected through the ACE *Mapping* survey, the ranking systems, and IPEDs.

Collecting the data independently could yield a smaller response rate. Because the data has already been collected through reputable sources, a secondary data analysis is optimal.

Data Collection and Instrumentation

In order to determine the relationship between comprehensive internationalization, including the clusters of internationalization, and the USNWR rankings and reputation scores, I examined three secondary data sources. The first data source is the American Council on Education's *Mapping of Internationalization* (Mapping) surveys conducted every five years. This survey is sent to all degree granting institutions of higher education in the U.S., asking questions about those institutions' internationalization efforts. I looked at the 2017 mapping survey which was conducted in 2016. The second set of data is the ranking scores of each institution that responded to the mapping surveys, broken out into their reputation indicators and composite scores. Because of the time delays, I matched the 2016 ranking and reputation scores to the 2017 Mapping survey. Finally, I looked at IPEDs data from 2016 to incorporate institutional characteristics such as size, Carnegie Classification, and public/private status.

The Mapping survey is conducted every five years by the American Council on Education (ACE). ACE is a member driven organization that represents all types of higher education institutions - public, private, two-year, and four-year - that works to shape and advocate for public policy in the best interest of higher education (American Council on Education, 2018). In 2016, ACE invited 2,945 higher education institutions in the U.S. to participate in the Mapping survey, receiving 1,164 responses for a 39.5% response rate (Helms et al., 2017). The Mapping survey is intended to provide a snapshot

of internationalization of higher education, but the data is self-reported, allowing for variances in reliability. However, the volume of responses, when taken in aggregate, provides a valid picture of internationalization. The Mapping survey explores seven categories related to internationalization: overall status and trends in internationalization; articulated institutional commitment; administrative, leadership, structure, and staffing; curriculum, co-curriculum, and learning outcomes; faculty policies and practices; student mobility; and collaboration and partnerships (Helms et al., 2017). While the variables in my study generally fall under these categories, I separated the category of student mobility into international students and study abroad as the research shows that they are independent of each other and equally important.

The second data set is the rankings data from the *U.S. News and World Report* college rankings (USNWR). USNWR ranks many types of institutions. For this study, I focused on their rankings of both national universities, defined as four-year institutions that offer many undergraduate majors in addition to masters and doctoral programs, and liberal arts colleges, where the schools focus primarily on undergraduate programs with a large percentage of liberal arts majors. Using both of these categories allows for enough data to make the study meaningful while potentially showing a distinction between the two different types of institutions. USNWR began as a weekly national newspaper focusing on important issues but has expanded to a primarily digital format providing information on current events, consumer information, and many different types of rankings. USNWR college rankings are considered one of the most influential college ranking systems in the U.S. (Sanoff, 2007).

As with most rankings systems, USNWR has documented flaws to their methodology, being primarily criticized for focusing too heavily on reputation garnered from peer review rather than quality (Altbach, 2012). While the literature review in Chapter 2 documents some of the criticisms of rankings, some of the primary flaws include relying too much on peer perception rather than documented outcomes, subjective criteria, and a lack of consistency (Marginson, 2006; Shin, 2011; Soh, 2015). The data used to determine USNWR ranking scores combines quantitative and qualitative data. Quantitative data comes from secondary sources, such as federal financial aid databases and IPEDS, and data self-reported from the higher education institutions. Data gathered to evaluate reputation comes from peer assessments and provides the qualitative input to create a final score. While the methodology has changed over the years, USNWR primarily uses seven indicators to give each institution an individual score used for rankings, as shared in Figure 1 in Chapter Two (Morse & Brooks, 2015). One of those indicators is reputation, which is gathered through surveys sent to university administrators. The administrators list higher education institutions that they believe are top institutions. This survey is entirely subjective, and the reputation results count for 20% of the total rankings score. I used the reputation score and the overall rankings score for each institution as my two response variables.

The final secondary data set is IPEDS. IPEDS is a comprehensive statistical database of all institutions of higher education collected by the Institute of Educational Sciences (IES), a research component of the Department of Education. IES's mission is to provide statistical information regarding the state of education in the U.S. Reporting to IPEDS is mandatory for all institutions if they receive federal financial aid monies, so the

data is considered comprehensive. Data is collected in ten primary areas, including institutional characteristics, financial aid, and student persistence and success. For the purposes of this study, I examined institutional characteristics such as size, Carnegie classification, region, and public/private status. This data helped describe sample.

Clusters, Categories, and Variables

In order to determine which clusters, categories, and variables would be most effective when looking at the relationship between comprehensive internationalization of universities and the USNWR college rankings, I first reviewed the existing literature categorizing comprehensive internationalization. More than ten scholars have offered possible clusters of internationalization, all similar but with small variances. The common themes that emerged from the various scholars can be grouped into seven broad clusters. Each cluster is divided into categories and then variables that further drill down into the details of comprehensive internationalization. Table 2 lists the clusters, the sources from which these clusters were derived, and the categories that developed out of the clusters.

In addition to the clusters in Table 2, comprehensive internationalization in itself is a theme. In total, there are eight clusters (including comprehensive internationalization) and 17 categories. These clusters and categories were chosen based on the common standards surrounding comprehensive internationalization today as reflected in the literature. While these categories do not exactly align with the Mapping data set, there is data throughout the set that reflect each of the categories in order to determine the relationship between internationalization and rankings.

Table 2

Clusters, Sources, and Categories of Comprehensive Internationalization

Clusters	Sources	Categories
International Students	(Arum & Van de Water, 1992; Green, 2003; Haigh, 2014; Helms et al., 2017)	International Recruitment Plan Support Programs
Faculty and Faculty Development	(Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Wächter, 2003)	Incentives/Encouragement for international activity Tracking faculty international activity
Curriculum Internationalization	(Arum & Van de Water, 1992; Green, 2003; Haigh, 2014; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan & Merkx, 2015; Wächter, 2003)	Global Learning Foreign Language Requirement
Infrastructure, Administration, and Funding	(Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan, 2015; Zha, 2003)	Clear and identified Senior International Officer/Office to Lead Internationalization Funding for International Activities
Education Abroad	(Arum & Van de Water, 1992; Green, 2003; Helms et al., 2017; Holzner & Greenwood, 1995; Nolan, 2015)	Strategy to promote and increase numbers Funding
International Strategy and Articulated Commitment	(Arum & Van de Water, 1992; Egron-Polak & Hudson, 2014; Green, 2003; Helms et al., 2017; Knight, 2004)	University-wide international strategy International assessment plan
Collaboration and Partnerships	(Green, 2003; Helms et al., 2017; Nolan, 2015; Zha, 2003)	Strategy and structure for new collaborations/partnerships Dual/double/joint degree opportunities Physical presence abroad

The study's Mapping data variables thus emerge from the identified categories on internationalization indicators. Table 3 lists the categories, their corresponding variables, and the type of variable (categorical, numerical, etc.). This table, though extensive, explains in detail how the categories and variables are defined and measured. The table also lists the response variables of rankings and reputation scores.

Table 3

Variables of Comprehensive Internationalization

General Internationalization (Category 1)		
Variables	Definitions	Variable Type
Level of Internationalization	Five Options—Very high to very low	Categorical
Acceleration of Internationalization	Four Options—Significant change to no change	Categorical
Motivation for Internationalization	Eleven possible reasons, for example, diversity, preparing global citizens, revenue, attracting talent, etc.	Categorical
Priority Activities	Seven possible priorities, for example, recruiting students, increasing study abroad, curriculum, faculty development, etc.	Categorical
Individual Catalysts	Ten possible catalysts, for example, President, Provost, Board, Faculty, Senior international officer, Students, etc.	Categorical
International Recruitment Plan (Category 2)		
Variables	Definitions	Variable Type
Recruitment Plan	Yes or no	Categorical-Binary
Enrollment Targets	Existence of targets for undergraduate, graduate, or both	Categorical
Geographic Targets	List of 26 countries to select as targets	Categorical
Funding to Support Recruiting Undergraduate Students	Types of funding available: scholarships, travel, recruiters, or agents	Categorical

International Recruitment Plan (Category 2)		
Variables	Definitions	Variable Type
Funding to Support Recruiting Graduate Students	Types of funding available: scholarships, travel, recruiters, or agents	Categorical
Support Programs for International Students (Category 3)		
Variables	Definitions	Variable Type
Type of Intensive English Program (IEP) with enrollment	Institutional IEP, third party IEP, or other with general enrollment numbers	Categorical
Type of Bridge or Pathway Program and Enrollment	Institutional Bridge or Pathway Program, third party, or other with general enrollment numbers	Categorical
Types of Services Offered	Academic, housing, orientation, advisory committee, alumni, ESL, dependents, or host family	Categorical
Incentives/Encouragement for International Activity (Category 4)		
Variables	Definitions	Variable Type
Promotion or Tenure	Yes, Some, or No	Categorical
Hiring Decisions	Frequency of international experience factoring into faculty hiring decisions (Five Options—frequent to rarely)	Categorical
Funding for Faculty Activities	Internationalizing courses, hosting international faculty, teaching abroad, leading study abroad, travel, researching abroad, developing seminars abroad	Categorical
Faculty Professional Development	Workshops on internationalizing curriculum, workshops on using technology to internationalize, workshops on global learning assessments, workshops on international students, foreign language development, recognition awards	Categorical
Tracking Faculty International Activity (Category 5)		
Variables	Definitions	Variable Type
Faculty International Database	Yes or No	Categorical-Binary

Global Learning (Category 6)		
Variables	Definitions	Variable Type
Stated Global Learning Outcomes	For all, some, or any Yes or no determination if there are stated global learning outcomes, a global learning requirement, or other curriculum or co-curricular internationalization efforts; options to describe these efforts (i.e., a required course on global trends or specific international tracks), and which level (departmental, university-wide, etc.)	Categorical
Internationalization of Curriculum Engagement	Yes or No	Categorical-Binary
Level of Internationalization of Curriculum Engagement	Institution-wide, schools, departments, courses	Categorical
Globalization Requirement in Gen Ed	Yes or No	Categorical-Binary
Type of Globalization Requirement	Require course on global trends/issues, required course on a non-US country, other	Categorical
Global Tracks/Certificates	Fields of study (business, humanities, etc.) with global tracks or certificates	Categorical
Global Co-Curricular Programs	Buddy programs, language partner programs, housing communities, meeting places, festivals, high school programs, or other	Categorical
Technology Oriented Global Programs	Delivering joint/dual degree programs through technology, MOOCs, recruiting students, supporting students abroad, course-level collaborations	Categorical

Foreign Language Requirement (Category 7)		
Variables	Definitions	Variable Type
Foreign Language Requirement	Yes or No determination if there is a foreign language requirement and the type of requirement (one semester, one year, etc.)	Categorical-Binary
Length of Foreign Language Requirement	One semester, one year, more than one year but less than two years, two years, more than two years	Categorical
Identified Senior International Officer/Office to Lead Internationalization (Category 8)		
Variables	Definitions	Variable Type
Administrative Structure	Single office or multiple offices	Categorical
Full Time Administrator/SIO	Yes or No	Categorical-Binary
Reporting Structure	SIO direct supervisor, for example, president, provost, student affairs, etc. (six options)	Categorical
Funding for International Activities (Category 9)		
Variables	Definitions	Variable Type
Types of Funding for Staff	Leading study abroad, conference travel, studying abroad, professional development, on-campus development	Categorical
Type of Funding for Internationalization	Federal, state, alumni, donors, foundations, corporations, foreign governments, or other	Categorical
Change in Funding based on type	Increase, decreased, or no change based on institutional funds, government funds, state funds, or external sources	Categorical
Funding Strategy	Yes or No	Categorical-Binary
Strategy to Promote and Increase Numbers in Education Abroad (Category 10)		
Variables	Definitions	Variable Type
Growth in Study Abroad	Increase, decrease, or no change in students who studied abroad, participated in internships abroad, participated in service abroad, and participated in research abroad	Categorical
Study Abroad Administration	Faculty, study abroad office, third party, consortium, institution abroad, etc. (seven options)	Categorical
Study Abroad Percentage Goals	Percentage Number	Numerical

Funding for Education Abroad (Category 11)		
Variables	Definitions	Variable Type
Programs approved for financial aid	Faculty led, programs administered by the study abroad office, consortia programs, third party programs, exchange partners, etc. (seven options)	Categorical
Scholarships	For undergraduate, graduate, both, or neither	Categorical
University-Wide International Strategy (Category 12)		
Variables	Definitions	Variable Type
Included in Mission Statement	Yes or no in a separate internationalization plan, or with a campus-wide committee to focus on internationalization	Categorical-Binary
Priority in University Strategic Plan	Yes or No	Categorical-Binary
International Strategic Plan	Yes or No	Categorical-Binary
International Steering Committee	Yes or No	Categorical-Binary
International Assessment Plan (Category 13)		
Variables	Definitions	Variable Type
International Assessment Plan	Yes or No	Categorical-Binary
Strategy and Structure for New Collaborations/Partnerships (Category 14)		
Variables	Definitions	Variable Type
Approach to International Partnerships	Beginning, expanding, decreasing, remaining stable	Categorical
Formal Partnership Strategy	Yes or No	Categorical-Binary
Guidelines for Partnerships	Yes or No	Categorical-Binary
Types of Partners	Academic institutions, foreign governments, NGOs, Corporations	Categorical
Dedicated Staff	Yes or No	Categorical-Binary
Countries of Partnerships	Choices of specific 26 countries	Categorical
Geographic Targets	Choices of specific 26 countries	Categorical

Dual/Double/Joint Degree Opportunities (Category 15)		
Variables	Definitions	Variable Type
Dual/Double Degree Programs	Yes or No	Categorical-Binary
Dual/Double Degree Enrollment	Types of students, such as international, US, or a mix	Categorical
Joint Degree Programs	Yes or No	Categorical-Binary
Joint Degree Enrollment	Types of students, such as international, US, or a mix	Categorical
Physical Presence Abroad (Category 16)		
Variables	Definitions	Variable Type
Type of Physical Presence	Branch campus, study abroad center, administrative office, teaching site, research center, other	Categorical
Types of Programs	Face-to-face, through technology, combination of face-to-face and technology	Categorical
USNWR Ranking	**Response Variable**	**Numerical**
USNWR Reputation	**Response Variable**	**Numerical**

In order to merge the data sets for analysis, I aligned the respondents of the Mapping data with institutions that were ranked using IPEDs numbers. Only those institutions that responded to the Mapping survey and were also ranked were included in the study. The variables are represented by both categorical and numerical responses, so I transformed the data for statistical analysis. For example, USNWR gives each institution an overall numerical score of 1-99. These scores remained in their original numerical form. Several questions on the Mapping survey had yes/no answers, and these were transformed with yes having the score of "1" and no the score of "2." Other categorical data came from IPEDs, such as the Carnegie classification and whether or not the institutions are public or private. Several of the questions also had multiple choice options. To transform the data, each option was given a numerical weight. All data points

were transformed in order to run a complete statistical study. Appendix A provides a detailed table showing all of the data transformations.

Population of the Study

The population of this study consists of four-year institutions of higher education. The institutions are both public and private and can be either comprehensive institutions or liberal arts institutes. Each institution completed the Mapping survey in 2016 and is ranked in the USNWR in 2016 - either in the national rankings or the liberal arts rankings. The first step in analyzing the data was determining which institutions met these criteria, creating a moderate sample size of 259 institutions.

While the sample size is not large, this sample does represent universities that are aware of and making strides in their internationalization efforts. Because the focus of the study is on internationalization efforts and how they relate to reputation scores and rankings, the population of institutes that completed the Mapping study is appropriate. Through this study, I extrapolated which of the areas of internationalization demonstrated significant relationships to the reputation scores and to the ranking scores; therefore, looking at schools that have some efforts in place is necessary.

Data Analysis

The data that I examined is from 2016, though the Mapping survey reported the data in 2017. After determining which institutions both completed the Mapping survey and were ranked in USNWR, I ran a descriptive analysis using SPSS software to identify characteristics of the data. Specific characteristics were numbers of public and private institutions, size of institution, location, Carnegie classification, and type of institution. These descriptive statistics provided an overall understanding of the type of data that was

used to answer the broader research questions and provided an answer to the first research question.

Next, to answer research questions two through nine, I conducted correlation analyses of the data to see whether there existed a linear relationship between individual questions in the Mapping data and the reputation scores and/or between the questions in the Mapping data and the rankings of the institutions. For example, I explored whether correlations emerged between the type of collaborations and the reputation scores and whether correlations existed between the types of collaborations and rankings scores. While correlation does not determine causality, it can help reveal relationships in the data. I used a Pearson Product-Moment Correlation by clusters to determine whether a linear relationship exists between the variables of internationalization and the rankings variable and the strength of these potential relationships. Finally, I ran a multiple linear regression analysis to answer the final research question to explore whether any of the internationalization variables were predictors of the reputation scores or the ranking scores. After running the regression analysis the first time, I removed those variables that were not significant and ran the multiple regression again until all remaining variables were significant. I completed this test using the reputation scores as a dependent variable and then completed the test again using ranking scores as a dependent variable. These tests provided a detailed picture of how internationalization, as reported on the Mapping survey, is related to the reputation scores and the rankings scores in USNWR.

