The Internationalization of
Higher Education:
Institutional Practices and Global Conceptions

Kumulative Dissertation

der Wirtschaftswissenschaftlichen Fakultät

der Universität Augsburg

zur Erlangung des akademischen Grades eines

Doktors der Wirtschaftswissenschaften

(Dr. rer. pol.)

Vorgelegt von

Jonah Otto, MPA

15.12.2022

Erstgutachter: Prof. Dr. Erik E. Lehmann

Zweitgutachter: Prof. Dr. Jens O. Brunner

Vorsitzender der mündlichen Prüfung: Prof. Dr. Robert Klein

Tag der mündlichen Prüfung: 02.05.2023

List of Contributions

This thesis contains the following contributions which have been published in scientific journals, scientific books or scientific reports.

Contribution 1
Otto, J.M., Zarrin, M., Wilhelm, D. & Brunner, J.O. (2021). Analyzing the Relative Efficiency of Internationalization in the University Business Model: the Case of Germany. *Studies in Higher Education*. *46*(5), 938-950.
https://doi.org/10.1080/03075079.2021.1896801

Contribution 2
Lehmann, E.E., Otto, J.M., Weiße, L. & Wirsching, K. (2022). Internationalization Meets Digitalization: Entrepreneurial Responses in Higher Education to the COVID 19 Pandemic. In: Audretsch, D.B., Kunadt, I.A.M. (eds) *The COVID-19 Crisis and Entrepreneurship* (pp. 229-240). International Studies in Entrepreneurship (vol. 54). Springer: Cham.
https://doi.org/10.1007/978-3-031-04655-1_16

Contribution 3
Otto, J.M. (2021). The Impact of Evolving Transatlantic Relations on International Partnerships in Higher Education. *Journal of Comparative & International Higher Education*. *13*(5), 164-176.
https://doi.org/10.32674/jcihe.v13i5.3657

Contribution 4
Audretsch, D.B., Lehmann, E.E. & Otto, J.M. (2022). The Emergence of the Global University. *UNESCO & GUNi Higher Education in the World Report: New Visions for Higher Education towards 2030*. UNESCO 2022 World Higher Education Conference: Barcelona.
https://www.guninetwork.org/files/guni_heiw_8_complete_-_new_visions_for_higher_education_towards_2030_1.pdf

Acknowledgments

In arriving at the point where I can submit this thesis, I have accumulated so many people to thank that have made this all a reality for me. Knowing that I can never thank everyone enough, an act which would require its own book, I would like to take this opportunity to recognize the individuals that have guided me with advice and provided me with support along the way. The following people have played significant roles in the professional, academic and personal parts of my life, and without them, realizing this dissertation would not have been possible.

First, I'd like to thank those that began mentoring me in the early stages of my career and encouraged me to take the leap to pursue my passion for the internationalization of higher education – Dr. Ronald Rochon, Heidi Gregori-Gahan and Chemain Nanney. They all entrusted me with opportunities and responsibilities at an early age that helped me to refine my vision for my future and how I wanted to pursue my goals, and for that I will be forever grateful. Here I would also like to thank the teams of the US Consulate in Scotland, CCS and the Eliminate Campaign, Radius Indiana, the O'Neill School of Public and Environmental Affairs and my colleagues from other work experiences that have also shaped my career thus far.

Second, I want to also thank those that have been formative in my academic journey – all of my colleagues at the Chair of Management and Organization, Prof. Dr. David B. Audretsch and the Indiana University Institute for Development Strategies, Prof. Dr. Jens O. Brunner and his team at the Chair of Health Care Operations, Prof. Dr. Rebecca Schendel and Prof. Dr. Gerardo Blanco and their colleagues at the Boston College Center for International Higher Education and also to all of my coauthors from my written works thus far, some of which are not included in this thesis. Here I would also like to specifically express my gratitude to my PhD supervisor, Prof. Dr. Erik E. Lehmann, who took a big chance on me as an unproven researcher from a foreign land and brought me under his wing in order to start my academic development. I'll never forget the kindness and support that he has shown me throughout this whole process, allowing me to think and dream big in order to get to where I am today.

Finally, I want to thank everyone that has been such a fundamental part of my personal life and brought balance and joy to these past years. There are my

friends, whose encouragement, laughter and unwavering support got me through more than one tough stretch and helped me to feel at home in a new country and culture while still being connected to my roots. I am lucky in that there are far too many to name, but I can mention them in groups – my friends that have stuck with me since childhood and high school, my friends from my undergraduate and graduate college years and my friends I have made since arriving in Augsburg. There is also my family, specifically my parents, siblings, aunts, uncles and cousins who have had my back through thick and thin, and made me feel comfortable in going after my dreams, no matter what crazy plan I cooked up in order to make it a reality. There is then my partner Veronika, to whom I have so, so much to be grateful for. She has brought me into her family and given me a home in every sense. She teaches me and challenges me in ways that help me to grow as a person daily. She has been there for me at every turn over the last couple of years, believing in me when I doubted myself. Frankly, without her this thesis would have been impossible. For her, I am incredibly thankful.

Table of Contents

1. Introduction

Higher education can be broadly defined as the tertiary, or post-secondary, level of education that occurs in different forms and formats across the globe (Wagner, 1998). The institutions which provide higher education are consequently referred to as higher education institutions (HEIs). HEI is thus an inclusive term which accounts for every institutional category that exists in the higher education space – from two-year colleges, to colleges of art and music, to universities of applied sciences, to doctoral granting research universities and more (Geschwind & Broström, 2022; Knight, 2004). This also includes privately controlled HEIs and those that are funded and governed by the public sector (Volkwein & Parmley, 2000). While the institutional mechanisms, beneficiaries and stakeholders of HEIs may vary from context to context (geographical, political, historical, administrative, etc.), the commonly accepted traditional missions of HEIs remain constant: teaching, research and service to society (Lehmann et al., 2020).

The first two missions, while complex in application, are rather straightforward in conception. HEIs fulfill the mission of teaching through the production of graduated students, who are then equipped with the knowledge necessary to take on leadership roles in their public and private lives. Research is then the production of knowledge, or the search for objective truth through the application of the scientific method, which often comes in the form of scholarly publications, i.e., books, journal articles, reports, etc. Service to society, also known as the 'third mission', is more open to context-driven interpretation and has largely become a catch-all way of describing the various positive externalities that are produced by HEIs for the broader society (Civera et al., 2018; Otto et al., 2021).

The internationalization of higher education (to be more extensively discussed in Section 1.1 of this thesis), while existing to some extent since the advent of higher education itself (Detweiler, 2021; de Wit, 2002; Vestal, 1994), has in recent decades rapidly altered the higher education landscape by substantially impacting how and why HEIs pursue their missions, as well as who is tasked with this pursuit and the geographical and institutional contexts in which it takes place (Altbach & Knight, 2007; Audretsch et al., 2022; de Wit & Hunter, 2015; Hudzik, 2015; Knight, 2004). The visible signs of the internationalization of higher

education, such as student and academic staff mobility, came into a clearer focus following the conclusion of World War II and became a part national soft power strategies (Bettie, 2015; Nye, 2005; Vestal, 2004). Numbers of internationally mobile actors in higher education increased exponentially and a professional field of specifically trained and qualified administrators emerged to accommodate this surge, while professional associations and network organizations also came about in order to develop support systems and best practices for this work (de Wit, 2002).

This global trend in higher education, that is, the recognition of the internationalization of higher education and its intentional incorporation into higher education strategy and practice, has created a multitude of thought-provoking questions as to what this process means, not only for higher education and HEI outcomes, but also for societies themselves – both locally and globally (Marginson, 2022b). These questions span different areas of knowledge in order to account for the vast array of higher education's stakeholders, including the scientific disciplines of education, higher education, sociology, anthropology, political science, public policy, management sciences, economics and entrepreneurship, among a multitude of others (Marginson, 2022a; Mukudi Omwami & Shields, 2022). As these questions resulting from the internationalization of higher education are interdisciplinary in nature, an interdisciplinary, yet distinct academic field arose in order to address them. Consequently, since the early 1990s, the scientific community for researching the internationalization of higher education has built up the traditional accoutrements of an academic field – academic journals, research institutes, publications, conferences, etc. (de Wit, 2002; Knight, 1994; Mukudi Omwami & Shields, 2022).

Operating within the academic field of the internationalization of higher education, this thesis begins by further explicating the theoretical underpinnings of the discipline, describing some of the key ways in which it materializes in practice and presenting the most current debates and developments in the field, while also interweaving historical context throughout. These aims are addressed in the remaining sections of the introduction. Following the introduction, the thesis pivots to detailing previously published contributions to the field and discussing where they are placed within the larger body of literature. Next, the scholarly contributions themselves are presented, reproduced with the permission of the original publishers.

Lastly, a conclusion is provided in order to adequately address key takeaways, discuss limitations to the thesis and explore avenues for future research.

1.1   Defining the Internationalization of Higher Education

Following the aforementioned sharp increase in the inward and outward academic mobility of students and faculty members, particularly in the amount of students crossing borders for full degree programs, attention in both the academic and professional fields turned to finding agreed-upon terminology that encompassed this phenomenon. Vestal (1994) points out that the need arose due the use of multiple terms that varied depending on the expertise of the person attempting to label the concept. By the late 1980's, practitioners and professional associations in North America mostly came to refer to the field as 'international education' or 'international higher education', while those in Europe accepted the phraseology of, 'the internationalization of higher education' (de Wit, 2002). In practitioner circles, these terms are commonly understood as describing the same concept (de Wit, 2002). Despite there being differences in the practice-oriented naming conventions between these two continents, academics in the field from most regions have adopted the expression, 'the internationalization of higher education', or simply, 'internationalization', when the higher education context is already understood. Thus, this thesis accepts and uses this terminology as well. It is additionally important to note that Europe and North America had the highest concentration of both scholars and practitioners during the coalescence of the academic field, and thereby had outsized influence in establishing the norms in the naming and defining of the term (Marginson, 2022c).

From this nascent stage until today, the definition of the internationalization of higher education has been changed, revised and updated several times. It is also still debated within the literature, and appears poised to be revisited periodically in the future as well. As an emerging scholarly field, this is unsurprising – as the theoretical work in the area has deepened alongside paradigm shifts that have occurred in broader social science research, the understanding of the internationalization of higher education has changed and the definition has also been refined accordingly (Otto, 2021; Otto et al., 2021). The remainder of this subsection outlines the main definitional developments since the early 1990's.

Recognizing the ambiguity and lack of parameters for the concept that existed without a united definition, Knight (1994) proposed the first definition of the internationalization of higher education that became more broadly accepted throughout the field, having found initial traction that other attempts had lacked. Noticing that prior attempts at a definition had been too narrow in that they focused on certain contexts or particular programmatic activities, such as mobility, Knight sought to present a definition that placed focus on the process of internationalization, avoided normative tone and considered institutions as key actors. Consequently, she contributed the following:

> *"Internationalization of higher education is the process of integrating an international dimension into the teaching/learning, research and service functions of a university or college. An international dimension means a perspective, activity or service which introduces or integrates an international/intercultural/global outlook into the major functions of an institution of higher education."* (Knight, 1994, p. 3)

With this definition, Knight intended to equip the field with a wide, yet refined scope which would then allow for a consensus understanding and a pathway to assess the practice. By giving the internationalization of higher education a conceptual frame, this definition intended to highlight the importance of the field's legitimacy and development, limit confusion and give stakeholders a means of discussing the concept (Knight, 1994).

Over the next decade, criticisms arose concerning Knight's initial definition. It was highlighted that the institutional focus of the description was too narrow, and ignored the role of broader interest and policy at the national and supranational levels (van der Wende, 1997). Other scholars advocated for sharper attention to be paid to the internationalization of higher education as a managerial process of change (Soderqvist, 2002). While other scholars proposed new definitions which attempted to take the shortcomings of Knight's previous definition into account (Knight, 2004), ultimately Knight was successful in establishing her own updated definition that would become the generally accepted, and most cited, definition until the current era (de Wit, 2020):

"Internationalization at the national, sector and institutional levels is defined as the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of postsecondary education." (Knight, 2003, p. 2).

In a second publication which shortly followed the introduction of this updated definition, Knight went into extensive detail in order to explain and justify the different elements that are included therein. To sum, the different terms in the definition are intentionally selected in order to produce a description that is adequately generic so that it can describe the internationalization of higher education across a wide array of locational and systemic contexts, each of which has their own set of stakeholders, underlying motivations and cultural expectations (Knight, 2004). While again seeking to give the field guiderails, Knight was successful in creating a definition which allows the reader to understand the internationalization of higher education as an ongoing effort that involves stakeholders at multiple levels and includes all of the activities and strategies that are undertaken under the purview of internationalization in order to improve mission achievement in higher education (Otto et al., 2021).