Assumptions, Delimitations, and Limitations

There are several assumptions, delimitations, and limitations that impact this study. I assume that the self-reported data on the Mapping survey reflects an accurate

picture of internationalization at each institution. Additionally, I assume that the institutions that completed the Mapping survey are active in their internationalization efforts. Finally, I assume that a linear relationship exists between the variables. I am delimiting the study to U.S. institutions only, and only those which are ranked in the USNWR. I am not examining results on the world rankings or institutions not in the U.S. Additionally, I am only looking at four-year degree granting institutions. Future studies focusing on different types of institutions and at institutions in other countries could provide additional information. One of the limitations of the study is that the data is limited to institutions that filled out the Mapping survey and are ranked in both data sets. Other institutions may be active in internationalization, but they may not have completed the survey. Another limitation is that the USNWR does not rank every institution, so the number of institutions may be limited.

Summary

This study uses descriptive and correlation analyses and linear regression to examine the relationship between the comprehensive internationalization of institutions of higher education and two dependent variables – the USNWR reputation scores and the USNWR ranking scores. The categories of internationalization yielded multiple variables to provide a detailed picture of internationalization and to allow me to determine specifically which variables were correlated and/or predicted an institution's place in the rankings metric. While the study is limited to institutions that completed both the ACE Mapping survey and have a place in either the national or liberal arts USNWR ranking, the research provides a general perspective on the relationship between internationalization and rankings.

Chapter 4

Data Analysis

The research questions in this study examine the relationship between the comprehensive internationalization of four-year national and liberal arts institutions in the United States and the *US News and World Report College Rankings*. As research guides us (see Chapter Two), comprehensive internationalization can be divided into seven clusters, each cluster with its unique categories and variables. Appendix A shows the seven clusters, the categories within the clusters, and the variables related to each of the categories. These clusters and categories guided the collection and analysis of data in this study.

This chapter begins by presenting an overview of the data collection and transformation process and a description of the sample. Following the data overview, I analyzed the data to answer each of the research questions specifically, first by describing the internationalization profile of the ranked institutions, then by determining which aspects of the clusters and categories of internationalization are correlated with peer reputation scores and rankings scores, and finally, by using a regression analysis to determine if there are significant predictors from the correlated variables that explain the peer reputation scores and/or the rankings scores.

I chose to examine the internationalization variables in relationship to the peer reputation scores and the rankings scores. The peer reputation scores comprise 20% of the *US News and World Report* college rankings overall indicators. This score is derived from votes garnered by academics in the U. S., where academic administrators and well published scholars indicate which institutions they believe should be highly regarded.

Because the research shows that reputation is deeply connected to rankings themselves, I wanted to also see whether there were any differences between which internationalization variables related to peer reputation scores (a highly subjective, but arguably influential portion of the over rankings score) and the comprehensive rankings score.

Data Collection and Transformation

The data used in this study comes from two different sources: The American Council on Education's *Mapping of Internationalization (Mapping)* data set and published *US News and World Report* (USNWR) college rankings. The *Mapping* data was last published in 2016, so I began by downloading the appropriate IPEDS data for 2016. I then gathered publicly availably ranking information for the time period. The 2016 data set was available on the *US News* website, and I added the national and liberal arts ranked institutions and their overall ranking to the IPEDs data. I then removed any institution that had no ranking in 2016. In order to add in the *Mapping* data, I sent my file with IPEDs and rankings data to ACE. ACE used the IPEDs number to connect the *Mapping* data from 2016 to the corresponding rankings and then removed any identifiers. This completed my initial data set, which included all four-year institutions that were ranked as national or liberal arts institutions in the year 2016 and their corresponding IPEDs information and ACE *Mapping* data.

The 2016 data had 269 variables that corresponded to the questions on the 2016 *Mapping* survey. In order to make the data more usable, I removed all string variables. There were very few missing variables, and I chose to replace all missing variables with the mean as this works well with small data sets (Badr, 2019). Many of the variables were binary, so all of these were transformed into a scores of 1 and 2. I categorized each

variable into one of the eight themes—overall trends, articulated institutional commitment, administration, curriculum, faculty, international students, study abroad, and collaborations and partnerships. Some of the variables proved to be too granular, so I combined some of the variables and gave them composite scores. The complete list of variables and their transformations are extensive and are listed in Appendix B.

Description of the Sample

In order for the study to be successful, all institutions had to be ranked in the USNWR college rankings and had to have completed the ACE *Mapping* data set. While 378 higher education institutions in the U.S. were either ranked in the national (203 institutions) or the liberal arts (175 institutions) *US News* rankings, only a total of 259 institutes of higher education were ranked in either the *US News* national rankings list or liberal arts rankings list and completed the 2016 ACE *Mapping* data. Of these 259, 151 were ranked as national universities and all of these institutions offer doctorate degrees. The remaining 108 that completed the *Mapping* data and were ranked as liberal arts universities, with all 108 only offering bachelor's degrees. The breakdown of schools in this sample by type (public or private), location (city, suburban, or rural), and size (small, medium, or large) reflects the breakdown of all ranked institutions, making the sample representative. Table 4 shows the breakdown on the type, location, and size of the sample used in this study as compared to the total schools that were ranked in the USNWR college rankings.

Table 4

Characteristics of 2016 Ranked Schools with Mapping Data Compared to All Ranked Schools

		Ranked/Mapped Institutions		All Ranked Institutions	
		Number	Percentage	Number	Percentage
Type	Public	99	38%	128	34%
	Private	160	62%	250	66%
Location	City	150	58%	192	51%
	Suburban	66	25%	100	27%
	Rural/Town	43	17%	85	22%
Size	Small	103	40%	168	44%
	Medium	40	15%	63	17%
	Large	116	45%	147	39%

Research Question 1: What institutions are ranked and have efforts towards internationalization?

In the Mapping study, universities reported their broad perspective and impressions on their institution's comprehensive internationalization efforts. In addition to this broad overview, I identified seven unique clusters to describe internationalization: international students, faculty and faculty development, internationalization of the curriculum, infrastructure, administration, and funding, education abroad, international strategy and articulated commitment, and collaborations and partnerships. The following descriptive statistics regarding the internationalization efforts of the institutions in this

study provide an overview for each theme to serve as proxies of the areas of internationalization.

Comprehensive Internationalization

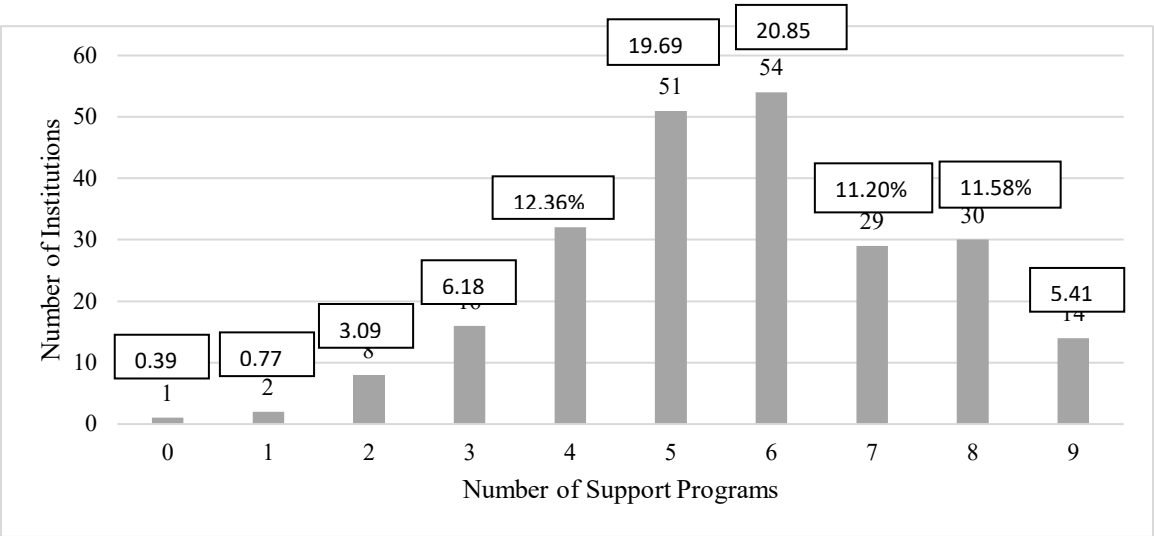
Overall, of the 259 institutions in the study, 220 (85%) institutions report an acceleration in internationalization from 2012-2015 (compared to 72% of 1164 institutions who completed the *Mapping* survey in 2016), but only 96 (37.1%) reported a fundraising campaign for internationalization.

International Students

Many institutions had a formal plan in place for recruiting international students, with 196 (75.7%) reporting a recruitment plan for either the institution as a whole or for individual schools or units within the institution. Many institutions also offered support programs for international students, with 178 (69%) offering five or more of support programs. Figure 5 shows the frequency of support programs offered for international students.

Figure 5

Frequency of Support Programs Offered for International Students



Faculty and Faculty Development

Of the 259 institutions that are ranked, 47 (18%) factor internationalization efforts into promotion and tenure. Many institutions provide funding to support faculty activities. Table 5 shows the activities that are funded. Figure 6 shows how many different types of training are offered to faculty.

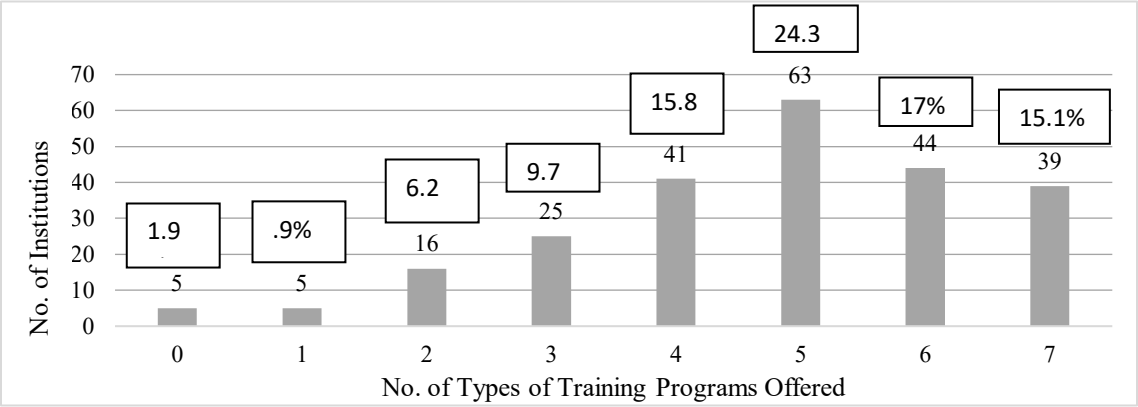
Table 5

Types of Faculty Funding and the Number/Percentages of Institutions Providing Funding

Type of Funding for Faculty	No. of Institutions	% of Sample
Internationalization of Courses or Programs	138	53.30%
Hosting International Faculty	154	59.50%
Teaching at Institutions Abroad	120	46.30%
Leading Study Abroad Programs	215	83%
Traveling to Meetings/Conferences Abroad	223	86.10%
Studying or Conducting Research Abroad	208	80.30%
Faculty Development Seminars Abroad	111	42.90%

Figure 6

Types of International Training Offered to Faculty



Internationalization of the Curriculum

More institutions reported having global learning outcomes 200 (77%) either institution-wide or in some departments, with 152 (58.7%) requiring an international component in their general education requirements. Figure 7 shows the overall reporting of institutions with global learning outcomes. Institutions in the sample also reported on their internationalization of the undergraduate curriculum. Of the institutions in the sample 177 (68%) are engaged in internationalizing the curriculum to some extent, 116 (45%) are internationalizing the curriculum institution-wide, 102 (39%) are working at the school level, 144 (56%), at the departmental level, and 158 (61%) at the course level. Figure 8 shows at which level the institutions in the sample are engaging in internationalizing the undergraduate curriculum. Finally, another measure of curriculum internationalization can be the number and type of international tracks or certifications. Table 6 shows how many institutions in the sample have international tracks or certificates by field.

Figure 7

Institutions with Global Learning Outcomes

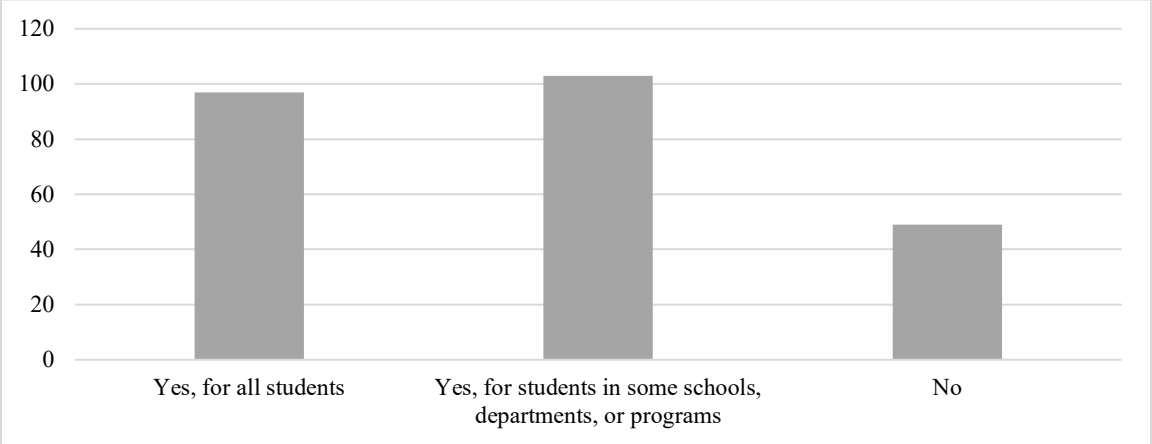


Figure 8

Internationalizing the Curriculum

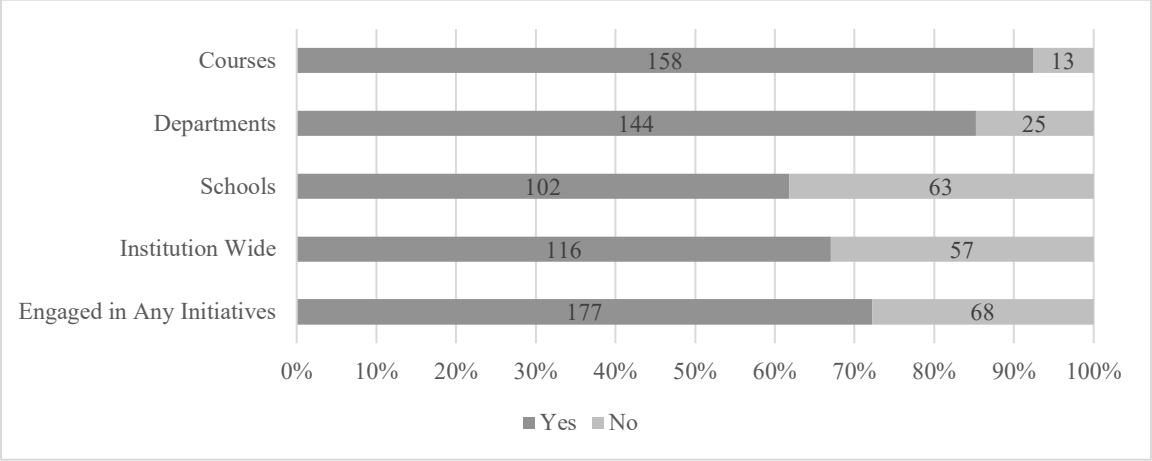


Table 6

International Tracks and/or Certificates

Track Type	Frequency	%
Business	159	61.40%
Physical and Natural Sciences	21	8.10%
Social Sciences	158	61.00%
Humanities	140	54.10%
Education	44	17.00%
Health	70	27.00%
Any Major	68	26.30%
Other	20	7.70%

Infrastructure, Administration, and Funding

A majority of institutions reported a full-time administrator overseeing internationalization (185, 71%), and a majority of these full-time administrators reported to the chief academic officer/provost (135, 73%). Another representation in institutional infrastructure, administration, and funding is in the kind of funding given to staff for various international activities. This sample collected how many institutions provided funding to staff (not faculty as they are included in a different theme) for international activities. Table 7 shows the breakdown of funding provided to staff for internationalization.

Table 7

Funding Provided for Staff

Types of Funding for Staff	Frequency	%
Leading Study Abroad Programs	125	48.30%
Traveling to Meetings or Conferences Abroad	157	60.60%
Studying or Conducting Research Abroad	85	32.80%
Other professional development abroad	128	49.40%
On-Campus Prof. Development Activities	165	63.70%

Education Abroad

Of the 259 institutions in the report, 162 (62.5%) report an increase in study abroad participation and 119 (46%) reported provided funds for students to study abroad. Institutions also reported, to varying degrees, having institutional targets for study abroad. Figure 9 shows the percentages of institutions in the sample with increases in

international internships, international service learning, international research, and study abroad. Figure 10 shows the number of institutions with study abroad targets.