In the early 2010's, Brandenburg and de Wit (2011) observed that the internationalization of higher education was moving in a direction where an assumption of its altruism could in some contexts be used to advocate for policies and programs which exploited uneven power-dynamics in order to economically benefit actors from certain locational contexts over others, particularly favoring the 'West'/'Global North'. As these trends continued, scholars began to search for ways in which the understanding of the internationalization of higher education could be recalibrated so that the focus remained on quality and less on economic motivations (de Wit & Hunter, 2015). As a result, in a report commissioned by the European Parliament, additions to Knight's 2003 definition were proposed to re-conceptualize the internationalization of higher education as,

"the intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all

students and staff, and to make a meaningful contribution to society." (de Wit et al., 2015, p. 29)

This update sought to emphasize that the process of internationalization is one that is strategic and intentionally engaged in, that inclusion should be a priority, that quality of outcomes is central to the purpose and that the global society is a stakeholder in the concept as well, not just individuals, institutions or nations (de Wit et al., 2015). Despite being well-received by several key research institutions and scholars in the field, some criticized the new update as being too normative in nature, and so far Knight's 2004 definition is still the most widely acknowledged and referenced (de Wit, 2020; Knight, 2021).

1.2   Theoretical Rationales

The motivations, or rationales, for why different actors and stakeholders may actively engage in the internationalization of higher education have been alluded to in the previous subsection, but will be more explicitly detailed here. The definition of internationalization helps with understanding *what* the phenomenon is, and the rationales for participation in the process then also illuminate *who* is taking part and *why*. Consequently, the combination of *who* and *why* is then highly predictive in explaining *how* respective stakeholders engage in the process of the internationalization of higher education. While many scholars have worked in this area, de Wit's (2002) thorough classification of rationales, their characteristics and their dynamic relationships is the commonly accepted foundational work for this concept within the field (Knight, 2004).

He notes that stakeholders typically hold multiple rationales simultaneously, but the rationales themselves, and how influential they are, are indeed individual to the values and priorities of each particular stakeholder or stakeholder group within their own particular context and level. Further, there exists a large amount of mutually shared rationales between different stakeholders, but differences in how those stakeholders make decisions and engage in the process owes largely to their hierarchy of priorities (de Wit, 2002). Important here is that it is also possible for the priority rankings of rationales to change for a stakeholder over time as a reaction to the myriad ways that each stakeholder's context may develop and evolve as well. While acknowledging that some rationales may crossover into more than one

category, de Wit groups the rationales for the internationalization of higher education into four categories: political, economic, social/cultural and academic (de Wit, 2002).

The political rationales for the internationalization of higher education include, but are not limited to, fostering foreign policy, enabling national security, providing technical assistance (international development aid/capacity building), promoting peace and mutual understanding, and building national or regional identity (de Wit, 2002). These political rationales were typically the chief priority of the first stakeholders to actively promote and engage in the internationalization process following World War II, that is, state, national and regional governments, and these rationales remain important to the current day (Bettie, 2015; Lebovic, 2013). Accordingly, despite the fact that these rationales may also rank highly for other stakeholders, governments are keenly involved in the internationalization of higher education in part to achieve political goals (de Wit, 2002; Knight, 2004; Otto, 2021). This relates closely to the concept of higher education being a component of a nation's 'soft power', which amplifies the nation's influence on the global stage and becomes a key piece of diplomatic strategy (Bettie, 2015; Lebovic, 2013; Nye, 2005).

The non-exhaustive list of the economic rationales for the internationalization of higher education are cultivating economic growth and competitiveness, improving the quality of the labor market, alleviating internal national educational demand and generating income for HEIs and governments (de Wit, 2002). In recent decades, the economic rationales have become the most dominant worldwide. As has been widely documented in the literature (Audretsch et al., 2022; Altbach & Knight, 2007; Brandenburg & de Wit, 2011; de Wit et al., 2015; Otto et al., 2021), governments have placed more and more pressure on HEIs to adopt private sector practices and to be more receptive to the needs of local, regional and national economies. As a consequence, the internationalization of higher education in those contexts is being viewed more as a way of ensuring that HEIs can be more financially self-sufficient (replacing government funding with international student tuition fees) and produce more graduates that are best equipped to contribute to overall economic growth (Altbach & Knight, 2007; de Wit, 2002).

Cultural and social rationales for the internationalization of higher education refers to the ability of the process to be used by stakeholders to promulgate cultural and social values, qualities or ideals (de Wit, 2002). Evidence of this for cultural rationales can be found in national institutes that are designed to promote exchange and instruction in/on cultural history, native language education, cultural norms, etc., in addition to HEIs that prioritize internationalization as a means of promoting intercultural understanding (Audretsch et al. 2022; Knight, 2004). Conversely, social rationales are more usually a higher priority for individual stakeholders, such as students. Here the main concern is the social development of the individual that internationalization provides, encouraging students to engage with and understand global issues, become more independent and even develop a more nuanced perspective of their home country and culture (de Wit, 2002; Lehmann et al., 2022).

Academic rationales also emerge as a fundamental source of rationales for the internationalization of higher education, largely because the foundational purpose of the practice is to enhance the quality of teaching, research and service mission achievement (de Wit et al., 2015; Hudzik, 2011; Otto, 2021). Here, HEIs and other higher education stakeholders incorporate international, intercultural and global dimensions and perspectives into teaching and learning so that graduates are able to more fully and completely understand the interconnected nature of their fields of study, imparting nuance unto these students (de Wit, 2002; Knight, 1994). Likewise, internationalization of research and service to society enables the highest possible amount of diversity and collaboration, spawning idea creation and innovative practices which produce the most thorough and holistic outcomes (Audretsch et al., 2022; Beelen & Jones, 2015; Otto et al., 2021).

Noteworthy is the more recent addition of another category by Streitwieser et al. (2019), which they refer to as the humanistic rationale for the internationalization of higher education. This rationale also moves in the direction of the definition of internationalization from de Wit et al. (2015), in that it seeks inclusivity and looks towards the use of internationalizing higher education to adress issues relating to civil/human rights and other benefits that work in accordance with conceptions of higher education as a public or common good (DeLaquil, 2019; Marginson, 2011). While the underlying reasoning of adding this category of rationales is gaining more traction in the wider developments in the

field (see Section 1.4) some scholars argue that humanistic rationales actually fall within the social/cultural rationale category, and as a result it is often not separately listed in the literature (Knight, 2021). See Table 1 below for Knight's (2004) visual depiction of the rationales for the internationalization of higher education, building on the previous work of de Wit (2002).

Table 1: *Rationales Driving Internationalization* (Knight, 2004)

Rationales	Existing—National and Institutional Levels Combined
Social/cultural	National cultural identity
	Intercultural understanding
	Citizenship development
	Social and community development
Political	Foreign policy
	National security
	Technical assistance
	Peace and mutual understanding
	National identity
	Regional identity
Economic	Economic growth and competitiveness
	Labour market
	Financial incentives
Academic	International dimension to research and teaching
	Extension of academic horizon
	Institution building
	Profile and status
	Enhancement of quality
	International academic standards
	Of Emerging Importance—
Level	**National and Institutional Levels Separated**
National	Human resources development
	Strategic alliances
	Commercial trade
	Nation building
	Social/cultural development
Institutional	International branding and profile
	Income generation
	Student and staff development
	Strategic alliances
	Knowledge production

1.3   Primary Modes of Comprehensive Internationalization

After having fully described what the internationalization of higher education is and how it is defined, as well as having delineated why various stakeholders engage in the process at different levels, it is then also necessary to discuss how HEIs themselves implement internationalization in their individual contexts. In the early 2010s, Hudzik (2011) identified that a gap existed in the field – that there was no clear theoretical description of how HEIs intentionally act upon the internationalization of higher education from an institutional point of view. He then set out to answer the essential question of how HEIs can implement internationalization as an institutional strategy in order to improve mission achievement (Otto, 2021; Otto et al., 2021). His resulting theoretical contribution is known as 'comprehensive internationalization', which he defines as,

"...a commitment, confirmed through action, to infuse international and comparative perspectives throughout the teaching, research and service missions of higher education. It shapes institutional ethos and values and touches the entire higher education enterprise. It is essential that it be embraced by institutional leadership, governance, faculty, students and all academic service and support units. It is an institutional imperative, not just a desirable possibility." (Hudzik, 2011, p. 6)

Hudzik's theoretical approach therefore provides a directive to HEIs, arguing that in order to best employ internationalization to improve outcomes for the three traditional missions of teaching, research and service to society, HEIs must be truly comprehensive in their approach (Hudzik, 2011, 2015; Hudzik & McCarthy, 2012). This implies that every stakeholder involved with service delivery within the three mission areas must be engaged and empowered by HEI leaders and policy-makers to build internationalization into the core of what they do (Otto, 2021; Hudzik & Stohl, 2012). The advantage of the comprehensive internationalization approach is that it explicitly involves other HEI activities outside of the academic mobility of students and faculty members, imploring HEIs to engage with the broader body of literature which inform on other strategies that HEIs can make use of in order to expand their internationalization efforts in an inclusive manner which provides growth opportunities for stakeholders that are unable to participate in mobility programs (Hudzik, 2011, 2015; Knight, 2021).

Because of its applied nature, comprehensive internationalization theory caught on very quickly with practitioners in the field, resulting in HEIs building comprehensive internationalization into their institutional mission statements (Otto et al., 2021). This level of integration signaled a significant increase in the internationalization of higher education becoming much more intentional and strategic in nature at the institutional level, with HEIs serving as proactive, participatory stakeholders (Hudzik & Stohl, 2012; Knight, 2021; Otto, 2021). Additionally, thought-leading professional associations and governmental resources for internationalization practitioners began putting together comprehensive internationalization resources for institutional level implementation, effectively promoting the theory as a best practice for HEIs (Hudzik, 2011; Hudzik & McCarthy, 2012). See Figure 1 below for the American

Council on Education's visualization of comprehensive internationalization (ACE, 2022).

Figure 1: *ACE Model for Comprehensive Internationalization* (ACE, 2022)
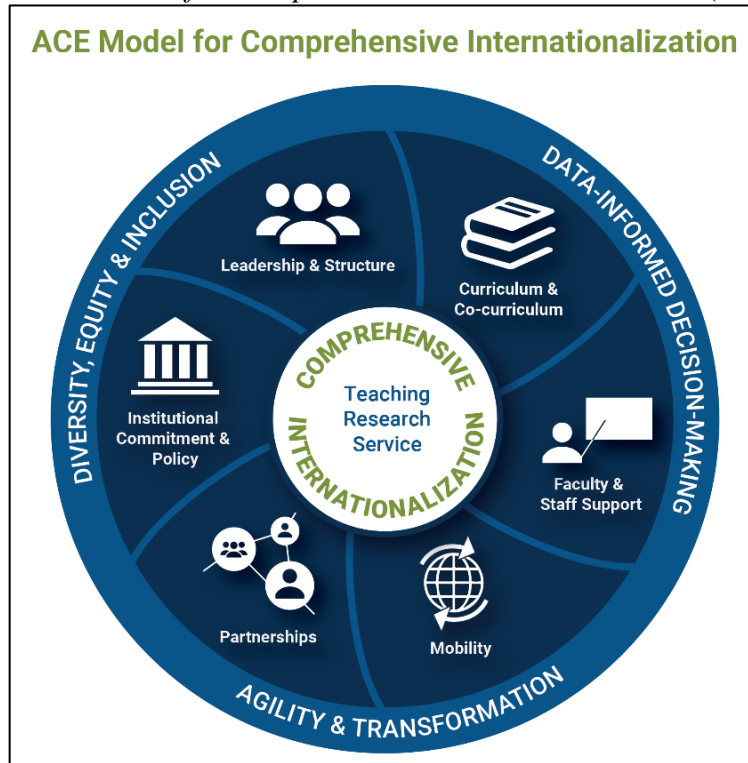
As can be observed in the model above, comprehensive internationalization strategies can be broken into six overarching target areas, all representing different manners in which institutions can integrate international, intercultural and/or global perspectives to their operational approaches to achieve their three missions (ACE, 2022). Importantly, such a model simultaneously promotes mobility alongside the concept of 'internationalization at home' (Beelen & Jones, 2015), which focuses on the ways in which HEIs can internationalize their approach to the traditional missions on their own campuses without relying on physical mobility alone (Hudzik, 2015). This then makes it possible to identify and implement programs across the HEI that further entrench comprehensive internationalization throughout the institution, as Hudzik notes,

> *"Comprehensive internationalization can be seen as inclusive of all or some of the following: study abroad, [recruiting] international students and scholars, [internationalizing] on-campus curriculum, languages, world-region and thematic global expertise, cross-border research/scholarship/service, global problem solving and international*

development activity, globalizing institutional ethos, and building global connections and partnerships." (Hudzik, 2011, p.19-20)

This wide-ranging perspective then covers all of the activities and programs that HEIs can employ to pursue the internationalization of higher education in way that aligns with the resources and priorities that they have (Hudzik, 2015; Knight, 2021) and the missions that they emphasize (Jungblut & Jungblut, 2017). This also brings the 'internationalization of the curriculum' into focus, which calls for faculty and staff to intentionally integrate internationalization into degree programs, courses and course materials in order to maximize benefits in the mission of teaching by empowering students to consider global nuances and perspectives, regardless of whether or not they are able to participate in mobility programs (Harari, 1992; Leask, 2013, 2015). The theoretical implications of comprehensive internationalization theory thus provide a lens for understanding the practical manifestations of the internationalization of higher education which are currently witnessed at HEIs around the globe (Otto, 2021).