Figure 9

Percentages of Increase in Education Abroad Activities

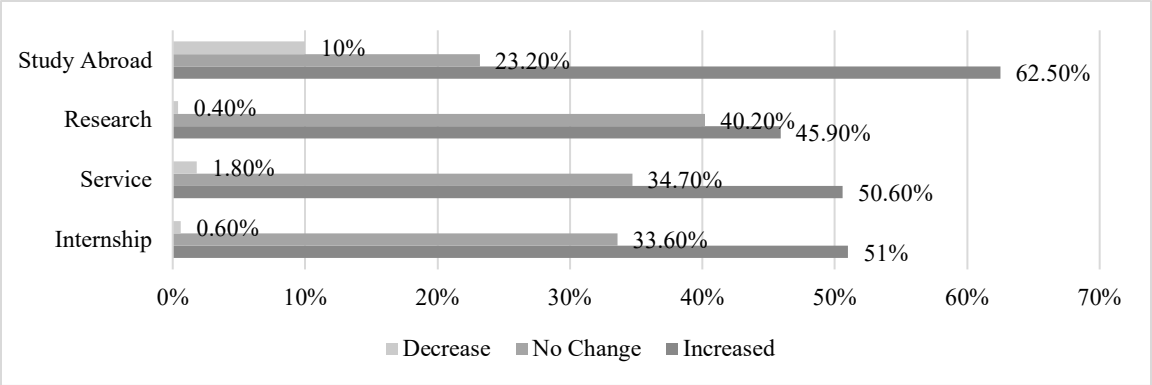
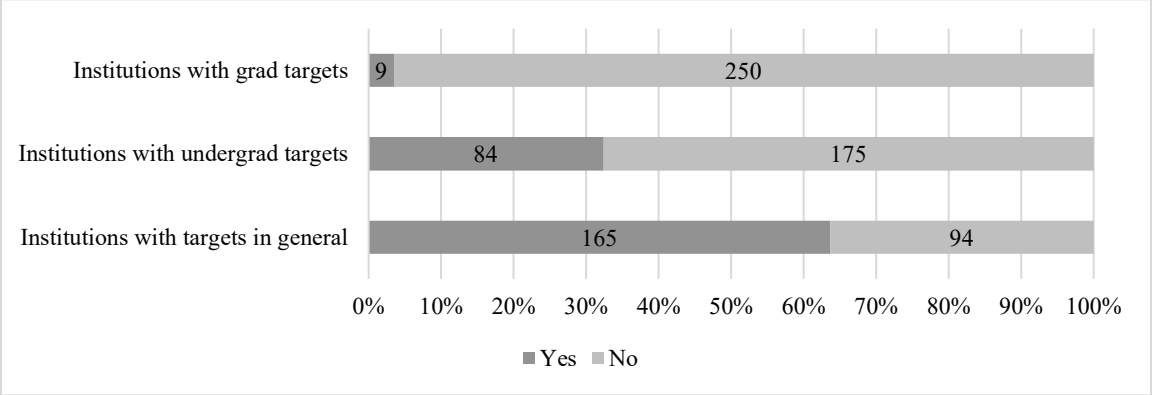


Figure 10

Institutions with Target Goals for Study Abroad



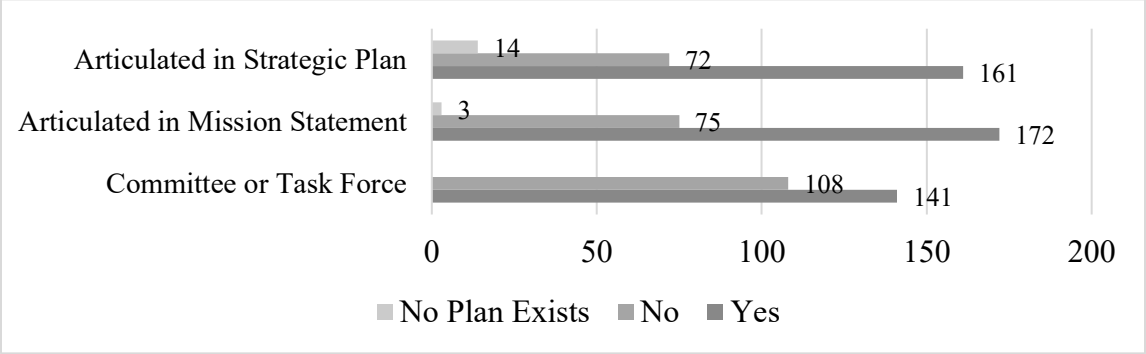
International Strategy and Articulated Commitment

While only 97 (39.3%) of the sample have a plan to address internationalization, the majority include internationalization in either the university's mission statement or strategic plan. Additionally, several have a separate committee or task force in place to lead internationalization efforts. Figure 11 shows the number of institutions with

internationalization in the mission or strategic plan and the number of institutions with a separate international committee.

Figure 11

Internationalization Articulated in the Strategic Plan or the Mission Statement.

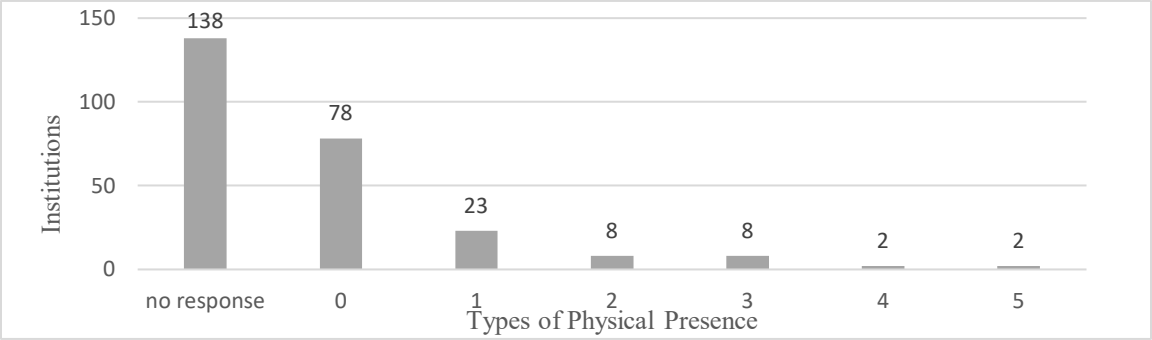


Collaborations and Partnerships

While a little over 50% of institutions in the sample have a strategy for institutional partnerships with institutions abroad, few have significant partnerships with 38% having dual degree programs and 14% having joint degree programs. Fewer still have physical presence abroad. Figure 12 shows the number of institutions with different types of physical presence abroad. Only 2 institutions have 5 different types of physical presence abroad, with the majority have no physical presence at all.

Figure 12

Types of Physical Presence



Research Question 2: What relationship, if any, does comprehensive internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

To address research questions two through nine, I utilized Pearson Product-Moment Correlation. Comprehensive internationalization was a cluster on its own that represented internationalization as a whole. Out of 43 potential variables included in the comprehensive internationalization cluster, 20 showed significant correlation with the peer reputation scores of the institutions, while 16 showed significant correlation with institutional rankings. The variables in this cluster most easily divide into four categories: level of internationalization, reasons for internationalization, priorities, and funding.

Level of Internationalization

The level of internationalization category included two variables, where institutions reported whether or not the level of internationalization on their campus in the last three years was very high to very low and whether or not the institution's internationalization had accelerated on campus. Only the variable where institutions reported their level on internationalization on campus in the last three years proved to have significant correlations with either rankings scores or peer reputation scores. Results of the Pearson Correlation indicated a significant positive association between the level of internationalization in the last 3 years and the peer reputation scores of the institutions, (r (246) =.341, $p < .001$), and a significant positive association between the level of internationalization in the last 3 years and institutional rankings, (r (246) =.316, $p <$ .001). The higher an institution's level of internationalization was likely to be rated, the

higher that institution was likely to be ranked or to have a higher peer reputation score. Table 8 shows this correlation.

Table 8

Pearson Correlation between Level of Internationalization, Peer Reputation Score, and Institutional Rankings

Variable	Data Type	Peer Reputation Correlation	Ranking Correlation
Level of	Pearson Correlation	.341**	.316**
International-	Sig. (2-tailed)	.000	.000
ization	N	246	246

**Correlation is significance at the .001 level

Reasons for Internationalization

The next set of eleven variables all examined different reasons institutions have for internationalization. Only six of the eleven variables showed significant correlation with either peer reputation scores or the rankings scores. Three of the variables had a significant negative relationship with peer reputation scores. When using the peer reputation score as the variable to determine correlation, results of the Pearson Correlation indicated a significant negative association with a desire for campus diversity, ($r(259)=-.157$, $p < .05$), with a push to be more attractive to students at home and overseas, ($r(259)=-.165$, $p < .01$), and with an effort to generate revenue for the university, ($r(259)=-.249$, $p < .01$). The more important desiring diversity, being more attractive to students, and generating revenue are for the advancement of internationalization at an institution, the more likely their peer reputation score will be lower. Table 9 shows these significant negative correlations in order of significance.

Table 9

Negative Correlations between Reasons for Internationalization and Peer Reputation Scores

Variables	Data Type	Peer Reputation Correlations
Generate new revenue for the institution	Pearson Correlation	-.249**
	Sig. (2-tailed)	.000
	N	259
Become more attractive to prospective students at home and overseas	Pearson Correlation	-.165**
	Sig. (2-tailed)	.008
	N	259
Diversity of students, faculty and staff at the home campus	Pearson Correlation	-.157*
	Sig. (2-tailed)	.012
	N	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

There were significant positive correlations between the peer reputation scores and attracting global talent (faculty, researchers, etc.), raising international funds for the university, and participating in diplomacy efforts as being reasons for internationalization. The Pearson Correlation indicated a significant positive association between peer reputation and specific variables as reasons for internationalization: attracting global talent, ($r(259)=.211$, $p < .01$), contributing to international development initiatives, ($r(259)=.127$, $p < .05$), and participating in diplomacy efforts, ($r(259)=.134$, $p < .05$). Table 10 shows these positive correlations in order of significance.

Table 10

Positive Correlations between Reasons for Internationalization and Peer Reputation Scores

Variables	Data Type	Peer Reputation Correlation
Attract global talent (faculty and researchers)	Pearson Correlation	.211**
	Sig. (2-tailed)	.001
	N	259
Participate in U.S. diplomacy efforts	Pearson Correlation	.134*
	Sig. (2-tailed)	.031
	N	259
Contribute to international development initiatives	Pearson Correlation	.127*
	Sig. (2-tailed)	.041
	N	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

There are fewer correlations between the different variables describing the reasons for internationalization and institutional rankings. Only three variables related to reasons for internationalization demonstrated significant correlations with the international ranking score. Generating revenue for the university resulted in a significant negative association with the rankings score itself ($r(259)=-.272$, $p < .001$). The other two variables with significant positive relationships with the rankings score included: attracting global talent, ($r(259)=.148$, $p < .05$), and contributing to international development initiatives, ($r(259)=.147$, $p < .05$). Table 11 shows these correlations in order of significance.

Table 11

Pearson Correlation between Reasons Institutions Have for Internationalization and Institutional Rankings Scores

Variables	Data Type	Ranking Correlation
Generate new revenue for the institution	Pearson Correlation	-.272**
	Sig. (2-tailed)	.000
	N	259
Attract global talent (faculty and researchers)	Pearson Correlation	.148*
	Sig. (2-tailed)	.017
	N	259
Contribute to international development initiatives	Pearson Correlation	.147*
	Sig. (2-tailed)	.018
	N	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Priorities within Internationalization

While *reasons for internationalization* focuses on why institutions want to internationalize, *priorities within internationalization* focuses on what aspects of internationalization (study abroad, internationalizing the curriculum, etc.) are priorities for institutions. There are seven variables that explored priorities within internationalization, but only four were significant with either of the dependent variables. Variables focusing on which aspects of internationalization are high priorities for institutions also indicated some correlations, and the same variables demonstrated the same correlations (negative or positive) with the peer reputations scores and the international rankings scores.

Two variables demonstrated negative correlations with both the peer reputation scores and the rankings scores - recruiting international students as a priority and increasing study abroad. Recruiting international students was significantly and

negatively associated with both peer reputation scores of the institutions, ($r(259)=-.275$, $p < .01$), and rankings scores ($r(259)=-.239$, $p < .01$). Similarly, selecting study abroad as a priority for internationalization was negatively associated with both the peer reputation scores of the institutions, ($r(259)=-.247$, $p < .01$), and their rankings scores, ($r(259)=-.253$, $p < .01$). Table 12 shows these negative correlations in order of significance.

Table 12

Negative Correlations Related to Institutional Priorities

Variables: Priorities	Data Type	Peer Reputation Correlation	Rankings Correlation
Increasing study abroad for U.S. students	Pearson Correlation	-.247**	-.253**
	Sig. (2-tailed)	.000	.000
	N	259	259
Recruiting international students	Pearson Correlation	-.275**	-.239**
	Sig. (2-tailed)	.000	.000
	N	259	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

However, the Pearson Correlation indicated a significant positive association between internationalizing the curriculum as a high priority for internationalization and both the peer reputation scores of the institutions, ($r(259)=.228$, $p < .01$), and their rankings score, ($r(259)=.235$, $p < .01$). The results found an additional significant positive association between establishing international research collaborations with other institutions as a high priority for internationalization and both the peer reputation scores of the institutions, ($r(259)=.235$ $p < .01$), and their institutional rankings, ($r(259)=.153$, $p < .01$). Table 13 shows these correlations.

Table 13

Positive Correlations between Institutional Priorities, Peer Reputation Scores, and Institutional Rankings

Variables: Priorities	Data Type	Peer Reputation Correlation	Rankings Correlation
Internationalizing the curriculum and/or co-curriculum	Pearson Correlation	.228**	.235**
	Sig. (2-tailed)	.000	.000
	N	259	259
International research collaborations	Pearson Correlation	.235**	.153*
	Sig. (2-tailed)	.000	.014
	N	259	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Funding

Funding is the fourth and final measure used to determine the level of internationalization of a university, with a total of 14 variables. The Pearson Correlations showed that variables surrounding where funding originates (funding sources), how funding sources have changed in the past three years, and whether or not there is a strategic initiative in place to develop funding showed some correlation with peer reputation scores and with rankings; however, more variables correlated with peer reputation scores than with the rankings scores. The set of variables that emerged as significantly correlated with peer reputation scores include: receiving funding from the federal government, ($r(225)=.265$, $p<.01$), receiving funding from the state government, ($r(214)=.159$, $p<.05$), receiving funding from alumni, ($r(237)=.314$, $p<.01$), receiving funding from individual donors other than alumni, ($r(225)=.198$, $p<.05$), receiving funding from foundations, ($r(232)=.396$, $p<.01$), and receiving funding from

corporations, ($r(210)=.237$, $p<.01$). The results also indicated a positive association between the change in internal institutional funds in the past three years and the peer reputation scores, ($r(244)=.134$, $p<.05$). Table 14 shows these positive correlations between funding variables and peer reputation scores in order of significance.

Table 14

Positive Correlations between Internationalization Funding and Peer Reputation Scores

Correlations between Funding Sources and Peer Reputation Scores		
Variables	Data Type	Peer Reputation Correlations
Foundations	Pearson Correlation	.396**
	Sig. (2-tailed)	.000
	N	232
Alumni	Pearson Correlation	.314**
	Sig. (2-tailed)	.000
	N	237
Federal Government	Pearson Correlation	.265**
	Sig. (2-tailed)	.000
	N	225
Corporations	Pearson Correlation	.237**
	Sig. (2-tailed)	.001
	N	210
Individual donors other than alumni	Pearson Correlation	.198**
	Sig. (2-tailed)	.003
	N	225
State Government	Pearson Correlation	.159*
	Sig. (2-tailed)	.020
	N	214
Internal institutional funds	Pearson Correlation	.134*
	Sig. (2-tailed)	.037
	N	244

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Only one negative correlation was present, between a change in federal government funds for the past three years and peer reputation scores, ($r(243)= -.144$, $p<.05$). As

federal government funding decreased, peer reputation scores increased. Table 15 shows this negative correlation.

Table 15

Negative Correlation between Federal Government Funding and Peer Reputation Scores

Variable	Data Type	Peer Reputation Correlation
US federal government funding change	Pearson Correlation	-.144*
	Sig. (2-tailed)	.025
	N	243

*Correlation is significant at the .05 level

Only positive correlations emerged between the variables used to measure funding and institutional rankings scores: receiving funding from the federal government, (r(225)=.160, p<.05), receiving funding from alumni, (r(237)=.312, p<.01), receiving funding from individual donors other than alumni, (r(225)=.172, p<.05), receiving funding from foundations, (r(232)=.376, p<.01), and receiving funding from corporations, (r(210)=.185, p<.01). Results of the Pearson Correlation also indicated a significant positive association between the change in internal institutional funds and institutional rankings, (r(244)=.161, p<.05), and a significant positive association between the change in state government funds and institutional rankings, (r(241)=.131, p<.05). Table 16 shows the correlations between funding sources and funding changes and the independent variable institutional rankings in order of significance.

Table 16

Positive Correlations between Internationalization Funding and Institutional Rankings Scores

Correlations between Funding Sources and Institutional Rankings		
Variables	Data Type	Rankings Correlations
Foundations	Pearson Correlation	.376**
	Sig. (2-tailed)	.000
	N	232
Alumni	Pearson Correlation	.312**
	Sig. (2-tailed)	.000
	N	237
Corporations	Pearson Correlation	.185**
	Sig. (2-tailed)	.007
	N	210
Individual donors other than alumni	Pearson Correlation	.172**
	Sig. (2-tailed)	.010
	N	225
Federal Government	Pearson Correlation	.160*
	Sig. (2-tailed)	.016
	N	225
Correlations between Changes in Funding and Institutional Rankings		
Variable	Data Type	Ranking Correlations
Internal institutional funds	Pearson Correlation	.161*
	Sig. (2-tailed)	.012
	N	244

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Finally, the results of the Pearson Correlation indicated a positive association between the presence of a fundraising campaign for internationalization and the peer reputation scores of the institutions, ($r(247)=.228$, $p<.01$), and a positive association between the presence of a fundraising campaign for internationalization and institutional rankings, ($r(247)=.209$, $p<.01$). Table 17 shows this relationship.