1.4   Current Debates & Trends

As the prior sections have been dedicated to displaying the main evolutions of theory and practice throughout the modern era of the field, the section at hand turns its attention to the more recent and ongoing debates and trends in the literature. The description of the prior points provides clues as to how the academic discourse is developing to address previous blind spots and unconsidered perspectives, nuance and context. While still largely dominated by key scholars, research institutes, professional associations and governmental organizations, the broadening of perspectives in the field has created space for new academic voices as well (Cantwell et al., 2022; Mukudi Omwami & Shields, 2022). These new perspectives are largely influential in that they are informed by critical analyses that build upon/stem from broader paradigm shifts in geopolitics/international relations, educational psychology/pedagogy, environmental science, human/civil rights and economic theory, among many others. This thesis refers to these elements as 'moderating forces' due to their ability to alter and/or question the understanding of the key theories and practices in the internationalization of higher education – not only the practices themselves, but also their realized impacts on different

stakeholder groups. The general groupings below are not an exhaustive listing of the current disruptive discourses in the internationalization of higher education literature, but they do represent the overlapping key areas that are receiving a large amount of attention in major publications and reports (Bedenlier et al., 2018; Cantwell et al., Marginson, 2022a; Mukudi Omwami & Shields, 2022).

Diversity, Equity and Inclusion

A call that has been present in the literature for some time, but that is also gaining in frequency and intensity, is the push to make the internationalization of higher education more diverse, equitable and inclusive (Özturgut, 2017). While many earlier studies have pointed out disproportionate numbers of white participants in internationalization programs, primarily short-term mobility (Sweeney, 2013), more recent papers have looked to expand the academic discourse to the entire spectrum of barriers that exist for participating in the activities within comprehensive internationalization and receiving the resulting benefits (Contreras et al., 2020; DeLaquil, 2019; Hartman et al., 2020). These nuances are being explored from student, faculty, institutional and global perspectives (Marginson, 2022b).

At the global level, scholars have sought to identify the source of the inequalities and power imbalances that lead to a lack of diversity, equity and inclusion in internationalization and have uncovered a Western/Global North bias in the way in which the higher education system functions globally (Buckner & Stein, 2019; de Wit, 2019; Marginson, 2022b). This has led to critical work on the dominance of English as the scientific lingua franca (Valcke, 2020), the usage of international branch campuses (Clarke, 2021; Xu, 2021), exploitation of power relations in global partnerships (Lanford, 2021), a lack of engagement with institutions in the east (Altbach & de Wit, 2015) and global south (Dutta, 2020), a lack of recognition of, and respect for, indigenous knowledge (Huaman et al., 2019; Patel, 2017), the use of university ranking systems (Hazelkorn, 2009, 2015; Marginson, 2007; Marope et al., 2013) and a number of other elements reacting against neocolonial/neoliberal practices and policies in the internationalization of higher education that favor Europe and North America (Beck, 2021; Jones & de Wit, 2014). Recently, this has also led some scholars to question the efficacy of

having a definition for the internationalization of higher education, arguing that 'methodological nationalism' inherently influenced the creation of Knight's definition and leads to exclusive, inequitable and exploitative practices favoring a western paradigm (Lally, 2021; Marginson, 2022b). As themes concerning diversity, equity and inclusion continue to proliferate in the social consciousness and public discourse, it is expected that the focus on this thematic area in the literature will continue (Mukudi Omwami & Shield, 2022).

Environmental Impact and Sustainability

Following with many other academic fields, the ongoing and increasing impacts of climate change have caused scholars analyzing the internationalization of higher education to become more interested in sustainability studies and the relationship between internationalization and environmentalism (Chasi & Heleta, 2022). While the influence of international collaboration on environmental research is being investigated (Jappe, 2007), this trend has chiefly involved evaluating the environmental impacts of internationalization activities, with most studies providing critical analysis on programs that involve extensive travel and proposing alternative programmatic modes (Ramaswamy et al., 2021). Collaborative online international learning (Rubin & Guth, 2015) has been receiving more and more attention in the literature as an alternative, particularly due to necessity during the Covid-19 pandemic (Audretsch et al., 2022; Lehmann et al., 2022), but also as a way of reducing the environmental impact of mobility programs. Further, there are calls for increased train travel for exchange programs as opposed to planes, and scholars are also publishing works critiquing the practice of annual internationalization conferences that are exclusively held in-person and require the use of travel and environmental resources (Chasi & Heleta, 2022). As the incidence of natural disasters and the general public's awareness of the global threat posed by climate change both increase, one can also expect more research conducted in this area.

The Emphasis on Mobility

Noted throughout most of the literature summarized in this thesis so far, academic mobility has long served as a main focus of internationalization activities, not only from research and practice, but also from governments and the public as

well (Altbach & Knight, 2007; de Wit, 1995; Knight, 2004). This is largely in part to the fact that it is visible and easily demonstrable, and therefore easier for leaders and policy-makers to conceptualize and evaluate while also producing strong emotional responses from program participants (de Wit et al., 2015). The leading scholars do not dispute the benefits of academic mobility, but rather highlight that the downsides (environmental impact, exclusivity of access, etc.) are mostly neglected in the broader discussion of the topic (de Wit, 2020; de Wit & Altbach, 2021). Additionally, scholars specializing in comprehensive internationalization theory (Hudzik, 2011, 2015; Hudzik & McCarthy, 2012; Hudzik & Stohl, 2012), internationalization at home (Beelen & Jones, 2015), and internationalization of the curriculum (Harari, 1992; Leask, 2020) note that the overemphasis on mobility also ignores the fact that mobility is just one part of the overall internationalization of higher education picture and also ignores the existence of alternatives (Lehmann et al., 2022; Rubin & Guth, 2015). Despite this accepted stance in the literature, governments and large swaths of the practitioner community continue to emphasize mobility over other internationalization activities (de Wit & Jones, 2021), so it is likely that articles critically analyzing mobility will continue to be published in reaction to this ongoing practice.

Critical Analysis of Economic Rationales

Also receiving prior attention in this thesis is the rise of the economic rationales into a highly dominant position amongst the motivating forces for the internationalization of higher education (Altbach & Knight, 2007; de Wit, 2002, 2019, 2020). Scholars observed that at multiple levels, the economic rationales have been winning out. Governments seek to attract top talent to their labor pool while also best training their domestic workforces, HEIs seek to supplement decreases in state funding with the tuitions and fees of international students and recruitment agents seek individual commissions for the students that they send to cross-border HEIs, amid a plethora of other examples (Altbach & de Wit, 2020; Altbach & Knight; 2007; de Wit & Altbach, 2021). The economic benefits of these actions is clear, but scholars observing these trends quickly identified ways in which the prioritization of economic rationales over the other motivating factors leads, in many cases, to negative outcomes for a significant number of stakeholders (de Wit, 2002; Knight, 2004). Overly pursuing the financial gains of the internationalization

of higher education can result in a lack of attention to a comprehensive internationalization agenda, an exploitation and severe brain drain of the East/Global South, financially unsustainable practices, a lack of care for international students once they are on campus, unequal power relations in global partnerships, ignoring environmental responsibility and more (de Wit et al., 2015; Hartman et al., 2020; Hudzik, 2011; Lanford, 2020; MacLeod & Urquiola, 2021). This has also contributed to the development of the previously discussed literature on inclusive internationalization (DeLaquil, 2019) and humanistic rationales for internationalization (Streitwieser et al., 2019), as well as calls for returning to the pursuit of higher education for the public/common good (Detweiler, 2021; Marginson, 2011).

Two of the most current topics in the literature which emphasize a recalibration of the rationale prioritization for the internationalization of higher education are scholarship on 'knowledge diplomacy' (Knight, 2015, 2017, 2018, 2022) and the 'internationalization of higher education for society' (Brandenburg et al., 2019; Brandenburg et al., 2020; Jones et al., 2021). In her theoretical work on knowledge diplomacy, Knight places the emphasis upon the political and academic rationales for internationalization, viewing the broader international exchange of knowledge as a matter of global diplomatic importance in its power to respond to and solve worldwide problems – such as pandemics, hunger, poverty, etc. (Knight, 2015). While still placing the internationalization of higher education within the 'national/nation-state container' (Lally, 2021; Marginson, 2022b), Knight is careful to move away from considering internationalization within a power-relation paradigm that aligns it with self-interested motivations that may lead again to western exploitation (Knight, 2015, 2022; Nye, 2005). Instead, Knight advocates for collaboration toward shared beneficial outcomes, stating that the internationalization of higher education,

"...has the opportunity of moving beyond its preoccupation, with the knowledge economy, and takes a proactive role to ensure that knowledge is effectively used to address worldwide challenges and inequalities, by recognizing the mutuality of interests and benefits. Is higher education ready to take a lead in promoting the notion of knowledge diplomacy and not remain stuck, in the soft power frame of self-interest and dominance?" (Knight, 2015, p.9)

Nearly simultaneous to the work on knowledge diplomacy, the notion of the internationalization of higher education for society has been developing since the early 2010's (Brandenburg & de Wit, 2011; de Wit et al., 2015). Instead of looking to the motivations for internationalization for direct recalibration, scholars in this strand of the literature have focused on the third mission of higher education itself, service to society, and worked to determine what this third mission looks like in a modern world and how all aspects of the internationalization of higher education should be pursued in a way that meaningfully contributes to a shared, global society (Brandenburg et al., 2019; Jones et al., 2021). Determining that higher education has a global social responsibility through its third mission, these researchers argue that internationalization leaders and policy-makers have an imperative to not only pursue competition and financial gain, but instead to prioritize higher education as serving the common good more broadly (i.e. locally and globally), and that doing so must include an alignment of international activities and engagement to strive toward that goal (Jones et al., 2021).

This development in the literature faces opposition from two sides. On the one hand, so far most governments, some influential international organizations, for-profit firms that work in the sector and many segments of the practitioner world have been slow to move away from a focus on the economic rationales because of the financial and influence-related benefits provided by the way the internationalization of higher education has largely operated in recent decades (de Wit, 2019, 2020; de Wit & Altbach, 2021; de Wit & Jones, 2021). On the other hand, this theoretical development has also been criticized for not going far enough to deconstruct underlying ideologies that limit the ways in which higher education has been conceptualized and, in some cases, misused (Marginson, 2022b). The spirited nature of this debate, moving in more than one direction, makes it highly probable that the discussion will be an influential determinant for the direction in which the literature, and field writ large, will move in the coming years.

2. Discussion of Contributions

Having introduced internationalization as a concept, both as an area of professional practice and as an academic field of research, this thesis has established a definition and frame of reference for the topic, and has elaborated on the way that key streams of literature have developed over time until today. The attention now turns to the nature and variety of scholarly contributions to the modern themes in the literature, and individual papers are introduced as contributions to this thesis. Below are brief descriptions of four contributions and their place in the overall body of the internationalization of higher education literature. These contributions then constitute Sections 3, 4, 5, and 6 of this thesis, respectively. Due to legal requirements of the various contributor agreements for each contribution, the contributions are reproduced in the specific form allowed by each respective publisher. For this reason, some technical formatting elements are not consistent across the contributions and the other sections of this thesis.