Table 17

Correlation between Having a Fundraising Campaign for Internationalization, Peer Reputation Scores, and Institutional Rankings

Correlations Related to Fundraising Campaigns			
Variable	Data Type	Peer Reputation Correlation	Ranking Correlation
Fundraising campaign to support internationalization activities	Pearson Correlation	.228**	.209**
	Sig. (2-tailed)	.000	.001
	N	247	247

**Correlation is significant at the .001 level

Research Question 3: What relationship, if any, do international students have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

Research questions three through nine each examine correlations between variables in each of the seven clusters (see Appendix A) and peer reputation scores or institutional rankings scores. Because of the large number of variables, I am only reporting variables with significance at the $p < .05$ and $p < .01$ levels. Categories related to the international student cluster include international student recruitment, with 49 variables, and support programs, with 11 variables. None of the 49 variables related to international student recruitment emerged as significant. Only three variables showed significant correlation with the institutional rankings score or the peer reputation scores - all three related to the support program category. Institutions having an intensive English language program for non-matriculated students independent of degree seeking students was negatively correlated with peer reputation scores ($r(247)=-.176$, $p < .01$), and institutional rankings, ($r(247)=-.240$, $p < .01$). However, the Pearson Correlation indicated a significant positive association between offering a bridge or pathway program

for international students to become matriculated in both the peer reputation score, ($r(248)=.241$, $p < .01$), and the institutional rankings, ($r(247)=.268$, $p < .01$). The Pearson Correlation also indicated a significant positive association between the number of support programs (for example, academic support, English support once enrolled, orientation) and both the peer reputation scores, ($r(237)=.246$, $p < .01$), and the institutional rankings, ($r(237)=.206$, $p < .01$). Table 18 shows these correlations.

Table 18

Pearson Correlations between International Student Variables, Peer Reputation Scores, and Institutional Rankings

Negative Correlations			
Variables	Data Type	Peer Reputation Correlation	Ranking Correlation
Intensive English Language Program, not degree programs	Pearson Correlation	-.176**	-.240**
	Sig. (2-tailed)	.006	.000
	N	247	247
Positive Correlations			
Variables	Data Type	Peer Reputation Correlation	Ranking Correlation
Bridge/Pathway program for matriculation	Pearson Correlation	.241**	.268**
	Sig. (2-tailed)	.000	.000
	N	248	248
Number of Support Programs	Pearson Correlation	.246**	.206**
	Sig. (2-tailed)	.000	.001
	N	237	237

**Correlation is significant at the .001 level

Research Question 4: What relationship, if any, does faculty and faculty development have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

Faculty and faculty development refers to whether or not internationalization efforts by faculty, such as curriculum internationalization and collaborating internationally, are incentivized or otherwise encouraged through either additional funding, through the promotion and tenure process, through professional development for faculty in the area of internationalization, or through targeting faculty hires with international activity. This cluster also examines how faculty international activity is tracked. While there are 18 variables that examine faculty and faculty development in relation to internationalization, only three variables related to funding faculty to engage in international activities correlate with peer reputation scores and rankings. The Pearson Correlation indicated a significant positive association between funding provided generally for faculty internationalization activities and peer reputation scores, ($r(238)=.127$, $p=05$). Specifically, peer reputation scores were significantly correlated with funding for faculty to host international faculty, ($r(243)=.159$, $p<.05$), and funding for faculty studying or conducting research abroad, ($r(245)=.198$, $p<.01$). The only variable with a significant correlation to rankings was the variable for funding faculty studying or conducting research abroad, ($r(245)=.206$, $p<.01$). Table 19 shows these correlations in order of significance.

Table 19

Correlations between Faculty and Faculty Development Variables and Peer Reputation and Rankings Scores

Variables	Data Type	Peer Reputation Correlation	Rankings Correlation
Funding for studying	Pearson Correlation	.198**	.206**
or conducting	Sig. (2-tailed)	.002	.001
research abroad	N	245	245
Funding for hosting	Pearson Correlation	.159*	No Correlation
international faculty	Sig. (2-tailed)	.013	No Correlation
	N	243	No Correlation
General faculty	Pearson Correlation	.127*	No Correlation
funding for	Sig. (2-tailed)	.050	No Correlation
internationalization	N	238	No Correlation

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Research Question 5: What relationship, if any, does curriculum internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

Curriculum internationalization refers to the extent that internationalization efforts are infused or required within the academic curriculum. This cluster can be divided into the categories of global learning and foreign language requirements. Some examples of global learning variables include global learning goals in the institution-wide and in individual courses, global components in general education requirements, and initiatives to incorporate global learning or global metrics into the curriculum. Foreign language requirements include whether or not general education program have foreign language requirements for graduation and the length of these requirements. A total of 34 variables measure curriculum internationalization, but only five of the variables related to

curriculum internationalization had any correlation with either the rankings score or the peer reputation score. The Pearson Correlation indicated a significant positive association between institutions having a foreign language graduation requirement and the rankings score, ($r(246)=.169$, $p<.01$), but a significant correlation did not exist between having the foreign language graduation requirement and the peer reputation score. However, for institutions that did have a foreign language requirement, the length of the foreign language graduation requirement was shown to have significant positive correlations with both the peer reputation score ($r(204)=.196$, $p < .01$) and the rankings score, ($r(204)=.245$, $p < .01$). Table 20 shows these relationships in order of statistical significance.

Table 20

Correlations between Foreign Language Requirements, Rankings, and Peer Reputation

Variables	Data Type	Peer Reputation Correlation	Rankings Correlation
Length of the foreign	Pearson Correlation	.196**	.245**
language requirement if it	Sig. (2-tailed)	.005	.000
exists	N	204	204
Existence of a foreign	Pearson Correlation	No Correlation	.169**
language requirement	Sig. (2-tailed)	No Correlation	.008
	N	No Correlation	246

**Correlation is significant at the .001 level

Next, a negative association was indicated between including an international component in the general education requirements and both the peer reputation scores, ($r(245)=-.150$, $p < .05$) and their rankings scores, ($r(245)=-.145$, $p < .05$). The Pearson Correlation also indicated a negative association between offering tracks or

concentrations with an international component and the rankings scores. (r(96)=-213, p<.05). Table 21 shows the negative associations in this category.

Table 21

Negative Correlations between Curriculum Internationalization, Peer Reputation Scores, and Institutional Rankings

Variables	Data Type	Peer Reputation Correlation	Rankings Correlation
Do general education requirements include an international component?	Pearson Correlation	-.150*	-.145*
	Sig. (2-tailed)	.019	.023
	N	245	245
International Tracks/Concentrations in the Curriculum	Pearson Correlation	No Correlation	-.213*
	Sig. (2-tailed)	No Correlation	.037
	N	No Correlation	96

*Correlation is significant at the .05 level

Finally, a positive association emerged between numbers of programs that use a tech component to facilitate international education and peer reputation scores (r(237)=.235, p<.01). Table 22 shows this correlation.

Table 22

Positive Correlation between Tech Components Used to Facilitate International Education and Peer Reputation Scores

Variable	Data Type	Peer Reputation Correlation
Uses tech to facilitate international activities	Pearson Correlation	.235**
	Sig. (2-tailed)	.000
	N	237

**Correlation is significant at the .001 level

Research Question 6: What relationship, if any, do infrastructure, administration, and funding have *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

The infrastructure, administration, and funding cluster of internationalization refers to the organizational structure (seniority of internationalization administration, position within the university, staff support) and funding of internationalization initiatives. This particular category focuses on how prominent internationalization is positioned within the institution and includes eight unique variables. Only one variable was associated with the institutional rankings; a significant positive association was indicated between the level of seniority to whom an identified administrator overseeing international programs reported and international rankings, ($r(186)=.167$, $p < .05$). The Pearson Correlation also found a positive correlation between the level of seniority to whom an identified administrator overseeing international programs reported and peer reputation score, ($r(186)=.153$, $p < .05$). Table 23 shows this one relationship.

Table 23

Correlation between Level of Seniority of Reporting and Institutional Rankings

Variable	Data Type	Peer Reputation Correlation	Rankings Correlation
Level of Seniority of International Administrator Reporting	Pearson Correlation	.153*	.167*
	Sig. (2-tailed)	.037	.023
	N	186	186

*Correlation is significant at the .05 level

The Pearson Correlation found three additional significant positive correlations between variables in this category and peer reputation scores. First, a significant positive association was indicated between the peer reputation score and having a full-time administrator, ($r(249)=.158$, $p < .05$). The other two variables related to funding provided to staff for internationalization efforts. Significant positive associations exist between providing staff funding to attend international meetings or conferences, ($r(245)=.143$, $p < .05$), and providing staff funding for other professional development opportunities abroad, ($r(244)=.127$, $p < .05$). Table 24 shows these correlations listed in order of significance.

Table 24

Correlations between the Institutional Strategy and Articulated Commitment Variables and Peer Reputation Scores

Variables	Data Type	Peer Reputation Correlation
Presence of a full-time	Pearson Correlation	.158*
administrator overseeing	Sig. (2-tailed)	.012
international programs	N	249
Funding for staff to travel to	Pearson Correlation	.143*
meetings or conferences abroad	Sig. (2-tailed)	.025
	N	245
Funding for staff for other	Pearson Correlation	.127*
professional development	Sig. (2-tailed)	.048
opportunities abroad	N	244

*Correlation is significant at the .05 level

Research Question 7: What relationship, if any, does education abroad have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

The education abroad cluster of internationalization refers to two categories: the strategy to promote and increase the number of students who participate in programs abroad including study, internships, and research; and the funding sources, whether through financial aid or scholarships. Out of a total of 24 variables, several education-abroad variables show significant correlations to peer reputation scores and rankings scores, but the associations varied. Peer reputation scores were positively correlated with the number of students who participated in internships, ($r(225)=.196$, $p<.01$), and the number of students who participated in research abroad, ($r(224)=.162$, $p<.05$), but these two variables demonstrated no correlation with rankings scores. Conversely, the number of students who participated in traditional study abroad was negatively correlated with the rankings score ($r(248)=-.148$, $p<.05$), but showed no correlation with the peer reputation score. The Pearson Correlation also indicated a positive association between setting targets for graduate students to study abroad and rankings scores, ($r(259)=.138$, $p<.05$), but no relationship existed between setting targets for undergraduate students studying abroad or between targets for graduate students and peer reputation scores.

Other education abroad variables focus on where the education abroad is administered, for example from a centralized office or from a partner abroad. The Pearson Correlation indicated a significant positive association between the peer reputation scores and whether or not education abroad was administered through an internal study abroad office, ($r(246)=.191$, $p<.01$) or through a study abroad office in

another country, ($r(226)=.187$, $p<.01$). There was also a significant positive correlation between rankings scores and the administration of a study abroad office in another country, ($r(226)=.195$, $p<.01$), but no relationship seemed to exist between the rankings scores and administration through an internal study abroad office.

Finally, the manner in which undergraduate students could use their financial aid to study abroad seemed to correlate fairly consistently with peer reputation scores and rankings scores. The Pearson Correlation indicated a significant positive association between undergraduates being able to use financial aid in programs administered by the institutions study abroad office and both the peer reputation scores, ($r(226)=.178$, $p<.01$), and the rankings scores, ($r(226)=.190$, $p<.01$). A significant positive correlation also existed between undergraduates being able to use financial aid in programs administered by a study abroad center in another country and peer reputations scores, ($r(122)=.217$, $p<.05$) and rankings scores ($r(122)=.241$, $p<.01$). Additionally, the Pearson Correlation indicated a significant positive association between undergraduates being able to use financial aid in programs administered by a third-party provider and peer reputation scores ($r(202)=.193$, $p<.01$), and rankings scores ($r(202)=.201$, $p<.01$). Finally, a positive correlation existed between undergraduates being able to use financial aid in programs administered by a partner institution abroad and peer reputation scores, ($r(213)=.155$, $p<.05$), and ranking, ($r(213)=.210$, $p<.210$). Table 25 shows all of the education abroad variable correlations between peer reputation scores and rankings scores in order of statistical significance according to the peer reputation correlations.

Table 25

Correlations between Education Abroad Variables and Reputation and Rankings Scores

Positive Correlations			
Variables	Data Type	Reputation Correlations	Rankings Correlations
Financial Aid: A study abroad center in another country	Pearson Correlation	.217*	.241**
	Sig. (2-tailed)	.017	.008
	N	122	122
Number of students: International Internship	Pearson Correlation	.196**	No Correlation
	Sig. (2-tailed)	.003	No Correlation
	N	225	No Correlation
Financial Aid: A third-party provider	Pearson Correlation	.193**	.201**
	Sig. (2-tailed)	.006	.004
	N	202	202
Administration through Institutions study abroad office	Pearson Correlation	.191**	No Correlation
	Sig. (2-tailed)	.003	No Correlation
	N	246	No Correlation
Administration through office in another country	Pearson Correlation	.187**	.195**
	Sig. (2-tailed)	.005	.003
	N	226	226
Financial Aid: Institutions study abroad office	Pearson Correlation	.178**	.190**
	Sig. (2-tailed)	.007	.004
	N	226	226
Number of students: research abroad	Pearson Correlation	.162*	No Correlation
	Sig. (2-tailed)	.015	No Correlation
	N	224	No Correlation
Financial Aid: A partner institution abroad	Pearson Correlation	.155*	.210**
	Sig. (2-tailed)	.023	.002
	N	213	213
Institution set target for grad students studying abroad	Pearson Correlation	No Correlation	.138*
	Sig. (2-tailed)	No Correlation	.026
	N	No Correlation	259
Negative Correlations			
Variables	Data Type	Reputation Correlations	Rankings Correlations
Number of students: study abroad	Pearson Correlation	No Correlation	-.148*
	Sig. (2-tailed)	No Correlation	.020
	N	No Correlation	248

*Correlation is significant at the .05 level

**Correlation is significant at the .001 level

Research Question 8: What relationship, if any, does international strategy and articulated commitment to internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

No significant correlations emerged between any of the five variables within the international strategy and articulated commitment cluster. The Pearson Correlation did not find that including internationalization in mission statements or university priorities or assessing internationalization showed a statistically significant correlation.

Research Question 9: What relationship, if any, do international collaborations and partnerships have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

International collaborations and partnerships is a broad cluster that covers three main categories: strategy and structure for new collaborations, dual/double/joint degree programs, and physical presence abroad. The strategy and structure for new collaborations and partnerships category includes the institution's approach, strategy, and guidelines for partnerships, the types of partnerships, staff dedicated to creating partnerships, and locations. Dual/double/joint degree programs refer to the existence of these types of degree-oriented partnerships abroad. Finally, the physical presence abroad includes the type of presence and the types of programs (in-person, through technology, or hybrid). The total cluster includes 90 variables with only 12 of the variables in the collaborations and partnership space exhibiting correlations, with more correlations between the collaboration and partnerships variables and peer reputation scores than between collaboration and partnership variables and rankings scores.

The Pearson Correlation indicated significant associations between peer reputation scores and eleven different variables. Significant positive associations were indicated between peer reputation scores and partners abroad that were non-governmental organizations, ($r(238)=.184$, $p<.01$), institutions that operate joint degree programs abroad ($r(244)=.149$, $p<.05$), and institutions with active collaborations located anywhere ($r(259)=.194$, $p<.01$). Peer reputation scores were also correlated with having a physical presence abroad at all ($r(121)=.286$, $p<.01$), and more specifically, having an administrative office abroad, institutions having a study abroad center abroad, a teaching site program for U.S. students, and institutions having a research center abroad. Finally, correlations were found between programs that offered instruction to students outside the U. S. and the peer reputation scores. The Pearson Correlation indicated a significant positive association between face-to-face non-degree programs offered abroad ($r(259)=.164$, $p<.01$), and between a combination of in-person instruction and instruction via technology delivered individually, ($r(259)=.144$, $p<.05$). The Pearson Correlation did indicate two significant negative associations between the peer reputation scores and instruction delivered entirely via technology, ($r(259)=-.125$, $p<.05$), and a combination of in-person instruction and instruction via technology generally, ($r(259)=-.136$, $p<.05$). Table 26 shows all correlations between the peer reputation scores and collaborations and partnerships listed in order of significance.

Table 26

Correlations between Peer Reputation Scores and the Collaborations and Partnership Variables

	Positive Correlations	
Variables	Data Types	Peer Reputation Correlations
Presence of a research center abroad	Pearson Correlation	.379**
	Sig. (2-tailed)	.000
	N	241
Having any physical presence abroad	Pearson Correlation	.286**
	Sig. (2-tailed)	.001
	N	121
Having an administrative office abroad	Pearson Correlation	.279**
	Sig. (2-tailed)	.000
	N	245
Having a study abroad center for US students abroad	Pearson Correlation	.211**
	Sig. (2-tailed)	.001
	N	244
Number of Active Collaborations	Pearson Correlation	.194**
	Sig. (2-tailed)	.002
	N	259
Non-government organization partners abroad	Pearson Correlation	.184**
	Sig. (2-tailed)	.004
	N	238
Non-degree program abroad Instruction delivered entirely face-to-face	Pearson Correlation	.164**
	Sig. (2-tailed)	.008
	N	259
Joint degree program abroad offered	Pearson Correlation	.149*
	Sig. (2-tailed)	.020
	N	244
Teaching site programs abroad offered to US students	Pearson Correlation	.146*
	Sig. (2-tailed)	.023
	N	242
Outside the US, a combination of in-person instruction and tech offered to the individual	Pearson Correlation	.144*
	Sig. (2-tailed)	.021
	N	259

Negative Correlations		
Variables	Data Types	Peer Reputation Correlations
Instruction delivered entirely via technology outside the US (other programs)	Pearson Correlation	-.125*
	Sig. (2-tailed)	.044
	N	259
Combination of in-person instruction outside US and tech (other programs)	Pearson Correlation	-.136*
	Sig. (2-tailed)	.029
	N	259

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Fewer correlations existed between the rankings scores and the collaborations and partnership variables. The Pearson Correlation indicated significant positive correlations between ranking scores and institutions with partners abroad that were non-governmental organizations ($r(238)=.128$, $p<.05$), active collaborations ($r(259)=.133$, $p<.05$), an administrative office abroad ($r(245) = .192$, $p<.05$), a study abroad center abroad ($r(244) = .188$, $p<.05$), and a research center abroad ($r(241) = .287$, $p<.01$). Finally, a significant positive association emerged between face-to-face non-degree programs abroad and rankings scores, ($r(259)=.161$, $p<.01$). Table 27 exhibits the correlations between rankings scores and active collaborations and partnerships in order of significance.

Table 27

Correlations between Ranking Scores and Collaborations and Partnerships

Variables	Data Types	Rankings Correlations
Presence of a research center abroad	Pearson Correlation	.287**
	Sig. (2-tailed)	.000
	N	241
Having an administrative office abroad	Pearson Correlation	.192**
	Sig. (2-tailed)	.002
	N	245
Having a study abroad center for US students abroad	Pearson Correlation	.188**
	Sig. (2-tailed)	.003
	N	244
Non-degree program abroad	Pearson Correlation	.161**
Instruction delivered entirely face-to-face	Sig. (2-tailed)	.009
	N	259
Number of Active Collaborations	Pearson Correlation	.133*
	Sig. (2-tailed)	.032
	N	259
Non-government organization partners abroad	Pearson Correlation	.128*
	Sig. (2-tailed)	.048
	N	238

*Correlation is significant at the .05 level
**Correlation is significant at the .001 level

Research Question 10: Can peer reputation scores or institutional rankings be predicted by one or a combination of the identified variables of internationalization?

In order to fully understand which of the many variables were predictors of either peer reputation scores or rankings scores, first I determined which of the variables were significantly correlated with each of the independent variables. A total of 53 variables were correlated with peer reputation scores at either the $p < .05$ or $p < .01$ levels and a total of 37 variables were correlated with ranking scores at $p < .05$ or $p < .01$ levels. An initial multiple regression model using all 53 variables correlated with the peer reputation

scores revealed that the model was overfit. There were too many variables for the sample size. The same results occurred using a model with the 37 variables correlated with rankings scores. In order to correct the overfit model, I included only variables that were significant at the $p < .001$ significance level. A total of 32 variables were correlated with peer reputation scores at the $p < .001$ level and a total of 25 variables were correlated with ranking scores at the $p < .001$ levels. Appendix C shows the complete listing of variables that were correlated to the peer reputation scores and ranking scores at the $p < .001$ significance level, organized by cluster and category.

First, I applied a multiple linear regression between the set of independent variables that were found to be significantly correlated at the $p < .001$ level and the dependent variables in order to address the research question. Because none of the VIF values were below 0.1 and none of the tolerance values were above 10, the assumption of no multi-collinearity was met. In this model, six predictor variables emerged as significant in explaining 34% of the peer reputation variance (R^2=.340, F (6, 252) = 23.186, $p < .000$). These six variables included two variables from comprehensive internationalization, international program funding from foundations (β = .248, $p < .001$) and having the prioritization of increasing study abroad (β = -.182, $p < .001$), two variables from the international student cluster, offering English instruction to international students through an intensive English language program (β = -.188, p = .001) and having a bridge or pathway program for students (β = .156, p = .008), one variable from the study abroad cluster of administering study abroad through the institution's study abroad office (β = .204, $p < .000$), and one variable from the collaborations and partnerships cluster of having a research center abroad (β = .333, $p <$

.000) were significant predictors. Two of the variables, having the prioritization of increasing study abroad and offering English instruction to international students were negative predictors in the model. Table 28 lists the coefficients and the significance of the multiple regression model to predict peer reputation scores.

Table 28

Coefficients and Significance of Multi-Regression Model to Explain Peer Reputation Scores

Variables	Standardized Coefficients: β	t	Sig.
Physical Presence of a research center abroad	.333	6.262	.000
International program funding from foundations	.248	4.694	.000
Education Abroad administered through an institution's study abroad office	.204	4.015	.000
Bridge/Pathway program for international students not matriculated	.156	2.688	.008
Priorities: Increasing study abroad for U.S. students	-.182	-3.571	.000
English instruction to international students through an Intensive English language program	-.188	-3.230	.001

Next, I utilized a multiple linear regression to predict rankings scores based on the variables that were found to be significantly correlated at the $p < .001$ level. Because none of the VIF values were below 0.1 and none of the Tolerance values were above 10, the assumption of no multi-collinearity was met. Five predictors emerged as significant in explaining 26.8% of the peer reputation variance (R^2=.268, F (5, 253) = 19.939, $p <$ .000). They included: one variable from comprehensive internationalization of having the

prioritization of increasing study abroad (β = -.227, p < .001), one variable from the curriculum internationalization cluster of the type of foreign language requirement (β = .217, p < .001), two variables from the international student cluster, offering English instruction to international students through an intensive English language program (β = -.218, p = .001) and having a bridge or pathway program for students (β = .175, p = .004), and one variable from the collaborations and partnerships cluster of having a research center abroad (β = .304, p < .000) were significant predictors. Two of the variables, having the prioritization of increasing study abroad and offering English instruction to international students were negative predictors in the model, similar to the multiple regression model predicting peer reputation scores. Table 29 lists the coefficients and the significance of the multiple regression model to predict peer reputations scores.

Table 29

Coefficients and Significance of Multi-Regression Model to Explain Rankings Scores

Variables	Standardized Coefficients - β	t	Sig.
Physical Presence of a research center abroad	.304	5.552	.000
Length of Foreign Language Requirement	.217	4.053	.000
Bridge/Pathway program for international students not matriculated	.175	2.901	.004
English instruction to international students through an Intensive English language program	-.218	-3.555	.000
Priorities: Increasing study abroad for U.S. students	-.227	-4.214	.000

This chapter explored the results of the quantitative data analysis examining the relationship between both the peer reputation scores and the rankings from the *US News and World Report* college rankings and 269 variables related to the comprehensive

internationalization of higher education institutions in the United States, divided into clusters and categories. In total 53 internationalization variables emerged as correlated with peer reputation scores and 37 variables emerged as correlated with institutional rankings scores. Six variables emerged as predictors of peer reputation scores explaining 34% of the variance and five variables emerged as predictors of rankings scores explaining 26.8% of the variance, with only four variables in common: increasing study abroad for U.S. students, offering English instruction to international students through an Intensive English language program, offering a bridge/pathway program for non-matriculated international students, and having a research center abroad. Chapter Five provides a full analysis and discussion of the results, how they connect to the literature on internationalization, rankings, and corporate reputation, and ideas for further exploration of the topic.

Chapter Five

Discussion

The purpose of this study is to examine the relationship between comprehensive internationalization and rankings as reflected in the *US News and World Report* college rankings. College rankings are a tool by which universities measure institutional quality. While these measures may be flawed, they are still used by students, parents, funding agencies, and university administrators. This study is important for two main reasons. First, this study helps to explain influences, in this case comprehensive internationalization, on rankings and institutional reputation. Additionally, this study helps to explain another reason that comprehensive internationalization is important to higher education. As this study breaks down internationalization into several clusters, the individual aspects of internationalization and their impact on rankings is explored. This helps institutions, scholars, and practioners understand internationalization and rankings more deeply in order to expand the field of knowledge and make stronger arguments for internationalization. As internationalization is important for faculty research, the student experience, and university collaborations, having a deeper understanding of the influence of internationalization on rankings is important.

Based on previous research in the field of internationalization, the internationalization variables were separated into broad clusters, which informed the research questions. Because reputation theory drives this study, the internationalization variables were independently correlated with both the reputations scores in USNWR and the overall rankings scores. Following the correlation, a regression analysis identified variables that help explain the variance of both the reputation scores and the rankings

scores. The overarching research question guiding the study is to determine the relationship between the comprehensive internationalization of higher education and USNWR college rankings. This research question was further broken down into the following specific research questions:

1. What institutions are ranked and have efforts towards internationalization?
2. What relationship, if any, does comprehensive internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
3. What relationship, if any, do international students have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
4. What relationship, if any, do faculty and faculty development have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores?
5. What relationship, if any, does curriculum internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
6. What relationship, if any, do infrastructure, administration, and funding have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
7. What relationship, if any, does education abroad have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*

8. What relationship, if any, does international strategy and articulated commitment to internationalization have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
9. What relationship, if any, do international collaborations and partnerships have with *U.S. News and World Report* rankings and *U.S. News and World Report* Peer Reputation scores*?*
10. Can institutional peer reputation scores or rankings be predicted by one or a combination of the identified variables of internationalization?

This chapter aims to explain the results of the descriptive and inferential statistical analysis in order to fully answer the research questions. First, I provide an interpretation of the findings, in the context of the literature, identifying several themes that emerged from the results. I also attempt to explain some of the more curious results that do not clearly align with previous research. I then look at the results holistically to show the implications for research and how reputation theory, in the context of higher education, can be expanded. Additionally, I discuss how these results can inform internationalization practice in higher education and perhaps influence strategic decisions of institutions. Finally, I explore some of the limitations of this research and possibilities for additional research to build on this study.

Key Findings

This study revealed a significant relationship between internationalization and reputation scores and internationalization and rankings scores. Overall, internationalization emerged to explain 34% of the variance of the reputation scores and

26.8% of the variance of the rankings scores. The results can be further broken down into four notable themes:

1. Comprehensive internationalization and reputation are strongly connected,
2. Rankings and reputation have a very strong relationship to having a research center abroad,
3. Student related aspects (study abroad, international student support) had a weaker relationship with rankings and reputation than external factors, and
4. Funding for internationalization is significantly tied to rankings and reputation.

First, the relationship between comprehensive internationalization and reputation scores emerged as stronger than the relationship between internationalization and rankings scores. This finding aligns with previous research on the positive impact of internationalization on reputation indicator scores in global rankings (Delgado-Márquez et al., 2013), and on reputation in the U.S. national context. The second important finding is that the more the different aspects of internationalization had an external focus, for example generating external funding or having a research presence abroad, the stronger that aspect correlated with reputation and rankings scores. Having a research presence abroad, in fact, strongly correlated with and emerged as a predictor of both reputation and rankings. As the third finding, the aspects of internationalization that focused on students such as study abroad and support systems for international students, while important, equally positively and negatively correlated with reputation and rankings scores. Finally, as the fourth finding, several of the aspects related to funding of international initiatives

including funding sources, significantly correlated with reputation scores and rankings scores and emerged as significant predictors.

Detailed Summary of All Findings

This study examined how 269 internationalization variables, divided into clusters and categories of internationalization, related to both the peer reputation scores and the rankings scores of institutions ranked in USNWR. Overall, 20% of the variables demonstrated a significant correlation with peer reputation scores and 14% of the variables were significantly correlated with overall ranking scores. However, only six variables emerged as predictors of the reputation scores, explaining 34% of the overall reputation score variance and only five variables emerged as predictors of the rankings scores, explaining 26.8% of the overall ranking score variance.

Because of the high number of variables and the complication of two unique, but related, dependent variables, i.e., the peer reputation scores and the ranking scores, the overall findings are complex. However, certain themes emerged from the data that are significant. This next section explores these themes in the following order:

- the differences between the peer reputation results and the rankings score results;
- the significance of the overall comprehensive internationalization and collaboration and partnership variables;
- the student-oriented variables; and, finally,
- the funding correlations.

Peer Reputation Scores and Rankings Scores

This study aimed to examine how the internationalization variables related to the peer reputation scores and to the rankings scores. A review of how these two scores are

generated and what they actually reflect is important to fully understand the different findings. The peer reputation scores from the *USNWR* college rankings reflects a two-year weighted average of reputation votes that schools receive from the institutions' presidents, provosts, and directors of admission. These top academic administrators receive a survey every year which asks them to vote on their top five institutions based on academic impressions and perceived reputation. These votes form the peer reputation scores and account for 20% of the total rankings score. The overall rankings score includes many other factors, including student outcomes, retention, finances, alumni giving, and faculty resources. In composite, the rankings score is more generally student focused and less institution-wide focused. The peer reputation score provides a more holistic view of academic perceptions. These distinctions are important for understanding the results of the study.

Overall, institutional internationalization had a stronger relationship with peer reputation scores than with rankings scores - both in numbers of significantly correlated variables and in the amount of variance that the international variables explained. The peer reputation scores had a significant correlation with 53 of the internationalization variables, with the majority of these variables (72%) coming from the clusters that were not student oriented, such as comprehensive internationalization and collaboration and partnerships. The remaining 28% of the significantly correlated variables were related to the student-oriented variables, such as international students, internationalizing the curriculum, and education abroad. In contrast, 62% of the more holistic variables were significantly correlated with the rankings scores, while 38% of the significantly correlated variables were student oriented.

These results align with existing studies in reputation theory and the way it relates to higher education. Reputation is the way in which an institution is viewed holistically through the eyes of the public (Fombrun, 2012), and reputation and the signals companies send reflect the ways in which companies or higher education institutions are viewed by external stakeholders (Rindova & Martins, 2012). This study revealed a higher number of significant correlations between internationalization and the reputation scores than between internationalization and rankings scores. The reputation scores are based on external voting rather than internal objective measures. Internationalization having a stronger relationship with reputation rather than with rankings is therefore consistent with the reputation literature showing that reputation is largely based on a company's attractiveness to external stakeholders rather than to objective measures (Fombrun, 2012). The student-oriented variables, a more internal objective measure, were more significantly correlated to the rankings scores, which only incorporate a small amount of reputation overall.

Internationalization variables also explained more of the variance of reputation scores (34%) than the variance of the rankings scores (26.8%). Table 30 shows the predictor variables for both reputation and rankings and the commonalities between reputation and rankings predictors. As shown in Table 30, six of the variables emerged as significant predictors of the peer reputation scores while five variables emerged as predictors of rankings scores. Research shows that the most frequently mentioned motivation for internationalization is to increase the institution's reputation and competitiveness (Cattaneo et al., 2016; Hudson, 2016; Knight, 2003b, 2010). The results of this study add to that research by showing that internationalization does explain 34%

of the variance of reputation, verifying that internationalization is a contributor to reputation.

Table 30

Predictor Variables

Variables	Reputation Predictor	Rankings Predictor
Priorities: Increasing study abroad for U.S. students	x	x
Physical Presence of a research center abroad	x	x
English instruction to international students through an Intensive English language program	x	x
Bridge/Pathway program for international students not matriculated	x	x
International program funding from foundations	x	
Education Abroad administered through an institution's study abroad office	x	
Length of Foreign Language Requirement		x

Holistic Measures: Comprehensive Internationalization and Collaborations and Partnerships

Rankings and reputation are linked and measure the perception that external constituents have of the institutions. Of the variables examined in this study, comprehensive internationalization variables and the variables in the collaboration and partnership cluster were holistic and external facing. Therefore, it was expected that more of the comprehensive internationalization and collaboration and partnership variables would be correlated with reputation scores and overall rankings. Two specific variables

stood out as especially interesting: the variable where institutions self-reported their level of internationalization and the variables related to having a research center abroad.

A significant positive correlation emerged between the institutions that self-reported a high level of internationalization and the reputation scores and rankings of those institutions. Institutions that were highly ranked also perceived their internationalization to be high. While a causal relationship did not exist, and this particular variable did not emerge as one of the predictors of reputation or rankings, this relationship is notable. Reputation is based partially on signals that companies, including higher education institutions, send related to their institutional culture and social engagement (Fombrun & Shanley, 1990). Scholars have shown that positive self-perception is linked to positive reputation (Barros et al., 2020; Steiner et al., 2013). This positive correlation between self-perception of high internationalization and increased reputation and rankings scores is consistent with the literature on reputation theory.

Another variable that emerged with a highly significant correlation to reputation and rankings scores was the presence of a research center abroad. While having any kind of presence abroad was positively correlated with both reputation and rankings scores, the presence of a research center was the only variable related to a presence abroad that also contributed to explaining the variance in both the reputation scores and the rankings scores. Scholars have shown that research and partnerships are linked to both the academic success of the institution and the reputation of that success (Overton-de Klerk & Sienaert, 2016; Suomi, 2014a). While these studies are not in the context of a research presence abroad, this study adds to the literature by demonstrating that a research presence abroad is a predictor of both reputation and rankings.

Some of the more curious results from this study emerged regarding the variables that were not obviously aligned with the literature because they were significantly negatively correlated with either the peer reputation scores, the rankings scores, or both. While some of the clusters exhibited isolated variables with negative correlations, the comprehensive internationalization variables had a higher rate of significant negative correlations than the other clusters. Three variables related to the reasons for internationalization emerged as significant negative correlations – generating revenue, recruiting students, and creating diversity on campus. Additionally, increasing study abroad and recruiting international students as priorities for the university were significantly negatively correlated with reputation and rankings scores. Finally, receiving more funding from federal sources to support internationalization emerged as significantly negatively correlated with reputation.

The literature suggests that recruiting students, generating revenue, creating diversity on campus, and increasing study abroad are core elements of comprehensive internationalization (Green, 2003; Helms et al., 2017), even leading to the hiring of senior international officers to guide these internationalization efforts (Gul et al., 2019; Nolan & Merkx, 2015). However, this study revealed that listing these efforts as reasons for internationalization was significantly negatively correlated with reputation and rankings, also a frequent goal of universities. Understanding why the results from this research do not align with existing literature on comprehensive internationalization is challenging, but when examined in the context of reputation theory, a potential explanation emerges. Institutions that are prioritizing recruitment and generating income may be doing so because of an existing lack of resources or lack of international students which could

explain why these institutions are prioritizing these particular aspects of internationalization. Fombrun (2012) posits that reputation is a reflection of an institution's past performances. This framework of reputation would explain why institutions that are trying to grow in these areas may not currently have a strong reputation and, therefore, a high ranking. Looking at how the rankings improved for institutions that had these priorities in the past could shed further light on these findings.