2.1 Testing Theoretical Underpinnings of HEI Internationalization Practices via Empirical Analysis Tools

The first contribution, "Analyzing the Relative Efficiency of Internationalization in the University Business Model: the Case of Germany," was originally published in the journal, *Studies in Higher Education*, in 2021 (Otto et al., 2021). The paper takes a closer look at comprehensive internationalization theory, which asserts that thorough internationalization of all components of HEI service provision enhances the quality of HEI performance in achieving its three missions (Hudzik, 2011, 2015), as well as university business model theory, which conceptualizes the modern university as an entrepreneurial and innovative organizational unit (Miller et al., 2014). The authors explore these theories as they relate to relative efficiency by employing data envelopment analysis methodology (Charnes et al., 1978) to determine the relative efficiency scores of a homogenous sample of HEIs, and the scores are respectively derived from overall HEI, as well as internationalization, resource inputs and performance outputs (Otto et al., 2021). Otto et al. (2021) then investigated a potential relationship between the two sets of efficiency scores to determine if there is a relationship between relative efficiencies in internationalization and overall university mission achievement. While they

found no direct correlation, their analysis sheds light on the nature of relative efficiency in HEI internationalization efforts, which provides insights to HEI leaders and policy-makers about future strategic resource allocation decisions (Otto et al., 2021). This paper contributes to the streams of literature on comprehensive internationalization and university business models by using an empirical methodology not previously used in the specific field, as well as by testing the underlying assumptions of practices that have become commonplace in the internationalization of higher education.

2.2 *Exploring the Entrepreneurial & Innovation-driven Nature of the Internationalization of Higher Education*

The second contribution, "Internationalization Meets Digitalization: Entrepreneurial Responses in Higher Education to the COVID-19 Pandemic," (Lehmann et al., 2022) was originally published as a chapter in the edited volume, *The COVID-19 Crisis and Entrepreneurship* (Audretsch & Kunadt, 2022). In this work, the authors utilize case study methodology in order to observe the ways in which academic actors employed entrepreneurial and innovative thinking and practices to overcome the limitations to internationalization activities that were caused by the COVID-19 pandemic (Lehmann et al., 2022). Combining interviews and documentary evidence of the case, as well as applying international partnership theory from Hoseth and Thampapillai (2018) and theory from Rubin and Guth (2015) concerning the application of collaborative online international learning, the chapter details how three universities from different countries utilized digital technologies in an innovative way to deliver a meaningful intercultural academic experience for students, despite the fact that none of the program participants or faculty members could travel to conduct the program in-person (Lehmann et al., 2022). This paper contributes to comprehensive internationalization, internationalization at home, collaborative online international learning and entrepreneurial education streams of literature by providing evidence of how these theories can be applied simultaneously in order to provide positive outcomes for multiple HEI stakeholder groups.

2.3 Investigating the Impact of Exogenous Factors on Internationalization Practices & Outcomes in Higher Education

The third contribution, "The Impact of Evolving Transatlantic Relations on International Partnerships in Higher Education," was originally published in the *Journal of Comparative & International Higher Education* in 2021 (Otto, 2021). The paper investigates the effects of macro-level exogenous shocks in geopolitics and examines the effect that they have on the ability of HEIs to achieve their missions (Otto, 2021). In doing so, this article builds a conceptual model to show how progressive transatlantic relations between Europe and the United States historically enabled HEIs in both locations to expand their international partnerships and collaborations in order to implement internationalization programming, and thus, enhance the achievement of their three traditional missions (Otto, 2021). Further, this work also analyzes case study examples of modern regressive transatlantic relations and finds that the inverse also holds true – that these developments inhibit HEIs' ability to partner internationally, leading to a decrease in HEI internationalization effectiveness; and therefore, weakens HEIs' mission achievement (Otto, 2021). This paper contributes again to the comprehensive internationalization literature by demonstrating a direct connection between internationalization implementation and university mission achievement, and also adds to the knowledge diplomacy/political rationale literature by evidencing the role of higher education partnerships in global geopolitics.

2.4 Applying Internationalization Best Practices at the Institutional Level to Gain Competitive Advantages in Higher Education

The fourth contribution, "The Emergence of the Global University," was originally published as an article in the *Higher Education in the World Report 8: New Visions for Higher Education towards 2030*, which was presented at the 2022 UNESCO World Higher Education Conference (Audretsch et al., 2022). The authors set out to delineate the terminology of the 'global university' as a descriptor of HEIs that increase their competitive advantages by rejecting commodification of knowledge and cooperating internationally in order to create and distribute value to their stakeholders (Audretsch et al., 2022). In the course of this investigation, the

paper defines the global university and separates it from its predecessor models by describing the phases of modern HEI development and evidencing how global universities must build genuine relationships with their international partners in order to achieve the best results in internationalization and general institutional performance (Audretsch et al., 2022). The article contributes to international higher education partnership literature (Hoseth & Thampapillai, 2018; Lanford, 2021; Sandström & Weimer, 2016) as well as the streams within the larger body of literature in the field that critically analyze the economic rationales of the internationalization of higher education (Brandenburg et al., 2020; Jones et al., 2021).

3. Analyzing the Relative Efficiency of Internationalization in the University Business Model: the Case of Germany

Otto, J.M., Zarrin, M., Wilhelm, D. & Brunner, J.O. (2021). Analyzing the Relative Efficiency of Internationalization in the University Business Model: the Case of Germany. *Studies in Higher Education. 46*(5), 938-950. https://doi.org/10.1080/03075079.2021.1896801

4. Internationalization Meets Digitalization: Entrepreneurial Responses in Higher Education to the COVID-19 Pandemic

Lehmann, E.E., Otto, J.M., Weiße, L. & Wirsching, K. (2022). Internationalization Meets Digitalization: Entrepreneurial Responses in Higher Education to the COVID 19 Pandemic. In: Audretsch, D.B., Kunadt, I.A.M. (eds) *The COVID-19 Crisis and Entrepreneurship* (pp. 229-240). International Studies in Entrepreneurship (vol. 54). Springer: Cham. https://doi.org/10.1007/978-3-031-04655-1_16

5. The Impact of Evolving Transatlantic Relations on International Partnerships in Higher Education

Otto, J.M. (2021). The Impact of Evolving Transatlantic Relations on International Partnerships in Higher Education. *Journal of Comparative & International Higher Education*. *13*(5), 164-176. https://doi.org/10.32674/jcihe.v13i5.3657

6. The Emergence of the Global University

David B. Audretsch*, Erik E. Lehmann** & Jonah Otto**

*Indiana University and Department of Innovation Management & Entrepreneurship, University of Klagenfurt

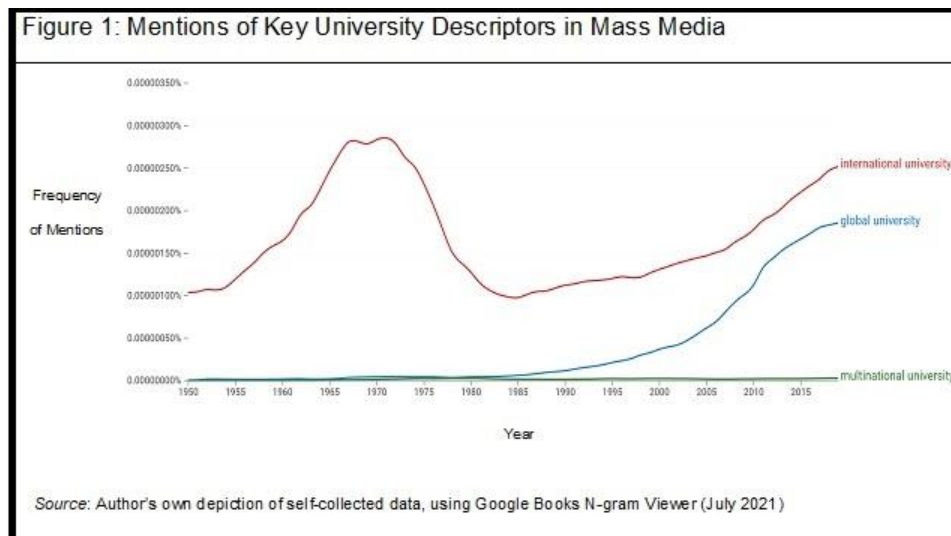**Chair of Management & Organization, University of Augsburg

Abstract

This paper explains the constituents of the Global University, what differentiates it from its predecessor, the reasons for its emergence and why it is likely that global universities will acquire competitive advantages in the future. The global university represents a sharp departure from the conventional Humboldt university model in that the source of value is not dictated by traditional academic disciplines or "knowledge for its own sake", but rather, as has been the case for the entrepreneurial university run by a broad range of external stakeholders. However, these stakeholders have an increasingly global perspective, in which students, faculty, research and societal impact are not geographically bounded by city, regional or national borders. Commodified education, research and societal impact will rarely be able to compete in the globalised market for higher education services/products. Instead, the competitive advantage for the Global University emerges in services and products that resist commodification, in that they are firstly based on authentic relationships. This paper provides relevant examples of best practices for globalising teaching, research and social impact. The paper concludes that the successful Global Universities of tomorrow will prioritise authentic relationships to provide unique and compelling value to global stakeholders.

Introduction: Defining the Global University and its Mission

In the past decade it has been a trend to label universities acting beyond their national borders as 'global universities'. Since the fall of the Soviet Union, large swaths of the world have become truly global for the first time – global, in the sense that these interactions and markets have become globally connected and interrelated. Since their emergence in the 11th century, universities have been part of the internationalization and globalization of the world. While internationalization has become a major strategic focus of universities in recent decades, particularly in Anglo-Saxon countries, global universities have become a pervasive phenomenon in more recent years, which is reflected by attention from media, academia and policy makers around the globe (see Figure 1). The term 'international university'

has been popular since the 1960s; meanwhile, the term 'global university' has entered media nomenclature mostly in the new millennium.

Figure 1: Mentions of Key University Descriptors in Mass Media

Source: Author's own depiction of self-collected data, using Google Books N-gram Viewer (July 2021)

There has been extensive previous debate in the higher education literature which attempts to precisely delineate the scope of use for the term, 'global university', amongst other previously mentioned identifiers such as 'international' and 'multinational'. Some scholars have tied the definition to notions of citizenship, arguing that universities which belong within a certain nation, as technically determined by their charter, cannot claim to be a global university since they do not officially represent the entire world (Ayoubi, 2019). This reasoning then argues that a vast majority of universities are rather multinational, international or national universities, depending on their locational classification in their charters as well as their composition along student, staff and curricular dimensions (Ayoubi, 2019). Others take a much broader view, claiming that a global university is an institution that engages within a globalized marketplace for students, researchers and knowledge through many of the modern strategies and operations of university internationalization (Wildavsky, 2012). Following in this vein, McGillivray et al. provided a nuanced definition at the Global University Symposium in 2010:

> "A global university pays attention to the trends in economics, science, technology and the movement of goods and people and capital across transnational borders. The institutions that take steps to capture those opportunities are, in my view, global institutions (McGillivray et al., 2010)."