Student-Focused Variables

While the more holistic variables that related to an overall view of internationalization, including collaboration and partnerships, demonstrated strong relationships to peer reputation scores and rankings scores, several of the variables that related more directly to students and the student experience provided mixed results in their alignment with current research. The clusters that focused on the student experience included international students, internationalization of the curriculum, and education abroad. While the full definition of comprehensive internationalization includes the process of developing international relationships beyond mobility (Altbach, 2016; Knight, 2003b), student mobility and global citizenship remain a priority and focus for broader internationalization efforts (Egron-Polak & Hudson, 2014; Ilieva & Peak, 2016; Yemini, 2015). However, out of a total of 118 variables related to mobility or curriculum internationalization, only 14, or 12%, were significantly correlated with either the peer reputation scores or the rankings scores, and some of these correlations, specifically the significant negative correlations, did not obviously align with the literature. Additionally, the variables that emerged as significantly positively correlated were not mobility related but were more focused on the support provided for students, such as bridge programs for

international students and administrative offices to support students interested in studying abroad. Interestingly, bridge and pathway programs to support international students in the US transition into degree programs emerged as one of the predictors for both reputation scores and rankings scores as well.

While research connecting internationalization and rankings is not extensive, the findings in this study mostly aligned with the limited research available. Scholars have demonstrated that partnerships and collaborations and research productivity impact reputation and rankings (Cebolla-Boado et al., 2018; Engwall, 2016), but evidence does not suggest that curriculum internationalization and other student related internationalization measures have significant relationships with reputation or rankings (Delgado-Márquez et al., 2013; Patel, 2017). This study aligned with those results.

However, this study did not obviously align with existing literature when examining the predictors of reputation scores and rankings. Two specific student-focused variables emerged as significant negative predictors in both the reputation scores and the rankings scores – increasing study abroad as a priority for internationalization and providing English instruction in the form of an Intensive English Program (IEP) for students. Increasing study abroad as a priority for internationalization is a variable based on how much resources and effort institutions self-report are being dedicated to increasing the numbers of students who are studying abroad in the traditional sense, not necessarily increasing student research, internship or work abroad. Research shows that student mobility is commonly a priority for institutions looking to internationalize (Ilieva & Peak, 2016; Youssef, 2014), and globally, governments and institutions are putting resources into advancing student mobility (Cebolla-Boado et al., 2018); however, there

seems to be a gap in the literature that shows a relationship between study abroad and reputation and rankings. Many other aspects of internationalization have been studied in this context – such as faculty development, the development of global partnerships, the strategic emphasis of internationalization, and even internationalizing curriculum (Cattaneo et al., 2016; Huang, 2015; Siganos, 2008; Tan & Goh, 2014), but interestingly, study abroad has not been extensively studied or has not emerged as significant in any of these studies. Therefore, it is challenging to explain why, when studied directly, study abroad seems to be a significant negative predictor of both reputation scores and rankings scores, when research shows that study abroad appears to be a priority for many universities. Perhaps this is related to the elite university effect where top institutions do not need to prioritize study abroad because it is already prevalent. However, while we can posit that universities that have a priority of increasing study abroad are lower ranked because they aspire to be top institutions, there is no existing research to support this theory. This particular finding demands more targeted studies to fully understand its implications.

The finding that institutions with IEPs are more likely to be lower ranked is easier to explain. IEPs are programs where students are admitted to universities with English language scores that are lower than the expected standards of the universities and are provided English courses to supplement their language skills to help them be successful. Elite universities are able to be selective when choosing international students and may not rely on IEPs to supplement their enrollment. However, analyzing the selectivity of highly ranked institutions was not the purpose of this study, so further exploration would need to be conducted in order to fully understand this result. Bridge or

Pathway programs are designed for international students who are not matriculated at the university. These programs tend to attract a higher English level ability and often focus on US university culture in addition to academic language rather than learning English, the focus of IEPs. More research comparing IEPs to Bridge programs and determining the distinction between these programs and how this relates to reputation and rankings could help to further explain the finding that places IEPS as negative predictors of reputation and rankings scores.

Correlations and Predictors Related to Funding Models

As with any initiative related to higher education, or organizations in general, funding presents concerns and opportunities for growth and development. Several variables related to different clusters of internationalization in higher education focus on how funding is identified and utilized in order to further internationalization efforts and increase institutional reputation. Reputation has been linked to institutional both in providing a reflection of funding received and generating additional funding (Alter & Reback, 2014; Bagley & Portnoi, 2014; Findlay et al., 2012). This study identified several ways in which funding and funding sources for internationalization were significantly correlated with both reputation and rankings. While generating revenue as a reason for internationalization was significantly negatively correlated with both rankings and reputation scores, receiving funding for internationalization efforts from various sources such as foundations, alumni, governments, and individual donors was significantly positively correlated. Generally, having an increase in funding from a variety of sources was significantly correlated with internationalization efforts across the board. This finding is not surprising in that soliciting and receiving funding from multiple

sources to support internationalization efforts reflects an institution's interest in connecting across cultures and being competitive with other institutions. Several researchers have connected internationalization with forming external connections with an interest in increasing competitiveness and exchanging ideas (Patel, 2017; Stromquist & Monkman, 2014). These ideas of competitiveness and exchanging ideas also have shown to increase reputation and therefore rankings (Barron & Rolfe, 2012; O'Loughlin et al., 2015; Zha, 2009). More specifically, research shows that funding is an indicator of positive rankings scores (Tai, 2007). Soliciting and receiving funding for internationalization efforts seems to logically correlate with increased reputation and rankings.

The finding that federal funding significantly negatively correlated with reputation scores does not clearly align with the literature. Previous research identified a significant positive correlation between the reputation of an institution and research dollars (Findlay et al., 2012); however, a significant negative correlation between federal funding and reputation emerged in this study. This could be explained by examining the differences between public and private institutions. While research shows that there is a direct correlation between national investment in higher education in countries other than the US and in rankings (Hauptman, 2006), the US higher education system funding models are based more on endowments and non-federal funding sources. In the US, which is where all of these institutions reside, almost all federal funding has decreased in recent years, but private institutions have felt these affects more deeply. Generally, more reputable institutions, like the Ivy Leagues institutions, rely on their considerable endowments more than on federal funding. More research would be needed to fully

support this claim, but the private/public nature and funding model of higher education in the US may help explain this negative correlation.

While no funding variables surfaced as significant predictors of rankings scores, receiving funding from foundations to support comprehensive internationalization emerged as one of the predictors of reputation scores. Previous research has suggested that the internationalization of higher education was a predictor of increased institutional funding (Forest, 2004), and research shows that funding is an indicator of higher ranking scores (Tai, 2007). Therefore, it is surprising that more funding variables did not explain reputations and rankings. Receiving funding from foundations as opposed to receiving funding from other sources is more challenging to interpret, but as foundations also look to fund reputable organizations, a link between funding from foundations and reputation is logical. Looking at the impact of funding and different funding sources could be its own research agenda moving forward. Interestingly, none of the other funding variables emerged as predictors.

Implications for Theory and Research

This study was guided by two primary bodies of literature – literature on the internationalization of higher education and literature on reputation theory, specifically in the higher education context. The literature related to internationalization guided the grouping of the variables into clusters and categories, which provided an important framework for analyzing the results. The literature surrounding reputation theory in the corporate context and how reputation theory related to higher education and non-profit organizations led to this study's design of examining not only how internationalization related to ranking scores, but also to reputation scores. The existing research connecting

reputation and rankings helped to position the study and the findings within a broader scholarly context. This section shows how the results contribute to the body on knowledge regarding internationalization, how the results can be explained further by looking at reputation theory, and how the intersection of internationalization, reputation, and rankings within higher education is supported and informed by existing literature.

As Chapter Two detailed, scholars have taken several different approaches to organizing the areas of internationalization. Following existing research, this study grouped comprehensive internationalization into eight different clusters (see Appendix One) and examined the ways in which the variables in these clusters related to reputation and rankings. The results showed, however, that the relationships between internationalization, reputation, and rankings did not cluster as easily or as cleanly as scholars might suggest. No single cluster emerged as particularly significant based on these clusters. Instead, the clusters could have been divided more broadly into internal focused clusters (international students, study abroad, faculty, administration, and curriculum) and external facing clusters (overall internationalization, funding, and collaboration and partnerships). Scholars have not explicitly defined internationalization in this manner, but they have conducted research on more intra-institutional elements of internationalization (Altbach, 2016; Yemini, 2015) and inter-institutional elements independently (Patel, 2017; Stromquist & Monkman, 2014). Examining the findings from intra-institutional and inter-institutional perspectives revealed that more inter-institutional elements of internationalization are related to reputation and rankings.

This study aligns well with existing scholarship in the field of organizational reputation, specifically as this research focuses on reputation and brand development.

Scholars have already linked reputation theory to higher education (Alter & Reback, 2014; Bagley & Portnoi, 2014), but this study examined deeper relationships between the internationalization of higher education and reputation theory. Fombrun and Shanley (1990) asserted that reputation was positively impacted when a company diversified its methods of engagement with external audiences. Similarly, this current study revealed that no single cluster of internationalization emerged as significant, but multiple, diverse aspects of internationalization were significant in their relationships to reputation scores. This result aligns with previous literature. Additionally, the significant correlations between the funding aspects of internationalization and reputation scores aligns with reputation research showing that companies emit signals of past performance to influence reputation and serve as predictors of future performance (Barron & Rolfe, 2012). Potential funders, especially foundations, whose funding of internationalization emerged as a predictor of reputation, base their funding decision on reputation and potential. Finally, having a physical presence abroad influences institutional branding, which is viewed as important in establishing reputation, both internally to the institution and to external audiences (O'Loughlin et al., 2015). This study further contributed to the existing research by further connecting higher education to reputation theory and specifically addressing the connection of internationalization to reputation scores.

Furthermore, as this study's literature review showed, scholars have studied internationalization, reputation, and rankings independently, but few studies have connected the three concepts. This study contributes to the existing literature by establishing a connection between these three areas of research. Research has already linked rankings to be a reflection of reputation (Locke, 2011), and studies have revealed

that internationalization and rankings are also connected (Hudzik, 2015; Jöns & Hoyler, 2013). This study demonstrated that there were overlapping relationships between internationalization and reputation and internationalization and rankings through several correlations and through having a research presence abroad as a positive predictor of both reputation and rankings. By directly connecting the ideas of internationalization, reputation, and rankings, this study shows that opportunities to explore this research agenda are promising.

Implications for Practice

This study carries implications for practitioner in the field of higher education internationalization and in university strategic offices. While there are potentially several key points for practioners, two main opportunities for strategic awareness and investment stand out: focusing on international collaborations/research abroad and targeting arguments on reputation building for the university as a whole.

As the research shows, the field of internationalization of higher education is broad, with some practitioners focused on students and student mobility, others focused on international curriculum, some looking at faculty development and research, and others exploring collaborations and partnerships. Additionally, the research and the results of this study clearly demonstrate that there is significant overlap between the different areas of internationalization. While most research in internationalization focuses on the student-focused aspects, this particular study seems to suggest more opportunities to impact internationalization practitioners who explore potential in collaboration and funding or in the more strategic side of internationalization, looking at funding and external outreach. The results indicate that the stronger relationship exists between

building collaborations and soliciting and receiving funding on behalf of internationalization with reputation and rankings. One of the most important findings in this study was that having a research presence abroad was significantly correlated with rankings and reputation and also served as a predictor for both. Nolan and Merkx (2015) argue that internationalization is complicated and has created a need for senior international officers to help guide university internationalization efforts. If universities have a goal of increasing their reputation, both domestically and abroad, then this study supports the idea that a targeted effort, requiring dedicated leadership, to create rich and deep collaborations abroad, hopefully leading to research centers abroad, and to solicit funding from various sources to support these efforts, is important. Specific implications for student focused initiatives - increasing study abroad or recruiting international students – are less important in a reputation context.

Another potential impact of this study on higher education lies within strategic offices of institutions. The study reveals that internationalization can be a predictor or both reputation scores and ranking scores, with more of the reputation score variance explained at 34%. Strategic offices within institutions could use these results to help prioritize internationalization, especially collaborations and partnerships at the research level, and use these areas of prioritization as avenues for development and fundraising issues. Most institutions are concerned about reputation as stronger reputations can lead to more student applications and funding opportunities (Barron & Rolfe, 2012). Because internationalization is a predictor of reputation scores, universities could use this information to help further the institutional reputation goals. One area of caution, however, is for practitioners to avoid using internationalization as a focus for improving

university rankings alone. Rankings are viewed in the academic community as inherently flawed and as an imperfect proxy for measuring student success and overall institutional quality (Hazelkorn, 2016; Soh, 2015; Yudkevich et al., 2016). However, because rankings and reputation are linked (Locke, 2011), practitioners would be better served to focus on internationalization's impact on institutional reputation rather than on rankings themselves.

Limitations of the Study

While this study does add to the overall literature surrounding internationalization, reputation, and rankings, some notable limitations should be taken into consideration when interpreting the study's findings. First, the sample size was relatively small, including only 259 institutions, while 269 variables were considered. One of the limitations was that the study relied upon institutions that completed the 2016 *Mapping* survey and were ranked either in the *USNWR* national rankings or in the *USNWR* liberal arts rankings. This limited the number of institutions that met the criteria. Additionally, by combining national universities and liberal arts universities, the study artificially combined two very different types of institutions. National universities and liberal arts universities have different missions and goals, including how they approach internationalization, and grouping them together may have masked their differences. Another limitation of this study is that it is U.S. centric only. Internationalization is a global concept, and by not including global institutions and global rankings systems, the study is potentially narrow. Finally, this study is based upon a snapshot in time – 2016 – but does not account for the definition of internationalization as a process (Knight, 2003b). While these limitations were necessary for the scope of this particular project,

they restrict the results, making generalizations of the information more challenging. Further research is needed to fully understand the relationship between comprehensive internationalization, reputation, and rankings.

Recommendations for Future Research

This study provides a broad picture of the relationship between internationalization, reputation, and rankings. The study reveals that a relationship does exist, but to fully understand this relationship, more areas of research could be impactful. Looking at the same research questions, but in the global context could be an expansion of this study. Adding a broader sample of institutions of higher education in countries other than the US and using reputation scores from international rankings systems such as QS or Times Higher Education could provide a more complete picture of the relationships involved. Also, by expanding institutions geographically, the type of institution could be narrowed to focus solely on comprehensive research institutions, for example. Finally, further research could measure the impact of internationalization over a period of time rather than from a snapshot in time perspective. These types of studies could provide a richer picture of the relationship between internationalization, reputation and rankings, allowing for more generalization and depth to this field.

Additionally, this study reveals several potential research agendas to fully measure and understand how reputation and rankings are related to specific aspects of internationalization. These agendas could be outgrowths of this study but would be unique in their areas of focus. One research agenda could be looking solely at the relationship between the comprehensive internationalization of institutions and reputation, leaving out the rankings perspective and broadening the reputation proxies

beyond rankings indicators. While reputation and higher education has been explored some, there is room to more fully engage in the organizational behavior concepts of corporate reputation and the internationalization of universities. This research agenda could develop from a nationalistic perspective or could be examined on a global scale, taking cultural aspects of reputation and internationalization into account.

Another research agenda that could develop from this study is to look at a more student centric relationship between study abroad, international students, curriculum, and reputation and/or rankings. This study determined that a relationship exists between student focused aspects of internationalization and reputation with those correlations sometimes being negative. Examining study abroad, for instance, using actual study abroad numbers or locations that students go to rather than variables focused on reasons for internationalization could provide more insight into where or not having a high percentage of students studying abroad is correlated with reputation or rankings. The same could be examined by looking at actual international student population numbers. The research here only revealed a correlation between interest in study abroad and attracting and retaining international students, it did not explore actual numbers of students. An entire research agenda could be developed by just examining the student variables more in depth.

Two other research agendas could emerge from this study, one related to funding and the other related to physical presence abroad. The relationship between funding, specifically for internationalization initiatives, and reputation and/or rankings emerged as a theme in this study. Expanding these ideas to look at more funding variables and how types of funding might be related to reputation could provide an interesting and timely

research perspective. Since having a physical research center abroad also emerged as strongly correlated with reputation and as a predictor of reputation scores, delving more deeply into how the breadth and depth of different types of collaboration or partnerships abroad with a physical presence can impact reputation or rankings could reveal interesting results.

Finally, while this research was mainly conducted prior to the pandemic of 2020, there is little doubt that higher education in general, and the internationalization of higher education specifically, changed due to the events of 2020-2021. While it is unclear what impacts the COVID-19 pandemic will have on higher education, this specific point in time will be a defining moment for higher education internationalization. Data shows that study abroad and the importation of international students has consistently rebounded after significant drops in the past, such as the pandemic of 1918 and the terrorist attack on the World Trade Center towers in 2001 (*COVID-19 Infographics*, 2020), but in today's age of increased technology and with the proliferations of strong higher education institutions around the world, there are questions about how internationalization will manifest in the future. In some ways, the virtual nature of higher education has caused institutions to become more international and students to have access to education no matter their location. Mobility may become an expectation rather than an aspiration in the future. Cantwell and Tayler (2013) argue that higher education institutions are becoming less diverse in their emphasis and value due to rankings, and perhaps the virtual changes in higher education due to the pandemic will accelerate this process. It is too early to tell how COVID-19 has impacted higher education, the internationalization of higher

education, and institutional reputation, but future research will have to take the events of 2020-2021 into account as higher education may never be the same.

Conclusion

This study showed that there was a relationship between the comprehensive internationalization of higher education institutions and the reputation scores and rankings scores as found in the *USNWR* college rankings. Similar to the process of internationalization itself, this relationship was complex, with no clear area of internationalization emerging as the most significant predictor of either reputation scores or rankings scores. Instead, a combination of variables, including those focused on a physical presence abroad and funding, related to reputation and rankings more strongly than individual categories or clusters of internationalization. This study revealed that more research is needed in the areas of internationalization and university reputation specifically, looking at not only what aspects of internationalization are related to reputation, but also why a relationship exists, an important question not examined in this particular research. With the shift in higher education due to the COVID-19 pandemic and the increasing competitiveness of higher education institutions, this study provides a foundation for future research agendas in the field of internationalization and reputation, contributing to literature in both internationalization and reputation and helping practitioners make informed decisions when designing reputational strategies for universities.

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Appendix A

Clusters, Categories, and Variables Related to Comprehensive Internationalization

Clusters	Categories	Variables
International Students	International Recruitment Plan	Recruitment plan
		Enrollment Targets
		Geographic Targets
		Funding to support recruiting undergrad students
		Funding to support recruiting grad students
	Support Programs	Type of IEP programs
		Type of Bridge programs
		Type of services offered
Faculty and Faculty Development	Incentives/Encouragement for International Activity	Promotion and Tenure
		Hiring Decisions
		Funding for Faculty Activities
		Faculty Professional Development
	Tracking Faculty International Activity	Faculty International Database
Internationalization of the Curriculum	Global Learning	Stated Global Learning Outcomes
		Internationalization of Curriculum Engagement
		Level of Internationalization of Curriculum Engagement
		Globalization Requirement in Gen Ed
		Type of Globalization Requirement
		Global Tracks/Certificates
		Global Co-Curricular Programs
		Technology Oriented Global Programs
	Foreign Language Requirement	Foreign Language Requirement
		Length of Foreign Language Requirement

Clusters	Categories	Variables
Infrastructure, Administration, and Funding	Identified Senior International Officer/Office to Lead Internationalization	Administrative Structure Full Time Administrator/SIO Reporting Structure
	Funding for International Activities	Types of Funding for Staff Types of Funding for Internationalization Change in Funding based on type Funding Strategy
Education Abroad	Strategy to Promote and Increase Numbers in Education Abroad	Growth in Study Abroad Study Abroad Administration Study Abroad Percentage Goals
	Funding for Education Abroad	Programs approved for financial aid Scholarships
International Strategy and Articulated Commitment	University-Wide International Strategy	Included in Mission Statement Priority in University Strategic Plan International Strategic Plan International Steering Committee
	International Assessment Plan	International Assessment Plan
Collaborations and Partnerships	Strategy and Structure for New Collaborations/ Partnerships	Approach to International Partnerships Formal Partnership Strategy Guidelines for Partnerships Types of Partners Dedicated Staff Countries of Partnerships Geographic Targets
	Dual/Double/Joint Degree Opportunities	Dual/Double Degree Programs Dual/Double Degree Enrollment Joint Degree Programs Joint Degree Enrollment
	Physical Presence Abroad	Type of Physical Presence Types of Programs

Appendix B

Variables and Transformations

Overall Status and Trends			
Variable	#	Original Variable Form	My Transformation
1a: Overall, would you say the level of internationalization at your institution in the last 3 years has been very high, high, moderate, low, or very low?			
1a Level of Internationalization	1	1=very high; 2=high; 3=moderate; 4=low; 5=very low	No transformation
2a: During the last 3 years, has internationalization accelerated on your campus?			
2a Internationalization Acceleration	2	1=yes, to a significant degree; 2=Yes, somewhat; 3=no change; 4=no, but my institution has always been a leader in this area	No transformation
3a: What are your institution's main reasons for internationalizing?			
3a.Improve student preparedness for a global era	3	None	1=yes; 2=no
3a.Diversity students, faculty and staff at the home campus	4	None	1=yes; 2=no
3a.Become more attractive to prospective students at home and overseas	5	None	1=yes; 2=no
3a.Raise international reputation and rankings	6	None	1=yes; 2=no
3a.Support institutional accreditation	7	None	1=yes; 2=no
3a.Generate new revenue for the institution	8	None	1=yes; 2=no
3a.Attract global talent (faculty and researchers)	9	None	1=yes; 2=no
3a.Contribute to international development initiatives	10	None	1=yes; 2=no
3a.Participate in U.S. diplomacy efforts	11	None	1=yes; 2=no
3a.Maintain U.S. economic, scientific and technological competitiveness	12	None	1=yes; 2=no
3a.Other (please specify)	13	None	1=yes; 2=no
4a: What have been the highest priority internationalization activities on your campus in the last 3 years?			
4a.Recruiting international students	14	None	1=yes; 2=no
4a.Increasing study abroad for U.S. students	15	None	1=yes; 2=no
4a.Internationalizing the curriculum and/or co-curriculum	16	None	1=yes; 2=no
4a.Faculty development	17	None	1=yes; 2=no
4a.Partnerships with institutions/organizations abroad	18	None	1=yes; 2=no

Overall Status and Trends			
Variable	#	Original Variable Form	My Transformation
4a.International research collaborations	19	None	1=yes; 2=no
4a.None of the above	20	None	1=yes; 2=no
5a: Who have been the most vital catalysts for spurring internationalization on your campus? (Rank up to 3)			
5a. Catalysts: President/CEO	21	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Board	22	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Chief academic officer	23	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Senior international officer	24	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: A team of senior leaders in administration	25	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Dean or department chair	26	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Faculty	27	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Students	28	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Alumni	29	None	1=ranked 1; 2=ranked 2; 3=ranked 3
5a. Catalysts: Other (please specify)	30	None	1=ranked 1; 2=ranked 2; 3=ranked 3
6a: Has your institution received external funding specifically for internationalization programs or activities from any of the following sources in the last 3 years?			
6a.Int. program funding: Federal Government	31	1=yes; 2=no	No Transformation
6a.Int. program funding: State Government	32	1=yes; 2=no	No Transformation
6a.Int. program funding: Alumni	33	1=yes; 2=no	No Transformation
6a.Int. program funding: Individual donors other than alumni	34	1=yes; 2=no	No Transformation
6a.Int. program funding: Foundations	35	1=yes; 2=no	No Transformation
6a.Int. program funding: Corporations	36	1=yes; 2=no	No Transformation
6a.Int. program funding: Foreign Governments	37	1=yes; 2=no	No Transformation
6a.Int. program funding: Other	38	1=yes; 2=no	No Transformation

Overall Status and Trends			
Variable	#	Original Variable Form	My Transformation
6a funding combined	295	Not a variable	Added all 6a scores together; lower score = more external funding
7a: How has funding for internationalization at your institutions from the following sources changed in the past 3 years?			
7a.Internal institutional funds	39	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=not applicable; 0=not applicable
Overall Status and Trends			
Variable	#	Original Variable Form	My Transformation
7a.US federal government	40	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=not applicable; 0=not applicable
7a.State government	41	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=not applicable; 0=not applicable
7a.Other external sources (alumni, corporations, foundations, etc.)	42	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=not applicable; 0=not applicable
8a: Has your institution developed a formal strategy and/or launched a dedicated fundraising campaign to raise money specifically to support internationalization or related efforts?			
8a.Fundraising campaign to support internationalization activities	43	1=yes; 2=no	No transformation

International Students			
Variable	#	Original Variable Form	My Transformation
1f: Does your institution have an international student recruitment plan for the institution as a whole, and/or for any of its schools/colleges?			
1f.Int. student recruitment plan for whole institution or schools?	109	1=yes; 2=no	No transformation
2f: Does this plan include specific enrollment targets? If your institution has multiple written recruitment plans, please indicate the focus of the institution-level plan, or that of the largest school/college.			
2f.Enrollment targets	110	1=yes, for undergrad level only because we don't offer grad programs; 2=yes, for grad level only because we don't offer undergrad programs; 3=yes, for both undergrad and grad levels; 4=yes for undergrad, but not grad; 5=yes for grad, but not undergrad; 6=not	No transformation
3f: Does this plan specify geographic targets? If your institution has multiple written recruitment plans, please indicate the focus of the institution-level plan, or that for the largest school/college.			
3f.Does recruitment plan specify geographic targets?	111	1=yes; 2=no	No transformation
4f: Please indicate the plan's target countries/regions. Select all that apply			
4f.No specific countries	112	none	No transformation
4f. Australia	113	none	No transformation
4f. Brazil	114	none	No transformation
4f. Canada	115	none	No transformation
4f. China	116	none	No transformation
4f. Egypt	117	none	No transformation
4f. France	118	none	No transformation
4f. Germany	119	none	No transformation
4f. Hong Kong SAR	120	none	No transformation
4f. India	121	none	No transformation
4f. Iran	122	none	No transformation
4f. Israel	123	none	No transformation
4f. Japan	124	none	No transformation
4f. Mexico	125	none	No transformation
4f. Morocco	126	none	No transformation
4f. Nigeria	127	none	No transformation
4f. Norway	128	none	No transformation
4f. Pakistan	129	none	No transformation
4f. Qatar	130	none	No transformation

International Students			
Variable	#	Original Variable Form	My Transformation
4f. Saudi Arabia	131	none	No transformation
4f. Singapore	132	none	No transformation
4f. South Africa	133	none	No transformation
4f. South Korea	134	none	No transformation
4f. Turkey	135	none	No transformation
4f. United Arab Emirates	136	none	No transformation
4f. United Kingdom	137	none	No transformation
4f. Vietnam	138	none	No transformation
4f. Other	139	none	No transformation
4f. Combined	301	No variable existed	Added 4f together; Higher score=more countries
5f: To recruit full-time, degree-seeking international undergraduate students, did yo9ur institution provide funding for the following in the last year? If your institution does not have undergraduate students, check no for each item.			
5f. Scholarships or other financial aid	140	1=yes; 2=no	No transformation
5f. Travel for recruitment officers	141	1=yes; 2=no	No transformation
5f. Engagement of overseas student recruiters	142	1=yes; 2=no	No transformation
5f.Other	143	1=yes; 2=no	No transformation
6f: To recruit full-time, degree-seeking international graduate students, did your institution provide funding for the following in the last year? If your institution does not have graduate students, please check no for each item.			
6f.Scholarships/fellowships/stipends	144	1=yes; 2=no	No transformation
6f.Travel for recruitment officers	145	1=yes; 2=no	No transformation
6f.Engagement of overseas student recruiters	146	1=yes; 2=no	No transformation
6f.Other	147	1=yes; 2=no	No transformation
5f. and 6f. combined	302	No Variable existed	Added all 5f and 6f together; lower score= more funding

International Students			
Variable	#	Original Variable Form	My Transformation
7f: Does your institution have an intensive English program/institute/center that provides instruction to full-time international students who are not matriculated in an academic degree program?			
7f.English instruction to international students, enrollment	148	1=yes, an intensive EL program operated by the institution; 2=yes, an intensive EL program operated by a third party; 3=we are in the process of developing a program internally; 4=we are in the process of developing a program with a third-party provider; 5=we are considering a program; 6=we offered such a program in the past, but it is no longer operational; 7= none of the above	No transformation
8f: Does your institution offer a bridge or pathway program for full-time international students who are not matriculated?			
8f. Bridge/Pathway program for int. students not matriculated	149	1=yes, a program operated by the institution; 2=yes, a program operated by a third party; 3=we are in the process of developing a program internally; 4=we are in the process of developing a program with a third-party provider; 5=we are considering a program; 6=we offered such a program in the past, but it is no longer operational; 7= none of the above	1= none of the above; 2=we offered such a program in the past, but it is no longer operational; 3=we are considering a program; 4=we are in the process of developing a program with a provider; 5=we are in the process of developing a program internally; 6=yes program with a provider; 7=yes, program offered by the institution;

International Students			
Variable	#	Original Variable Form	My Transformation
9f: Does your institution offer any of the following programs or support services specifically for international students?			
9f. Indiv. academic support services	150	1=yes; 2=no	No transformation
9f. Orient. to US/local community	151	1=yes; 2=no	No transformation
9f. Orient. to institution/classroom	152	1=yes; 2=no	No transformation
9f. Assistance in finding housing	153	1=yes; 2=no	No transformation
9f. Institutional advisory Committee of int. students	154	1=yes; 2=no	No transformation
9f. Int. alumni services or chapters	155	1=yes; 2=no	No transformation
9f. ESL support for students	156	1=yes; 2=no	No transformation
9f. services for dependents	157	1=yes; 2=no	No transformation
9f. Host family programs	158	1=yes; 2=no	No transformation
9f Combined	303	No variable existed	Added all 9f together; lower score=more services
Faculty and Faculty Development			
Variable	#	Original Variable Form	My Transformation
1e: Does your institution have guidelines that specify international work or experience as a consideration in faculty promotion and tenure decisions?			
1e.Institution guidelines on considering int. experience for promotion	92	1=No; 2=yes, for faculty in some schools; 3= yes, for all faculty	No transformation
2e: When hiring faculty in fields that are not explicitly international/global, does your institution give preference to candidates with international background, experience or interests?			
2e.Preference to faculty with int. background in non-int. field	93	1=never; 2=rarely; 3=occasionally; 4=frequently	No transformation
3e: Did you institution provide specific funding for the following faculty activities in the last year?			
3e.Internationalization of courses or programs	94	1=yes; 2=no	No transformation
3e.Hosting international faculty	95	1=yes; 2=no	No transformation
3e.Teaching at institutions abroad	96	1=yes; 2=no	No transformation
3e.Leading students on study abroad	97	1=yes; 2=no	No transformation
3e.Travel to meetings or conferences abroad	98	1=yes; 2=no	No transformation
3e.Studying or conducting research abroad	99	1=yes; 2=no	No transformation
3e.Faculty development seminars abroad	100	1=yes; 2=no	No transformation
3e Combined	299	No variable existed	Combined 3e variables; lower number = more instances

Faculty and Faculty Development			
Variable	#	Original Variable Form	My Transformation
4e: Did your institution offer any of the following opportunities to faculty members in the last year?			
4e.Workshops on internationalizing curriculum	101	1=yes; 2=no	No transformation
4e.Workshops on tech to enhance int. dimension of course	102	1=yes; 2=no	No transformation
4e.Workshops on global learning assessment	103	1=yes; 2=no	No transformation
4e.Workshops on teaching and integrating int. students	104	1=yes; 2=no	No transformation
4e.Opportunity to improve foreign language	105	1=yes; 2=no	No transformation
4e. Recognition awards specifically for int. activity	106	1=yes; 2=no	No transformation
4e: Combined	300	No variable existed	Combined 4e variables; lower number = more instances
5e: On and institution-wide basis, does your institution track faculty members' international teaching and/or research collaborations?			
5e.Institution track faculty int. teaching or research collaborations	107	1=yes; 2=no	No transformation
Curriculum Internationalization			
Variable	#	Original Variable Form	My Transformation
1d: Are there specified international or global student learning outcomes at your institution?			
1d.Are there specified international or global student learning outcomes?	60	1=yes, for all students 2=yes, for students in some schools; 3= no	No transformation
2d: Does your institution offer any 1=yes; 2=no *undergraduate degrees?*			
2d.Does your institution offer any undergraduate degrees?	61	1=yes; 2=no	No transformation
3d: Is your institution currently engaged in any initiatives to internationalize the undergraduate curriculum?			
3d.Engaged in any initiatives to internationalize undergrad curriculum	62	1=yes; 2=no	No transformation
4d: At which level are efforts to internationalize the undergraduate curriculum taking place?			
4d.institution wide	63	1=yes; 2=no	No transformation
4d. Schools	64	1=yes; 2=no	No transformation
4d. Departments or programs	65	1=yes; 2=no	No transformation
4d. Individual courses	66	1=yes; 2=no	No transformation
5d: Does your institution have a foreign language requirement for undergraduates?			
5d.Does your institution have a foreign language graduation requirement	67	1=no; 2=yes, for some bachelor; 3=yes for all bachelor	1= yes for all bachelors; 2=yes, for some bachelor; 3=no

Curriculum Internationalization			
Variable	#	Original Variable Form	My Transformation
6d:What is the foreign language requirement for graduation for undergraduates (indicate as it applies to the largest school/college/program)			
6d.What is the foreign language requirement for graduation	68	1=1 semester or equivalent; 2=one year or equivalent; 3=more than one year but less than two; 4=two years or equivalent; 5=more than two years or equivalent	No transformation
7d: Do your institution's general education requirements include an international/ global component?			
7d.Do general education requirements include an international component	69	1=yes; 2=no; 3=not applicable	No transformation
8d: Which best describes these requirements?			
8d. Which best describes these requirements	70	1=students are required to take a course(s) that feature global trends or issues such as health, environment, or peace studies; 2=students are required to take a course(s) that feature perspectives, issues, or events from specific countries or areas outside the US; 3= students must take courses of both these types; 4= students may fulfill the requirement by taking a course(s) of either of these types; 5=other	No transformation
9d: Does your institution offer international/global tracks, concentrations, or certificate options for undergraduate students in the following fields?			
9d. Business	71	1=yes; 2=no	No transformation
9d. Physical and natural sciences	72	1=yes; 2=no	No transformation
9d. Social sciences	73	1=yes; 2=no	No transformation
9d. Humanities	74	1=yes; 2=no	No transformation
9d. Education	75	1=yes; 2=no	No transformation
9d. Health	76	1=yes; 2=no	No transformation
9d. Any Major	77	1=yes; 2=no	No transformation
9d. Other	78	1=yes; 2=no	No transformation