This paper incorporates and builds upon these findings and views to explore the inner workings and motivations of the global university as a model for university mission achievement (de Wit, 2015). The aforementioned positions of Wildavsky (2012) and McGillivray, et al. (2010), the theoretical works of de Wit (2000; 2002), Knight (2004) and Altbach and Knight (2007) which establish the origins and motivations of international higher education to improve university performance and the interpretation of entrepreneurial university studies summarized in Otto et al. (2021), all contribute to this work's understanding of the emergence of the modern global university. The present study moves beyond the rise of the global university to also determine what the global university manifests and how it manifests it, thus accounting for the aforementioned curricular, student, staff and citizenship stances of Ayoubi (2019) and Beelen and Jones (2015), as well as Hudzik's theoretical work connecting internationalization to all university functions (2011; 2015) and also the best practices for sustainable university international partnerships established by Sandström and Weimer (2016) and Hoseth and Thampapillai (2018).
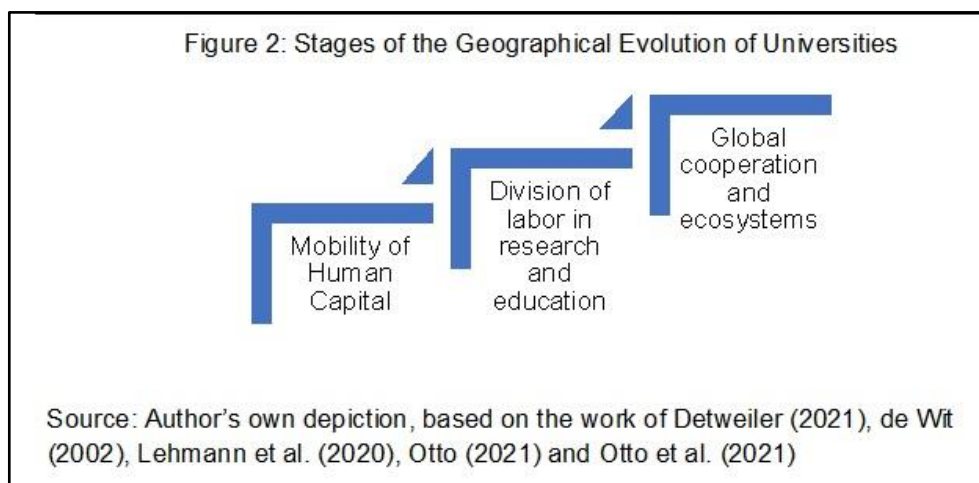
This study contributes to this existing body of literature by positing that the rise of the global university as a functional model is the response of higher education to broader globalization trends. This work also fills a research gap by asserting that the global university creates and distributes value to its stakeholders through relationship-based partnerships which facilitate the improved achievement of the university missions of teaching, research and service to society. Here it is argued that within the competitive global landscape of higher education, universities must take on the identity of 'global universities' to rise above the zero-sum notion of competition. They must cultivate meaningful, relational partnerships internationally to improve service delivery to their stakeholders, thereby becoming more attractive and competitive through cooperation in the worldwide contest for the best students, researchers, funding and other resources. These relational partnerships provide the foundation which universities need to pursue the vast array of teaching, research and service performance opportunities that are enhanced through international collaboration (Altbach & Knight, 2007; Otto et al., 2021). Under this framing, the ability to successfully implement the global university ethos is vital to the ability of a university to be internationally relevant amongst peers – a prerequisite in the

modern higher education ecosystem. Global universities then connect with other global universities in order to create value for their stakeholders which they cannot create alone.

With an understanding of the global university explicated, this work continues by detailing its evolution, how it creates and distributes value and how it is measured and assessed. A brief summary of key findings concludes.

The Evolution of the Global University: from Human Capital and the Humboldtian model, to Internationalization and Division of Labor, to the Emergence of the Global University

For simplicity, three stages in the evolution of universities can be identified. First, there is the human capital and labor mobility stage, where the focus of universities was on offering a focal point for students and academics. The second stage is characterized by the division of labor among universities in an international context, exchanging students and academics. In the third stage, universities truly cooperate in the global context. See Figure 2 for a graphical depiction of this progression.

Figure 2: Stages of the Geographical Evolution of Universities

Mobility of Human Capital

Division of labor in research and education

Global cooperation and ecosystems

Source: Author's own depiction, based on the work of Detweiler (2021), de Wit (2002), Lehmann et al. (2020), Otto (2021) and Otto et al. (2021)

However, in defining their relevant stakeholders, universities have diversified in the last century, in particular between the Anglo-Saxon universities and the continental European universities. The latter are mostly still in the tradition of the Humboldtian university system, where science is undertaken for its own sake and, if there are stakeholders at all, the major stakeholder is the society as a whole – since universities are mostly publicly financed. The Anglo-Saxon countries have

diverged from the Humboldtian model, particularly after WW2, shifting towards the demands of industry and the customers within the university business model approach – the students (Otto et al. 2021). Of particular note are the emergence of business schools in the Anglo-Saxon Countries in the beginning of the 20th century and the shift from public to private finance via tuition fees. Following a 'business model approach' to maximize revenues, these universities increased their efforts toward attracting students from abroad to increase the revenues from fees (see Table 1), which could then help in making up funding gaps from governments. This drastically shaped the geographical expansion of universities around the globe. Within the last decades, a third player has entered the landscape. Asian universities, in particular those from China, have also started their expansion beyond their national border.

Table 1: Total International Students Enrolled in Post-Secondary Institutions by Destination Country: 2000, 2010 and 2017

Year	2000	2010	2017
Panel A. Students from China			
Australia	5,008	87,588	128,498
Canada	4,701	26,298	66,161
United Kingdom	6,158	55,496	96,543
United States	50,281	126,498	321,625
Panel B. Students from India			
Australia	4,578	20,429	51,976
Canada	969	5,868	32,616
United Kingdom	3,962	38,205	16,421
United States	39,084	103,968	142,618
Panel C. Students from South Korea			
Australia	2,361	7,311	8,316
Canada	1,116	4,320	5,277
United Kingdom	2,165	4,347	5,157
United States	38,026	71,514	56,186

Source: Bound et al. (2021)

Geographical expansion, the evolution from national towards international and global universities, has become a strategic decision of both universities and governments, which has led to competition for both high quality and wealthy students beyond the local geographic proximity. Beyond tuition fees, donations and investments made by industry have also become a major source of finance, expecting returns on their investments. Consequently, universities have invested in cross-border internalization in several ways, such as close cooperations with

partnering universities, contractual programs or by direct investments with their own subsidies to satisfy the needs of industry and of the students. The 'war for talent' has become the slogan as globalization has exploded, resulting in an increased demand for talent from industry and a pressure upon universities as filtering institutions and providers of talent. Thus, one explanation of the global university can mainly be seen in the recent and future demands of their main stakeholders, or who they perceive their main stakeholders to be.

As every country feels a part of the global society and economy, policy makers, university leaders and governmental officials prefer their institutions to be branded as global universities. This branding has thus become part of the university business model strategy, particularly in the Anglo-Saxon countries where it can serve as a market signal. This is exemplified by Global University Systems B.V. (GUS), a private limited company registered in the Netherlands, founded in its present form and name in 2013 by Russian-born British entrepreneur Aaron Etingen, who serves as chairman, CEO and majority stockholder. As a corporate group, GUS owns and operates several private for-profit colleges and universities that attract fee-paying international students in the UK, Canada, Israel and Europe, as well as other brands and companies in the education sector. The consequences of these market mechanisms impact global talent development, the resources of colleges and universities, and labor markets in the United States and the countries sending students (Bound et al., 2021).

Despite these commercial aims, a paradigm shift has happened in universities in the Anglo-Saxon countries, as well as in Europe, towards value-driven concepts - particularly public and societal value. The interest in social value is growing and universities are confronted with questions about what value they add, since the public expects them to help with recent and future problems that they face. Stakeholders not only expect universities to work efficiently, but also that they contribute to solutions for society. To deliver public and societal value, universities need to be focused on their outcomes, precisely defining their contributions and measuring their results in terms of public and social value. Contributions for society are defined by how universities work on issues connected to climate change, migration, inequality, natural disasters, pandemics, etc., that are global in nature. Providing social and public value requires a global division of labor in scientific

research and knowledge production, evidenced by the efforts of universities acting in a global scientific ecosystem to help develop a vaccine against Covid-19.

Thus, the emergence of the global university goes far beyond the example of the GUS as a profit maximizing organization with subsidies around the globe. The global university, in the sense understood within this paper, constitutes the logical evolution of universities as the main source of a global knowledge production function, generating knowledge spillovers to solve global problems. Even when recent developments such as Brexit, populist nationalism and the Covid-19 pandemic have pushed towards de-globalizing the higher education sector (Otto, 2021), the globalized university tends more than ever to dominate the higher education landscape. With the global contagion and resulting social and economic problems, crisis-management also has had to become global. Modern, worldwide challenges require global cooperation instead of fragmented national responses. Therein lies the call for the global university.

How Global Universities Leverage Relational Partnerships to Create & Distribute Value

As the key driver of a global university's international value creation, partnerships with outside institutions, be they other universities, governments, NGOs, etc., serve as the platform for designing and implementing the programmatic portion of internationalization (Hoseth & Thampapillai, 2018; Otto, 2021; Otto et al., 2021; Sandström & Weimer, 2016). These partnerships foster positive performance outcomes including language learning, student and staff mobility, international experiential learning, multinational research consortiums, curricular development, etc.; therefore allowing each engaging partner to uniquely expand and improve upon its missions of teaching, research and service to society by implementing the programs that these bilateral and multilateral partnerships enable (Hoseth & Thampapillai, 2018; Hudzik, 2011). In this way, global universities improve their performance and create better value quality, and quantity, for their stakeholders by engaging and cooperating with one another to maximize the benefits of higher education internationalization – enforcing the notion that universities can, in fact, compete globally by cooperating globally in a strategic manner.

Since partnerships themselves are not a new or novel phenomenon, global universities must execute them in the most effective way possible to maximize benefits and gain competitive advantages for all participants. Despite the myriad opportunities for performance enhancement and expansion listed above, previous studies have generally concluded that developing a high quantity of partnerships is not the best strategy for realizing these goals (Hoseth & Thampapillai, 2018; Sandström & Weimer, 2016). Rather, global universities must be more strategic in partnership selection, focusing on quality by seeking out other global university partners that can achieve multiple internationalization value creation objectives simultaneously (Sandström & Weimer, 2016). This is best accomplished through relational partnership building where the global universities involved seek deeper and more nuanced partnerships built upon mutual interests and values, where the institutions engage with one another through multiple programs of various scope, thus creating an entire portfolio of activity within the partnership. These nuanced and multidimensional collaborations generate knowledge spillovers through their inherent interdisciplinarity, which further distills value for stakeholders (Lehmann et al., 2020). Relational partnerships are then naturally more sustainable as well, since they become ingrained into the institutions themselves and are not only fueled by individual administrative or academic personnel (Hoseth & Thampapillai, 2018; Sandström & Weimer, 2016).

The partnership between Indiana University (USA) and the University of Augsburg (Germany) serves as a detailed example of how global universities leverage a relational partnership in order to realize value creation for their stakeholders that they would be unable to generate on their own. Stemming originally from a personal relationship between two professors, the respective university apparatuses seized the opportunity to make the partnership institutional in nature – moving from a starting point of isolated research projects to include student publications, internationally-mixed student group consultancy projects, faculty-led study abroad programming, visiting faculty stays and research visits, co-hosted administrative summits, guest lectures and symposiums and semester-long student exchange programs. Over time, Indiana University established an office in Berlin, the IU Europe Gateway (among multiple other worldwide locations), which provides staff and space to help support such initiatives. Each additional program

and initiative is designed to address one or more of the traditional university missions (teaching, research and service to society) and has brought new faculty members, administrative staff and students into the fold. This has increased the interconnected depth and breadth of the partnership to not only spread across each university's various faculties, but also to include one another in their respective broader partnership networks that include other global universities and organizations, further increasing connections, opportunities and spillovers. This nature of intentional partnership expansion has greatly increased the number and quality of personal relationships between the internal stakeholders of the two universities which, in turn, improves the quality and institutional trust in the overall partnership. Bearing these qualities of shared interests, values and authenticity, the relationship is better leveraged by both institutions to act upon new opportunities, create additional value for one another and seize the resulting benefits (Sandström & Weimer, 2016). Additional information regarding this case can be found on the associated university webpages.[1234]

Global universities that leverage relational partnerships are able to lean on the trust and experience established in those partnerships to operate more quickly and flexibly than what is normally possible for such large, process-oriented, bureaucratic institutions (Hoseth & Thampapillai, 2018; Sandström & Weimer, 2016). Not only does this provide first-mover benefits for partnering global universities to capitalize on new possibilities in the higher education marketplace, but it also enables participating universities to respond quickly, creatively and appropriately in times of change or crisis such as Brexit or the COVID-19 Pandemic (Otto, 2021).

In the case of the latter, the relationship between Indiana University and the University of Augsburg again demonstrates this point. Directly after the outbreak of the pandemic, both universities were able to rely on the shared trust and history with one another to swiftly alter plans and move international programs online, utilizing new platforms and tools to continue creating value for stakeholders by

---

[1] https://international.oneill.indiana.edu/
[2] https://www.uni-augsburg.de/de/fakultaet/wiwi/prof/bwl/lehmann/summer-school/
[3] https://assets.uni-augsburg.de/media/filer_public/c5/1f/c51fff50-7736-4a30-b87c-7105354aadfe/inside_view_special_issue.pdf
[4] https://global.iu.edu/presence/gateways/europe/index.html

keeping international education opportunities alive. Through the relational partnership, these global universities were able to pivot into a digital learning and engagement space to continue delivering student exchange programming, student group projects, consultancy services for external organizations, guest lectures, etc. This allowed the partners to not only continue to create value for their existing stakeholders in teaching, research and service, but to also expand their reach and attract interest from new audiences and participants.

How Global Universities are Measured and Assessed

Understanding that the goal and orientation of global universities are geared towards utilizing relational partnerships and networks in order to improve mission achievement in teaching, research and service to society, it follows that at the top level, they are assessed based on their overall performance in these categories. While universities of all sizes and prestige levels are able to assert themselves as global universities as well, elite research institutions are deemed to be employing these concepts in such a way as to differentiate themselves from their competitors, particularly their peers originating in the same national geographic context (U.S. News and World Report, 2021). While there is certainly debate in the literature regarding the nature, composition, use and methodology behind global university ranking and evaluation systems (Marginson, 2007; Rauhvargers, 2011; van Vught & Ziegele, 2011), the U.S. News and World report utilizes the above rationale in assessing the top 1,500 global universities with select metrics which measure academic and research performance as well as regional, national and international reputation (U.S. News and World Report, 2021).

The geographic distribution of the top 1,500 global universities then demonstrates the individual countries that are excelling in this arena at the moment (see Table 2), and a look to the rankings, dating back to the origin of this system nearly a decade ago, shows how the importance of the concept has dispersed internationally over time (U.S. News and World Report, 2021). While the U.S. News and World Report's findings are generally held with high regard, the other points of view in the literature suggest that measurement and assessment of global universities may develop and become more nuanced over time to more adequately represent the effectiveness of leveraging relational partnerships to create value and

mutual benefits, regardless of institutional reputation, national/cultural context or prestige writ large (Marginson, 2007; Rauhvargers, 2011; van Vught & Ziegele, 2011).

Table 2: Top 25 Country Locations of Global Universities

COUNTRY	NUMBER OF UNIVERSITIES IN THE TOP 1500	PERCENTATGE OF THE UNIVERSITIES IN THE TOP 1500
United States	255	17.0%
China	176	11.7%
United Kingdom	87	5.8%
France	70	4.7%
Germany	68	4.5%
Japan	65	4.3%
Italy	58	3.9%
Spain	48	3.2%
India	46	3.1%
South Korea	41	2.7%
Australia	39	2.6%
Brazil	38	2.4%
Canada	36	2.4%
Turkey	36	2.4%
Iran	31	2.1%
Poland	24	1.6%
Taiwan	21	1.4%
Russia	19	1.3%
Egypt	16	1.1%
Austria	14	0.9%
Chile	14	0.9%
Sweden	14	0.9%
Netherlands	13	0.9%
South Africa	13	0.9%
Portugal	12	0.8%

Source: Author's own depiction of data provided by the US News & World Report (2021)

The Future of the Global University

The recent Covid-19 pandemic emphasizes that in the last two decades, the world has been facing many natural epidemics or outbreaks which have had global health concerns, e.g., SARS virus in 2003, Bird Flu virus in 2008 and Ebola in 2010, all requiring global solutions. While every nation maintains and applies its unique politics and mechanisms to stay healthy, cope with inequality, handle migration, etc., global solutions are necessary. These must be based on knowledge created in global knowledge production functions within global ecosystems that have global universities as the heart and core of them. While much of the recent debate is about joint knowledge production and spillovers to solve natural diseases like the pandemic, global universities are also looking back to their 'Humboldtian' roots in

the sense that they generate knowledge and public value beyond the commercializing of the knowledge spillovers in the short-term future. To do so, they expand their reach, influence and effectiveness by building relational partnerships with one another that allow them to achieve more for their stakeholders together than what they can on their own. While recent nationalist and protectionist movements may hinder the mobility of students and scientists for now, they will not hinder the continued emergence of the global university in the future.

7. Conclusion

In summary, this thesis has concerned itself with the academic field of the internationalization of higher education, defining the concept and discussing its historical evolution, its significance for the stakeholders of higher education, its practical implications, its current theoretical debates and the likely short-term future of the literature. This work also set about introducing and discussing current scholarly contributions to the field and explaining where they fit within the broader internationalization of higher education literature strands and followed by including the contributions themselves. After the previous six sections, it is now useful to paraphrase some key takeaways from this body of work.

- The internationalization of higher education exists in both theory and practice, having both academic and professional fields. It has been a part of higher education since the infancy of the concept of the university, but has proliferated since the resolution of World War II. This increase has resulted in an intensification in the attention it receives from all higher education stakeholders, and has also brought about a diverse and interdisciplinary field of research.

- The academic field of the internationalization of higher education is still relatively new, but has had many major developments over a short period – a vast majority occurring over the last 30 years. In that time, the very definition of the concept has been, and continues to be, debated in the literature and theory has directly informed/influenced practice and policy-making at the institutional, regional, national and supranational levels. Additionally, current trends in the literature are poised to shape the academic work, and potentially the practice, in the field for years to come. There is a consensus in the field that, when implemented appropriately, the internationalization of higher education improves HEIs' ability to achieve its missions of teaching, research and service to society. Much debate continues in the literature as to what constitutes an 'appropriate' implementation.

- The field of research for the internationalization of higher education is inherently broad, owing to its interdisciplinary nature.

Contributions to the field range from micro-level operational analyses and empirical studies on the impact of internationalization programs on institutions and participants, to macro-level conceptual papers about the role of higher education in our global society and establishing frameworks describing the role of the internationalization of higher education in international relations and geopolitics. The sample of contributions included in this thesis are evidential of this breadth.

This thesis of course has a certain set of limitations. As most of the limitations of the contributions have been listed within the contributions themselves, here the focus is primarily on the limitations of the thesis as a whole. As the purpose of the thesis is to describe the origins of the field with more of an eye towards how they inform the modern construction of that field, a full historical account of the internationalization of higher education is not conducted. Further, the timing of the submission of this thesis does not allow for a consideration of the longer-term impacts that the COVID-19 pandemic will have, not only upon the internationalization of higher education, but also upon higher education itself. Additionally, this submission occurs amid an era of rapid social change, which, as described in Section 1.4, serves as a primary 'moderating force' that heavily impacts the theory and practice of internationalization – meaning that the predictive power of this thesis is severely curtailed due to a lack of knowledge on future paradigm shifts.

However, these limitations, particularly the limitation regarding the implications of moderating forces, provide an agenda for future research. In order to illuminate the role of moderating forces on the theory and practice of the internationalization of higher education, theoretical work must be done to build conceptual frameworks which can describe the nature of this relationship and what it means for the future of higher education in the global sphere. If researchers are able to understand the reactions of the field to broader, global moderating forces, then perhaps they will also be able to best inform policy-makers and practitioners so that they may proactively adjust internationalization strategy to maximize stakeholder benefits, both locally and globally. This research is therefore necessary in order for the internationalization of higher education to meet its global social

responsibility and aid higher education in achieving its missions of teaching, research and service to society – a global society.

8. List of References

Abbott, M., & Doucouliagos, C. (2003). The efficiency of Australian universities: A data envelopment analysis. *Economics of Education Review, 22*(1), 89–97.

Afonso, A., & Santos, M. (2005). Students and teachers: A DEA approach to the relative efficiency of portuguese public universities. *ISEG-UTL Economics Working Paper* (07).

Agasisti, T., Catalano, G., Landoni, P., & Verganti, R. (2012). Evaluating the performance of academic departments: An analysis of research-related output efficiency. *Research Evaluation*, *21*(1), 2–14.

Agasisti, T., & Haelermans, C. (2016). Comparing efficiency of public universities among European countries: Different incentives lead to different performances. *HigherEducation Quarterly*, *70*(1), 81–104.

Agasisti, T., & Johnes, G. (2009). Beyond frontiers: Comparing the efficiency of higher education decision-making units across more than one country. *Education Economics*, *17*(1), 59–79.

Agasisti, T., & Pérez-Esparrells, C. (2010). Comparing efficiency in a cross-country perspective: The case of Italian and Spanish state universities. *Higher Education*, *59*(1), 85–103.

Agasisti, T., & Pohl, C. (2012). Comparing German and Italian public universities: Convergence or divergence in the higher education landscape? *Managerial and Decision Economics*, *33*(2): 71-85.

Ahn, T., & Seiford, L. M. (1993). Sensitivity of DEA to models and variable sets in a hypothesis testing setting: The efficiency of university operations. In: Ijiri, Y. (Ed.), *Creative and Innovative Approaches to the Sciences of Management*. Quorum Books: Westport.

American Council on Education (ACE), (2022). *What is Comprehensive Internationalization?* Washington D.C.: Internationalization Lab.

Altbach, P. G., & de Wit, H. (2015). Internationalization and global tension: Lessons from history. *Journal of Studies in International Education*, *19*(1), 4-10.

Altbach, P. G., & de Wit, H. (2017). Trump and the Coming Revolution in Higher Education Internationalization. *International Higher Education*, 3-5.

Altbach, P. G., & de Wit, H. (2020). Postpandemic Outlook for Higher Education is Bleakest for the Poorest. *International Higher Education*, *102*, 3-5.

Altbach, P. G., & Knight, J. (2007). The Internationalization of Higher Education: Motivations and Realities. *Journal of Studies in International Education*, *11* (3-4): 290-305.

Amiti, M., Redding, S. J., & Weinstein, D. E. (2019). The Impact of the 2018 Tariffs on Prices and Welfare. *Journal of Economic Perspectives, 33*(4): 187-210.

Audretsch, D. B. (2015). *Everything in Its Place: Entrepreneurship and the Strategic Management of Cities, Regions, and States*. Oxford University Press: Oxford.

Audretsch, D. B., & Kunadt, I. A. M. (eds) (2022). *The COVID-19 Crisis and Entrepreneurship.* International Studies in Entrepreneurship (vol.54). Springer: Cham.

Audretsch, D. B., Lehmann, E. E., & Otto, J. M. (2022). The Emergence of the Global University. *UNESCO & GUNi Higher Education in the World Report: New Visions for Higher Education towards 2030*. UNESCO 2022 World Higher Education Conference: Barcelona. https://www.guni-call4action.org/article/emergence-global-university

Audretsch, D. B., Lehmann, E. E., Vismara, S., & Richardson, A. (Eds.). (2015). *Globalization and Public Policy: A European Perspective*. Springer: Heidelberg.

Audretsch, D. B., & Lehmann, E. E. (2016). *The Seven Secrets of Germany: Economic Resilience in an Era of Global Turbulence*. Oxford University Press: Oxford.

Ayoubi, R. M. (2019). What makes a university a 'global university'? *University World News*. https://www.universityworldnews.com/post.php?story=2019040311163065 5

Arcelsus, F., & Coleman, D. (1997). An efficiency review of university departments. *International Journal of Systems Science*, *28*(7), 721–729.

Banker, R., & Chang, H. (2006). The super-efficiency procedure for outlier identification, not for ranking efficient units. *European Journal of Operational Research, 175*(2): 1311-1320.

Banker, R., & Natarajan, R. (2008). Evaluating Contextual Variables Affecting Productivity Using Data Envelopment Analysis. *Operations Research, 56*(1): 48-58.

Banker, R., Natarajan, R., & Zhang, D. (2019). Two-stage estimation of the impact of contextual variables in stochastic frontier production function models using Data Envelopment Analysis: Second stage OLS versus bootstrap approaches. *European Journal of Operational Research, 278*(2): 368-384.

Banks, C., Siebe-Herbig, B., Norton, K. (2016). *Global Perspectives on Strategic International Partnerships: a Guide to Building Sustainable Academic Linkages.* Institute of International Education: Washington D.C.

Basrur, R., & Kliem, F. (2021). Covid-19 and international cooperation: IR paradigms at odds. *SN Social Sciences*.

Beasley, J. E. (1990). Comparing university departments. *Omega*, *18*(2), 171–183.

Beck, K. (2021). Beyond internationalization: Lessons from post-development. *Journal of International Students*, *11*, 133-151.

Beelen, E., & Jones, E. (2015). Redefining Internationalization at Home. In: Curaj, A., et al. (Eds.), *The European Higher Education Area: Between Critical Reflections and Future Policies*. Springer: Cham.

Bedenlier, S., Kondakci, Y., & Zawacki-Richter, O. (2018). Two Decades of Research Into the Internationalization of Higher Education: Major Themes in the Journal of Studies in International Education (1997-2016). *Journal of Studies in International Education*, *22*(2): 108-135.

Bettie, M. (2015). Ambassadors unaware: the Fulbright Program and American public diplomacy. *Journal of Transatlantic Studies*, *13*: 358-372.

Blanco, G., & de Wit, H. (2020). The Response of International Higher Education Associations to COVID-19. *International Higher Education*, 11-12.

Bound, J., Braga, B., Khanna, G., & Turner, S. (2021). The Globalization of Postsecondary Education: The Role of International Students in the US Higher Education System. *Journal of Economic Perspectives*, *35*(1): 163-84.