Curriculum Internationalization			
Variable	#	Original Variable Form	My Transformation
9d. Any tracks, concentrations, or certificates	296	No variable existed	Combined variables 71-78; lower the number, more concentrations
10d: Has your institution offered any of the following globally oriented co-curricular programs or activities for undergraduate students in the last year?			
10d. Buddy program for US and int. students socially	79	1=yes; 2=no	No transformation
10d. Language partner program	80	1=yes; 2=no	No transformation
10d. Resident hall with programs to integrate	81	1=yes; 2=no	No transformation
10d. Meeting place for students interested in int. topics	82	1=yes; 2=no	No transformation
10d. Regular and ongoing int. festivals or events	83	1=yes; 2=no	No transformation
10d. Link study abroad or int. students w/ K-12 schools	84	1=yes; 2=no	No transformation
10d. Other	85	1=yes; 2=no	No transformation
10d. Any globally oriented co-curricular programs	297	No variable existed	Combined 10d; lower number, more concentrations
11d: Has your institution used technology other than email and webpages to facilitate the following internationalization activities?			
11d. Deliver joint and dual degree programs	86	1=yes; 2=no	No transformation
11d. Teaching MOOCS	87	1=yes; 2=no	No transformation
11d. recruit international students	88	1=yes; 2=no	No transformation
11d. Supporting home campus students abroad	89	1=yes; 2=no	No transformation
11d. Facilitating course-level collaboration	90	1=yes; 2=no	No transformation
11d. for any activity	298	No variable existed	Combined 11; lower number, more concentrations

Infrastructure, Administration, and Funding			
Variable	#	Original Variable Form	My Transformation
1c: Which best describes the administrative structure of the international activities and programs at your institution?			
1c.Describe admin structure of international activities and programs	51	1=a single office leads internationalization activities and programs; 2=no particular office leads	No transformation
2c: Is there a full-time administrator who oversees or coordinates multiple internationalization activities or programs?			
2c.Is there a full-time administrator overseeing many internationalization programs	52	1=yes; 2=no	No transformation
3c:To whom does this individual report?			
3c. To whom does this individual report	53	1=President/CEO; 2=Chief Academic Officer; 3=Other administrator in academic affairs; 4=Chief student affairs office; 5=Other administrator in student affairs; 6=Other (please specify)	No transformation
4c: Does your institution provide specific funding for the following activities for administrative staff, other than those who work in an international program's office?			
4c.Provide funding: leading students on study abroad programs	54	1=yes; 2=no	No transformation
4c.Provide funding: travel to meetings or conferences abroad	55	1=yes; 2=no	No transformation
4c.Provide funding: studying or conducting research abroad	56	1=yes; 2=no	No transformation
4c.Provide funding: other professional development opportunities abroad	57	1=yes; 2=no	No transformation
4c.Provide funding: on-campus professional development opportunities	58	1=yes; 2=no	

Education Abroad			
Variable	#	Original Variable Form	My Transformation
10f: Did the number of students from your institution who participated in the following types of education abroad experiences increase, decrease, or remain the same in the last 3 years?			
10f. study abroad	159	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=decreased
10f. int. internships	160	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=decreased
10f. service opportunities abroad	161	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=decreased
10f. research abroad	162	1=increased; 2=decreased; 3=no change; 4=not applicable	1=increased; 2=no change; 3=decreased
11f: Who administers the education abroad programs in which students from your institution participate?			
11f.Individual faculty at institution	163	1=yes; 2=no	No transformation
11f.Institutions study abroad office	164	1=yes; 2=no	No transformation
11f.SA office in another country	165	1=yes; 2=no	No transformation
11f.Consortium of institutions	166	1=yes; 2=no	No transformation
11f.State higher education system	167	1=yes; 2=no	No transformation
11f. Third-party provider	168	1=yes; 2=no	No transformation
11f. Partner institution abroad	169	1=yes; 2=no	No transformation
11f. Other	170	1=yes; 2=no	No transformation
12: Can undergraduate students use their institutional financial aid to participate in education abroad programs administered by the following entities?			
12f. Individual faculty at my institution	171	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f. Institutions study abroad office	172	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f. A study abroad center in another country	173	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;

Education Abroad			
Variable	#	Original Variable Form	My Transformation
12f. A consortium of institutions	174	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f. A state higher education system	175	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f. A third-party provider	176	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f. A partner institution abroad	177	1=yes, for all approved programs; 2=yes, for some programs; 3=no; 4=not applicable	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
12f combined	304	No variable existed	Added up all 12f; lower school=more financial aid
13: Does your institution provide institutional funds as student scholarships for education abroad?			
13f.Provide funds as scholarships for education abroad	178	1=yes, for undergrad only; 2=yes, for grad only; 3=yes, for both; 4=no	1=yes, for all approved programs; 2=yes, for some programs; 3=no;
14: Has your institution set a target for the percentage of students who will study abroad during their academic program at your institution?			
14f.Institution set target for students studying abroad	179	None	No transformation
14f.Institution set target for students studying abroad, undergrad	180	None	No transformation
14f.Institution set target for students studying abroad, grad	181	None	No transformation

International Strategy and Articulated Institutional Commitment			
Variable	#	Original Variable Form	My Transformation
1b: Are internationalization or related activities specifically referred to in your institution's mission statement?			
1b.Internationalization referred to in mission statement?	45	1=yes; 2=no; 3=no mission statement exists	No transformation
2b: Are internationalization or related activities among the top 5 priorities in your institutions' current strategic plan?			
2b.Internationalization in top five priorities of strategic plan?	46	1=yes; 2=no; 3=no strategic plan exists	No transformation
3b: Does your institution have a separate plan that specifically addresses institution-wide internationalization?			
3b.Separate plan to address institution wide internationalization	47	1=yes; 2=no	No transformation

International Strategy and Articulated Institutional Commitment			
Variable	#	Original Variable Form	My Transformation
4b: Does your institution have a campus-wide committee or task force that works solely on advancing internationalization efforts on campus?			
4b.Campus-wide committee or task force working to advance internationalization	48	1=yes; 2=no	No transformation
5b: as your institution formally assessed the impact or progress of its internationalization efforts in the last 3 years?			
5b.Assessed the impact or progress of internationalization in last three years	49	1=yes; 2=no	No transformation

Collaboration and Partnerships			
Variable	#	Original Variable Form	My Transformation
1g: Which best describes your institution's approach to partnerships in the last 3 years?			
1g.Institutions approach to int. partnerships in last 3 years	183	1=we have begun international partnerships for the first time; 2= We have expanded the number of partnerships; 3= We have moved toward fewer partnerships; 4=The number of partnerships has remained the same; 5-N/A no partnerships	No transformation
2g: Has your institution articulated a formal strategy for int. partnership development?			
2g.Institution articulate formal strategy for int. partnership dev.	184	1=yes; 2=no; 3=no, but we are in the process of developing a strategy	No transformation
3g: Are there specific, campus-wide guidelines for developing/approving new partnerships and/or assessing existing partnerships?			
3g.Guidelines for developing/approving new partnerships	185	1=yes; 2=no; 3=no, but some depts. or programs have such policies in place	No transformation
4g: With whom does your institution partner abroad?			
4g.Academic institutions	186	1=yes; 2=no	No transformation
4g. Foreign governments	187	1=yes; 2=no	No transformation
4g. Non-gov organizations	188	1=yes; 2=no	No transformation
4g. Corporations	189	1=yes; 2=no	No transformation
4g. Other	190	1=yes; 2=no	No transformation
5g: Is there a staff member whose primary responsibility at your institution is developing international partnerships?			
5g.Staff member primary role to develop int. partnerships	191	1=yes; 2=no	No transformation

Collaboration and Partnerships			
Variable	#	Original Variable Form	My Transformation
6g: In what countries/regions is your institution active in terms of its existing partnerships?			
6g. No specific countries identified	192	None	No transformation
6g. Australia	193	None	No transformation
6g. Brazil	194	None	No transformation
6g. Canada	195	None	No transformation
6g. China	196	None	No transformation
6g. Egypt	197	None	No transformation
6g. France	198	None	No transformation
6g. Germany	199	None	No transformation
6g. Hong Kong SAR	200	None	No transformation
6g. India	201	None	No transformation
6g. Iran	202	None	No transformation
6g. Israel	203	None	No transformation
6g. Japan	204	None	No transformation
6g. Mexico	205	None	No transformation
6g. Morocco	206	None	No transformation
6g. Nigeria	207	None	No transformation
6g. Norway	208	None	No transformation
6g. Pakistan	209	None	No transformation
6g. Qatar	210	None	No transformation
6g. Saudi Arabia	211	None	No transformation
6g. Singapore	212	None	No transformation
6g. South Africa	213	None	No transformation
6g.South Korea	214	None	No transformation
6g. Turkey	215	None	No transformation
6g. United Arab Emirates	216	None	No transformation
6g. United Kingdom	217	None	No transformation
6g. Vietnam	218	None	No transformation
6g. Other	219	None	No transformation
6g. combined	306	No Variable Existed	Added 6g; higher= more partnerships
7g: Has your institution identified specific countries/regions as geographic priorities for expanding your international partnership activity?			
7g. No specific countries identified	220	None	No transformation
7g. Australia	221	None	No transformation
7g. Brazil	222	None	No transformation
7g. Canada	223	None	No transformation
7g. Egypt	224	None	No transformation
7g. France	225	None	No transformation
7g. Germany	226	None	No transformation
7g. Hong Kong SAR	227	None	No transformation
7g. India	228	None	No transformation
7g. Iran	229	None	No transformation
7g. Israel	230	None	No transformation
7g. Japan	231	None	No transformation
7g. Mexico	232	None	No transformation
7g. Morocco	234	None	No transformation
7g. Nigeria	235	None	No transformation
7g. Norway	236	None	No transformation

Collaboration and Partnerships			
Variable	#	Original Variable Form	My Transformation
7g. Pakistan	237	None	No transformation
7g. Qatar	238	None	No transformation
7g. Saudi Arabia	239	None	No transformation
7g. Singapore	240	None	No transformation
7g. South Africa	241	None	No transformation
7g.South Korea	242	None	No transformation
7g. Turkey	243	None	No transformation
7g. United Arab Emirates	244	None	No transformation
7g. United Kingdom	245	None	No transformation
7g. Vietnam	246	None	No transformation
7g. Other	247	None	No transformation
7g. Combined	305	No Variable Existed	Added 7g; higher= more plans for partnerships
8g: Does your institution operate any international dual/double degree programs with a partner institution abroad?			
8g.Institution operate int. dual/double degree program abroad	248	1=yes; 2=no; 3=no, but currently working to develop	No transformation
9g: Which best describes the enrollment in your institution's dual/double degree programs?			
9g.Best describes the enrollment in dual/double degree	249	1=Entirely US students; 2=entirely non-US students; 3= Mostly US students; 4=Mostly non-US students; 5=A fairly even mix of both US and non-US students	No transformation
10g: Does your institution operate any international joint degree programs with a partners' institution abroad?			
10g.Institution operate joint degree program abroad?	250	1=yes; 2=no; 3=no, but currently working to develop	No transformation
11g: Which best describes the enrollment in your institutions' joint degree programs?			
11g.Enrollment at joint degree program	251	1=Entirely US students; 2=entirely non-US students; 3= Mostly US students; 4=Mostly non-US students; 5=A fairly even mix of both US and non-US students	No transformation

Collaborations and Partnerships

Variable	#	Original Variable Form	My Transformation
12g: Does your institution maintain a physical presence of any of the following types with at least one full-time staff member in one or more other countries?			
12g. Branch campus	252	1=yes; 2=no;	No transformation
12g. Administration office	253	1=yes; 2=no;	No transformation
12g. Study abroad center for US students	254	1=yes; 2=no;	No transformation
12g. Teaching site programs offered to US students	255	1=yes; 2=no;	No transformation
12g. Research center	256	1=yes; 2=no;	No transformation
12g. Other	257	1=yes; 2=no;	No transformation
12g combined	307	No Variable Existed	Added 12g; lower=more physical presence
13g: Does your institution offer any of the following programs designed specifically for and delivered to students outside the US?			
13g. Instruction delivered entirely face-to-face: Full degree program	258	None	No transformation
13g. Instruction delivered entirely face-to-face: non-degree program	259	None	No transformation
13g. Instruction delivered entirely face-to-face: individual courses	260	None	No transformation
13g. Instruction delivered entirely face-to-face: N/A	261	None	No transformation
13g. Instruction delivered entirely via technology: Full degree program	262	None	No transformation
13g. Instruction delivered entirely via technology: non-degree program	263	None	No transformation
13g. Instruction delivered entirely via technology: individual courses	264	None	No transformation
13g. Instruction delivered entirely via technology: N/A	265	None	No transformation
13g. Combination of in-person instruction outside US and tech: Full Degree	266	None	No transformation
13g. Combination of in-person instruction outside US and tech: non-degree	267	None	No transformation
13g. Combination of in-person instruction outside US and tech: individual	268	None	No transformation
13g. Combination of in-person instruction outside US and tech: N/A	269	None	No transformation
13g combined	308	No Variable Existed	Added 13g together; Higher=-more instruction

Ranking			
Variable	#	Original Variable Form	My Transformation
Ranking Together	294	No variable existed	Merged the National rank for 2016 with the Liberal Arts rank for 2016 into one variable
RevPeer16	312	No Variable Existed	Combined National reputation scores and Liberal Arts reputation scores and reversed the order -a lower score was a more desirable reputation score to better match the rankings score

Appendix C

Complete Listing of Correlated Variables Organized by Cluster and Category

Peer Reputation Score Correlations				
Clusters	Categories	Variables Significant at the p< .001 Level	Correlation	Significance
Comprehensive Internationalization	Level of Internationalization	Level of Internationalization	.341	.000
	Reasons for Internationalization	Generate revenue	-.249	.000
		Become attractive to prospective students	-.165	.008
		Attract global talent (faculty and researchers)	.211	.001
	Priorities for Internationalization	Increasing study abroad for U.S. students	-.247	.000
		Recruiting International Students	-.275	.000
		Internationalization the curriculum	.228	.000
		International research collaborations	.235	.000
	Funding	Foundations	.396	.000
		Alumni	.314	.000
		Federal Government	.265	.000
		Corporations	.237	.001
		Individual Donors	.198	.003
		Fundraising campaign to support activities	.228	.000
International Students	Support Programs	IEP programs	-.176	.006
		Bridge programs	.241	.000
		Number of Support Programs	.246	.000
Faculty and Faculty Development	Incentives/Encouragement for International Activity	Funding for studying or conducting research abroad	.198	.002

Peer Reputation Score Correlations				
Clusters	Categories	Variables Significant at the p< .001 Level	Correlation	Significance
Internationalization of the Curriculum	Global Learning	Uses tech to facilitate international activities	.235	.000
	Foreign Language Requirement	Length of Foreign Language Requirement	.196	.005
Education Abroad	Strategy to Promote and Increase Numbers in Education Abroad	Number of students international internship	.196	.003
		Administration through study abroad office	.191	.003
		Administration through office in another country	.187	.005
	Funding for Education Abroad	Financial Aid through third-party provider	.193	.006
		Financial Aid through study abroad office	.178	.007
Collaborations and Partnerships	Strategy and Structure for New Collaborations/ Partnerships	Number of active collaborations	.194	.002
		Non-governmental partners abroad	.184	.004
		Non-degree program abroad face-to-face	.164	.008
	Physical Presence Abroad	Presence of a research center abroad	.379	.000
		Having any physical presence abroad	.286	.001
		Having an administrative office abroad	.279	.000
		Having a study abroad center for US students abroad	.211	.001

Rankings Score Correlations				
Clusters	Categories	Variables Significant at the p < .001 Level	Correlation	Significance
Comprehensive Internationalization	Level of Internationalization	Level of Internationalization	.316	.000
	Reasons for Internationalization	Generate revenue	-.272	.000
	Priorities for Internationalization	Increasing study abroad for U.S. students	-.253	.000
		Recruiting International Students	-.239	.000
		Internationalization the curriculum	.235	.000
	Funding	Foundations	.376	.000
		Alumni	.312	.000
		Corporations	.185	.007
		Individual Donors	.172	.010
		Fundraising campaign to support activities	.209	.001
International Students	Support Programs	IEP programs	-.240	.000
		Bridge programs	.268	.000
		Number of Support Programs	.206	.001
Faculty and Faculty Development	Incentives/Encouragement for International Activity	Funding for studying or conducting research abroad	.206	.001
Internationalization of the Curriculum	Foreign Language Requirement	Length of Foreign Language Requirement	.245	.000
		Existence of a foreign language requirement	.169	.008

Ranking Score Correlations				
Clusters	Categories	Variables Significant at the p< .001 Level	Correlation	Significance
Education Abroad	Strategy to Promote and Increase Numbers in Education Abroad	Administration through office in another country	.195	.003
	Funding for Education Abroad	Financial Aid through third-party provider	.201	.004
		Financial Aid through study center abroad	.217	.008
		Financial Aid institutions study abroad office	.190	.004
		Financial aid from partner institution abroad	.210	.002
Collaborations and Partnerships	Strategy and Structure for New Collaborations/ Partnerships	Non-degree program abroad face-to-face	.161	.009
	Physical Presence Abroad	Presence of a research center abroad	.287	.000
		Having an administrative office abroad	.192	.002
		Having a study abroad center for US students abroad	.188	.003