Brandenburg, U., & De Wit, H. (2011). The end of internationalization. *International Higher Education*, 15-17.

Brandenburg, U., De Wit, H., Jones, E., & Leask, B. (2019). Internationalisation in higher education for society. *University World News*, *20*, 2019.

Brandenburg, U., De Wit, H., Jones, E., Leask, B., & Drobner, A. (2020). *Internationalisation in higher education for society (IHES): Concept, current research and examples of good practice*. German Academic Exchange Service (DAAD).

Buckner, E. (2019). The Internationalization of Higher Education: National Interpretations of a Global Model. *Comparative Education Review*, *63*:3, 315-336.

Buckner, E., & Stein, S. (2019). What Counts as Internationalization? Deconstructing the Internationalization Imperative. *Journal of Studies in International Education*, *24*:2, 151-166.

Cantwell, B., Case, J., & Marginson, S. (2022). 50 years of Higher Education: a critical reflection and thoughts on an evolving agenda. *Higher Education*, 1-13.

Carrington, R., O'Donnell, C., & Prasada Rao, D. S. (2018) Australian university productivity growth and public funding revisited. *Studies in Higher Education*, *43*:8, 1417-1438.

Cavalcante, S., Kesting, P., & Ulhøi, J. (2011). Business model dynamics and innovation:(re) establishing the missing linkages. *Management Decision*, *49*(8): 1327-1342.

Chasi, S., & Heleta, S. (2022). Towards More Sustainable, Equitable and Just Internationalisation Practices: The Case of Internationalisation Conferences. *Journal of Studies in International Education*. 1-18.

Chu Ng, Y., & Li, S. K. (2000). Measuring the research performance of Chinese higher education institutions: an application of data envelopment analysis. *Education Economics*, *8*(2), 139–156.

Civera, A., Lehmann, E. E., Paleari, S. and Stockinger, S. A. E. (2018). Higher Education Policy: Why Hoping for Quality when Rewarding Quantity? Conference on Higher Education in modern Ecosystems: Efficiency, Society and Policies. Augsburg, Germany, March 12–14.

Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research, 2*(6): 429-444.

Clarke, L. (2021). 'To Educate and Liberate?': Moving from Coloniality to Postcoloniality in the International Branch Campus Model. *Journal of Comparative & International Higher Education*, *13*(5), 15-35.

Contreras, E., López-McGee, L., Wick, D., & Willis, T. Y. (2020). Introduction: Special issue on diversity, equity, and inclusion in education abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*, *32*(1), 1-11.

Cunningham, J. A., Menter, M., & O'Kane, C. (2018). Value creation in the quadruple helix: A micro level conceptual model of principal investigators as value creators. *R&D Management, 48*(1): 136-147.

DeLaquil, T. (2019). Inclusive internationalization is innovative internationalization: Purpose-driven higher education against inequity in society. *Inclusive and innovative internationalization of higher education: Proceedings of WES-CIHE Summer Institute*, 5-8.

Detweiler, R. (2021). *The Evidence Liberal Arts Needs: Lives of Consequence, Inquiry, and Accomplishment*. Cambridge, U.S.: MIT Press

de Wit, H. (1995). *Strategies of internationalization of higher education. A comparative study of Australia, Canada, Europe and the United States*. Amsterdam: European Association for International Education.

de Wit, H. (2000). *Changing rationales for the internationalization of higher education. Internationalization of higher education: An institutional perspective*. Bucharest: UNESCO/CEPES.

de Wit, H. (2002). *Internationalization of Higher Education in the United States of America and Europe: a Historical, Comparative, and Conceptual Analysis*. Greenwood Publishing Group: Westport.

de Wit, H. (2015). What is an International University?. *University World News*. https://www.universityworldnews.com/post.php?story=2015031910180116

de Wit, H. (2019). Internationalization in Higher Education, a Critical Review. *SFU Educational Review*, *12*(3): 9-17.

de Wit, H. (2020). Internationalization of Higher Education: the Need for a More Ethical and Qualitative Approach. *Journal of International Students*, *10*(1): 1-4.

de Wit, H., & Altbach, P. G. (2021). Internationalization in Higher Education: Global Trends and Recommendations for Its Future. Eggins, H., Smolentseva, A. & de Wit, H. (Eds.). *Higher Education in the Next Decade: Global Challenges, Future Prospects*. Brill/Sense Publishers: Rotterdam.

de Wit, H., & Hunter, F. (2015). The future of internationalization of higher education in Europe. *International Higher Education*, (83), 2-3.

de Wit, H., Hunter, F., Howard, L., & Egron-Polak, E. (2015). *Internationalisation of Higher Education*. European Parliament: Committee on Culture and Education.

de Wit, H., & Jones, E. (2021). A Missed Opportunity for the Future of HE Internationalisation. *University World News*. https://www.universityworldnews.com/post.php?story=2021110909315074 5

Dutta, M. J. (2020). Whiteness, internationalization, and erasure: Decolonizing futures from the Global South. *Communication and Critical/Cultural Studies*, *17*(2), 228-235.

Dyson, R. G., Allen, R., Camanho, A. S., Podinovski, V. V., Sarrico, C. S., & Shale, E. A. (2001). Pitfalls and protocols in DEA. *European Journal of Operational Research, 132*(2): 245-259.

European Association for International Education. (2015). *Forum: Strategic Partnerships*. Amsterdam: European Association for International Education.

European Commission. (2020). *Erasmus+ Annual Report 2019*. Luxembourg City: European Union.

European Commission. (2021). *How will Brexit impact the Erasmus+ programme?* Brussels: European Commission.

Fitzgerald, C., & Cunningham, J. A. (2016). Inside the university technology transfer office: mission statement analysis. *The Journal of Technology Transfer, 41*(5): 1235-1246.

German Academic Exchange Service (2019). *Custom Generated Report*. Retrieved July 2, 2019, from: https://www.daad.de/en/

German Federal Statistics Office (2020). *Custom Generated Report*. Retrieved February 6, 2020, from: https://www.destatis.de/EN/Home/_node.html

German Patent and Trade Mark Office (2020). *Custom Generated Report*. Retrieved February 20, 2020, from: https://www.dpma.de/english/search/depatisnet/index.html

German Rectors' Conference (2019). *Higher Education Compass*. Retrieved May 10, 2019, from: https://www.hochschulkompass.de/en/study-in-germany.html

Geschwind, L., & Broström, A. (2022). To be or not to be a technical university: organisational categories as reference points in higher education. *Higher Education*, *84*(1), 121-139.

Giraleas, D. (2019) Can we assess teaching quality on the basis of student outcomes? A stochastic frontier application. *Studies in Higher Education*, *44*:8.

Guerrero, M., & Urbano, D. (2012). The development of an entrepreneurial university. *The Journal of Technology Transfer, 37*(1): 43-74.

Harari, M. (1992). The internationalization of the curriculum. *Bridges to the future: Strategies for internationalizing higher education*, 52-79.

Hartman, E., Reynolds, N. P., Ferrarini, C., Messmore, N., Evans, S., Al-Ebrahim, B., & Brown, J. M. (2020). Coloniality-decoloniality and critical global citizenship: Identity, belonging, and education abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*, *32*(1), 33-59.

Hazelkorn, E. (2009). Impact of global rankings on higher education research and the production of knowledge. *UNESCO, Forum on higher education, research and knowledge*.

Hazelkorn, E. (2015). *Rankings and the reshaping of higher education: The battle for world-class excellence*. Springer.

Hobolt, S. B. (2016). The Brexit Vote: a Divided Nation, a Divided Continent. *Journal of European Public Policy*, *23*(9): 1259-1277.

Hogan, M. J. (1987). *The Marshall Plan: America, Britain, and the reconstruction of Western Europe, 1947-1952*. Cambridge: Cambridge University Press.

Hoseth, C., & Thampapillai, S. (2018). *International Partnership Dynamics and Types*. Washington D.C.: NAFSA: Association of International Educators.

Huaman, E. A. S., Chiu, B., & Billy, C. (2019). Indigenous internationalization: Indigenous worldviews, higher education, and Tribal Colleges and Universities. *Education Policy Analysis Archives*, *27*, 101-101.

Hudzik, J. K. (2011). *Comprehensive Internationalization: from Concept to Action*. NAFSA: The Association of International Educators: Washington D.C.

Hudzik, J. K. (2015). *Comprehensive Internationalization: Institutional Pathways to Success*. New York: Routledge.

Hudzik, J. K., & McCarthy, J. (2012). *Leading Comprehensive Internationalization: Strategy and Tactics for Action*. Washington D.C.: NAFSA: Association of International Educators.

Hudzik, J. K., & Stohl, M. (2012). Comprehensive and Strategic Internationalization of U.S. Higher Education. In Deardorff, H. de Wit, J. Heyl, & T. Adams (eds.), *The SAGE Handbook of International Higher Education* (pp. 61-78). London: SAGE Publications.

Inglehart, R. F., & Norris, P. (2016). Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash. *HKS Working Paper, No. RWP16 026*.

Institute of International Education. (2020). *2020 Open Doors Report*. Washington D.C.: Institute of International Education.

Irwin, D. A. (1995). The GATT in Historical Perspective. *The American Economic Review*, 323-328.

Jappe, A. (2007). Explaining international collaboration in global environmental change research. *Scientometrics*, *71*(3), 367-390.

Johnes, J. (2006). Data envelopment analysis and its application to the measurement of efficiency in higher education. *Economics of Education Review*, *25*(3), 273–288.

Jones, E., & de Wit, H. (2014). Globalized internationalization: Implications for policy and practice. *Management*, *33*, 95-104.

Jones, E., Leask, B., Brandenburg, U., & de Wit, H. (2021). Global social responsibility and the internationalisation of higher education for society. *Journal of Studies in International Education*, *25*(4), 330-347.

Jungblut, J., & Jungblut, M. (2017). All different? All equal? Differentiation of universities' mission statements and excellence initiatives in Germany. *Science and Public Policy*, *44*(4), 535-545.

Kaplan, L. S. (2004). *NATO Divided, NATO United: The Evolution of an Alliance*. Westport: Praeger Publishers.

Kempkes, G., & Pohl, C. (2010). The efficiency of German universities–some evidence from nonparametric and parametric methods. *Applied Economics*, *42*(16), 2063-2079.

Kercher, J., & Plasa, T. (2020). *COVID-19 and the impact on international student mobility in Germany*. DAAD: Bonn.

Knight, J. (1994). *Internationalization: Elements and Checkpoints*. CBIE Research No. 7. Canadian Bureau for International Education: Otawa.

Knight, J. (2003). Updated Internationalization Definition. *International Higher Education*, *33*: 2-3.

Knight, J. (2004). Internationalization Remodeled: Definition, Approaches, and Rationales. *Journal of Studies in International Education*, *8*(1): 5-31.

Knight, J. (2015). Moving from soft power to knowledge diplomacy. *International Higher Education*, (80), 8-9.

Knight, J. (2017). Global: Moving from soft power to knowledge diplomacy. In *Understanding Higher Education Internationalization* (pp. 381-382). SensePublishers, Rotterdam.

Knight, J. (2018). Knowledge diplomacy: A bridge linking international higher education and international relations. *British Council*. United Kingdom: London.

Knight, J. (2021). Higher education internationalization: Concepts, rationales, and frameworks. *Revista REDALINT. Universidad, Internacionalización e Integración Regional*, *1*(1), 65-88.

Knight, J. (2022). Knowledge Diplomacy: A Definition and Conceptual Framework. In *Knowledge Diplomacy in International Relations and Higher Education* (pp. 99-111). Springer, Cham.

Kunz, B. (2020). The Evolving Transatlantic Link: What European Response? Disentangling the European SecurityDebate. In M. Quessard, F. Heurtebize, & F. Gagnon, *Alliances and Power Politics in the Trump Era* (pp. 33-51). Cham: Palgrave Macmillan.

Lagadec, E. (2012). *Transatlantic Relations in the 21st Century: Europe, America and the rise of the rest*. London: Routledge.

Lally, M. (2021). Methodological Nationalism and American National Identity in Higher Education Research. *Inclusive and innovative internationalization of higher education: Proceedings of WES-CIHE Summer Institute*, 59-61.

Lanford, M. (2021). Critical perspectives on global partnerships in higher education: Strategies for inclusion, social impact, and effectiveness. *Journal of Comparative & International Higher Education*, *13*(5), 10-14.

Laws, K., & Ammigan, R. (2020). International Students in the Trump Era. *Journal of International Students*.

Leask, B. (2013). Internationalization of the Curriculum and the Disciplines: Current Perspectives and Directions for the Future. *Journal of Studies in International Education*, *17*(2), 99-102.

Leask, B. (2020). *Internationalization of the curriculum, teaching and learning* (pp. 1940-1949). Springer: Netherlands.

Lebovic, S. (2013). From War Junk to Educational Exchange: The World War II Origins of the Fulbright Program and the Foundations of American Cultural Globalism, 1945-1950. *Diplomatic History*, *37*, 2: 280-312.

Lehmann, E. E., Meoli, M., Paleari, S., & Stockinger, S.A. (2017). Approaching effects of the economic crisis on university efficiency: a comparative study of Germany and Italy. *Eurasian Business Review*, *8*: 37-54.

Lehmann, E. E., Meoli, M., Paleari, S., & Stockinger, S. A. (2020). The role of higher education for the development of entrepreneurial ecosystems. *European Journal of Higher Education*, *10*(1): 1-9.

Lehmann, E. E., Otto, J. M., Weiße, L., & Wirsching, K. (2022). Internationalization Meets Digitalization: Entrepreneurial Responses in Higher Education to the COVID 19 Pandemic. In: Audretsch, D. B., Kunadt, I. A. M. (eds) *The COVID-19 Crisis and Entrepreneurship* (pp. 229-240). International Studies in Entrepreneurship (vol. 54). Springer: Cham.

Lehmann, E. E., & Warning, S. (2002). *Teaching or research? What affects the efficiency of universities*. Diskussionsbeiträge: Serie 1, Fachbereich Wirtschaftswissenschaften, Universität Konstanz.

Leitner, K. H., Prikoszovits, J., Schaffhauser-Linzatti, M., Stowasser, R., & Wagner, K. (2007). The impact of size and specialisation on universities' department performance: A DEA analysis applied to Austrian universities. *Higher Education*, *53*(4), 517–538.

Linka, K., Peirlinck, M., Costabal, F., & Kuhl, E. (2020). Outbreak dynamics of COVID-19 in Europe and the effect of travel restrictions. *Computer Methods in Biomechanics and Biomedical Engineering*, 710-717.

MacLeod, W. B., & Urquiola, M. (2021). Why Does the United States Have the Best Research Universities? Incentives, Resources, and Virtuous Circles. *Journal of Economic Perspectives*, *35*(1): 185-206.

Marginson, S. (2007). Global University Rankings: Implications in general and for Australia. *Journal of Higher Education Policy and Management*, *29*(2): 131 -142.

Marginson, S. (2011). Higher Education and Public Good. *Higher Education Quarterly*, *65*(4), 411-433.

Marginson, S. (2017). Brexit: Challenges for Universities in Hard Times. *International Higher Education*, 8-10.

Marginson, S. (2022a). Research on international and global higher education: Six different perspectives. *Oxford Review of Education*, *48*(4), 421-438.

Marginson, S. (2022b). Space and scale in higher education: the glonacal agency heuristic revisited. *Higher Education*, *84*: 1365-1395.

Marginson, S. (2022c). What is global higher education?. *Oxford Review of Education*, 1-26.

Marinoni, G., & van't Land, H. (2020). The Impact of COVID-19 on Global Higher Education. *International Higher Education*. 102, 7-9.

Marinoni, G., van't Land, H., & Jensen, T. (2020). The Impact of COVID-19 on Higher Education around the World. *International Association of Universities*.

Marope, P. T. M., Wells, P. J., & Hazelkorn, E. (Eds.). (2013). *Rankings and accountability in higher education: Uses and misuses*. Unesco.

Mayhew, K. (2017). UK higher education and Brexit. *Oxford Review of Economic Policy*, 155-161.

McAdam, M., Miller, K., & McAdam, R. (2017). University business models in disequilibrium–engaging industry and end users within university technology transfer processes. *R&D Management, 47*(3): 458-472.

McGillivray, K., Lee, C., & Wildavsky, B. (2010). *The Global University Symposium*. Los Angeles: University of Southern California, Rossier School of Education.

McKibbin, W., & Roshen, F. 2020. "The Global Macroeconomic Impacts of COVID-19." *Brookings Institute*, no. March: 1–43.

McMillan, M., & Datta, D. (1998). The Relative Efficiencies of Canadian Universities: A DEA Perspective. *Canadian Public Policy*, *24*(4): 485-511.

Miller, K., McAdam, M., & McAdam, R. (2014). The changing university business model: a stakeholder perspective. *R&D Management, 44*(3): 265-287.

Miller, K., McAdam, R., & McAdam, M. (2018). A systematic literature review of university technology transfer from a quadruple helix perspective: toward a research agenda. *R&D Management, 48*(1): 7-24.

Morphew, C. C., Fumasoli, T., & Stensaker, B. (2018). Changing missions? How the strategic plans of research-intensive universities in Northern Europe and North America balance competing identities. *Studies in Higher Education, 43*(6): 1074-1088.

Mukudi Omwami, E., & Shields, R. (2022). The development of theory in comparative and international education: An analysis of doctoral theses at North American universities. *Research in Comparative and International Education, 17*(4), 566–582.

NAFSA: Association of International Educators. (2020a). *Financial Impact of COVID-19 on International Education*. Washington D.C.: NAFSA: Association of International Educators.

NAFSA: Association of International Educators. (2020b). *NAFSA Financial Impact Survey: Summary Brief*. Washington D.C.: NAFSA: Association of International Educators.

Nye, J. (2005). Soft power and higher education. In *Forum for the future of higher education (Archives)* (pp. 11-14). Harvard University.

Odone, A., Delmonte, D., Scognamiglio, T., & Signorelli, C. (2020). COVID-19 deaths in Lombardy, Italy: data in context. *Lancet Public Health*: published online, April 24, 2020.

Otto, J. M. (2021). The Impact of Evolving Transatlantic Relations on International Partnerships in Higher Education. *Journal of Comparative & International Higher Education*. *13*(5), 164-176.

Otto, J. M., Zarrin, M., Wilhelm, D., & Brunner, J. O. (2021). Analyzing the Relative Efficiency of Internationalization in the University Business Model: the Case of Germany. *Studies in Higher Education*. *46*:5, 938-950.

Özturgut, O. (2017). Internationalization for Diversity, Equity, and Inclusion. *Journal of Higher Education Theory & Practice*, *17*(6): 83-91.

Papadimitriou, M., & Johnes, J. (2019) Does merging improve efficiency? A study of English universities. *Studies in Higher Education*, *44*:8.

Patel, F. (2017). Deconstructing internationalization: Advocating glocalization in international higher education. *Journal of International and Global Studies*, *8*(2), 4.

Perkmann, M., Neely, A., & Walsh, K. (2011). How should firms evaluate success in university–industry alliances? A performance measurement system. *R&D Management, 41*(2): 202-216.

Peters, M. (2020). The crisis of international education. *Educational Philosophy and Theory*, 1233-1242.

Pierce, S. (2019). *Immigration-Related Policy Changes in the First Two Years of the Trump Administration*. Washington D.C.: Migration Policy Institute.

Ramaswamy, M., Marciniuk, D. D., Csonka, V., Colò, L., & Saso, L. (2021). Reimagining internationalization in higher education through the United Nations sustainable development goals for the betterment of society. *Journal of Studies in International Education*, *25*(4), 388-406.

Rauhvargers, A. (2011). *Global University Rankings and their Impact*. Geneva, Switzerland: European University Association.

Rubin, J., & Guth, S. (2015). Collaborative Online International Learning: An Emerging Format for Internationalizing Curricula. Schultheis Moore, A., & Simon, S. (Eds.). *Globally Networked Teaching in the Humanities*. Routledge: New York.

Rumbley, L. (2020). *Coping with COVID-19: International higher education in Europe*. Amsterdam: European Association for International Education.

Sandström, A., & Weimer, L. (2016). *The EAIE Barometer: International Strategic Partnerships.* European Association for International Education: Amsterdam.

Seyfi, S., Hall, C. M., & Shabani, B. (2020). COVID-19 and international travel restrictions; the geopolitics of health and tourism. *Tourism Geographies*.

Simar, L., & Wilson, P. W. (2015). Statistical Approaches for Non-parametric Frontier Models: A Guided Tour. *International Statistical Review, 83*(1): 77-110.

Soderqvist, M. (2002). *Internationalization and its management at higher-education institutions: Applying conceptual, content and discourse analysis*. Helsinki, Finland: Helsinki School of Economics.

Soliman, S., Anchor, J., & Taylor, D. (2019). The international strategies of universities: deliberate or emergent? *Studies in Higher Education, 44*(8): 1413-1424.

Stebleton, M., Soria, K., & Cherney, B. (2013). The high impact of education abroad: College students' engagement in international experiences and the development of intercultural competencies. *Frontiers: The Interdisciplinary Journal of Study Abroad*. Retrieved from the University of Minnesota Digital Conservancy.

Streitwieser, B., Loo, B., Ohorodnik, M., & Jeong, J. (2019). Access for refugees into higher education: A review of interventions in North America and Europe. *Journal of Studies in International Education*, *23*(4), 473-496.

Sweeney, K. (2013). Inclusive excellence and underrepresentation of students of color in study abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*, *23*, 1-21.

Tadaki, M., & Tremewan, C. (2013). Reimagining internationalization in higher education: international consortia as a transformative space? *Studies in Higher Education, 38*(3): 367-387.

Tone, K. (2001). A slacks-based measure of efficiency in data envelopment analysis. *European Journal of Operational Research, 130*(3): 498-509.

Tone, K. (2002). A slacks-based measure of super-efficiency in data envelopment analysis. *European Journal of Operational Research, 143*(1): 32-41.

U.S. News and World Report. (2021). *Best Global Universities Rankings*. Washington, D.C.: U.S. News and World Report.

Valcke, J. (2020). Beyond English-medium education: from internationalization to sustainable education. In *English-medium instruction and the internationalization of universities* (pp. 259-279). Palgrave Macmillan, Cham.

Valero, A., & Van Reenen, J. (2019). The economic impact of universities: Evidence from across the globe. *Economics of Education Review*, *68*: 53-67.

van der Wende, M. (1997). Missing links: The relationship between nationalpolicies for internationalisation and those for higher education in general. InT. Kalvermark & M. van der Wende (Eds.), *National policies for the interna-tionalisation of higher education in Europe* (pp. 10-31). Stockholm: Hogskoleverket Studies, National Agency for Higher Education.

van Vught, F., & Ziegele, F. (2011). *Design and testing the feasibility of a multidimensional global university ranking*. Brussels, Belgium: Consortium for Higher Education and Research Performance.

Vestal, T. M. (1994). *International Education: Its History and Promise for Today*. Praeger Publishers: Westport.

Volkwein, J. F., & Parmley, K. (2000). Comparing administrative satisfaction in public and private universities. *Research in Higher Education*, *41*(1), 95-116.

Vismara, S., Wirsching, K., & Otto, J. M. (2019). David B. Audretsch, a Gatekeeper and Globetrotter. In E. E. Lehmann & M. Keilbach (Eds), *From Industrial Organization to Entrepreneurship: A Tribute to David B. Audretsch* (479 488). Springer: Cham.

Wagner, A. (1998). Redefining tertiary education. *Organisation for Economic Cooperation and Development. The OECD Observer*, (214), 14.

Warning, S. (2004). Performance Differences in German Higher Education: Empirical Analysis of Strategic Groups. *Review of Industrial Organization, 24*(4): 393-408.

Web of Science (2020). *Custom Generated Report*. Retrieved January 30, 2020, from:
http://apps.webofknowledge.com/WOS_GeneralSearch_input.do?product=WOS&search_mode=GeneralSearch&SID=D1XexVIBd57QmNJ9Zvr&preferencesSaved=

Wildavsky, B. (2012). *The Great Brain Race: How Global Universities are Reshaping the World*. Princeton: Princeton University Press.

Xu, Z. (2021). Examining neocolonialism in international branch campuses in China: A case study of mimicry. *Journal of Comparative & International Higher Education*, *13*(5), 72-85.

Yang, R. (2017). The cultural mission of China's elite universities: examples from Peking and Tsinghua. *Studies in Higher Education, 42*(10): 1825-1838.

Zott, C., & Amit, R. (2010). Business model design: an activity system perspective. *Long Range Planning, 43*(2-3): 216-226.

Zott, C., Amit, R., & Massa, L. (2011). The business model: recent developments and future research. *Journal of Management, 37*(4): 1019-1042.