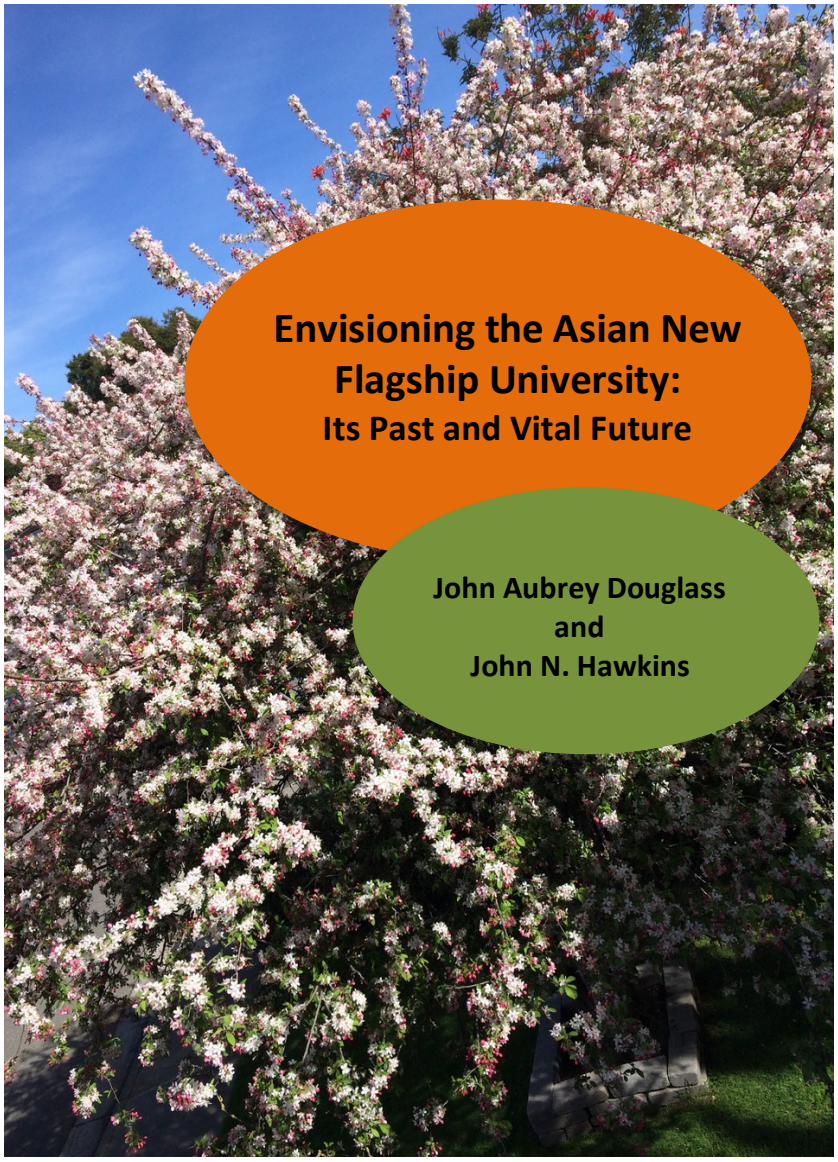
Envisioning the Asian New Flagship University:
Its Past and Vital Future
John Aubrey Douglass
and
John N. Hawkins

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Introduction: The Asian *New Flagship University*—Seeking a Yi Liu Future

John Aubrey Douglass (UC Berkeley) and
John N. Hawkins (East-West Center/UCLA)

To a degree unmatched in other parts of the globe, the notion of a "World Class University" (WCU) and the focus on its close relative, global rankings of universities, dominates the higher education policymaking of ministries and major universities in Asia. Just focusing on China for the moment, in the late 1990s, and in the midst of a dramatic investment in and re-organization of China's higher education system, ministerial officials asked researchers at Shanghai Jiaotong University to help devise a way to understand the quality of its national universities. There existed national rankings of institutions in the US, with most serving as consumer guides for prospective students. But there was no global ranking of universities. Focused on the concept of research productivity as the primary indicator of quality and the marker of the best universities in the world, the first Academic Ranking of World Universities (ARWU) was generated for the Chinese government and became a regular publication beginning in 2003.

Why the attention almost exclusively on research productivity and a few key markers of prestige, like Nobel Laureates? One major reason was, and is, that globally retrievable citation indexes (also a relatively new phenomenon) and variables such as research income are now readily available and not subject to the labor intensive, and sometimes dubious, efforts to request and get data from individual institutions.

But another reason is the sense that research productivity and influence remain the key identifiers of the best universities. The ancillary is that other primary missions of the most influential universities, such as high quality undergraduate and graduate education, a devotion to public service, universities as pathways for socio-economic mobility and regional economic development, are less important and, ultimately, harder to measure. Yet these are also key activities that require nurturing and expansion for top universities in Asia, and in the larger world.

Around the same time as the publication of the first ARWU, the mantra of what is and what is not a "World Class University" emerged in full force. This was influenced by the growing anxiety among many nations that they lacked one or more top-tier research universities, which they considered to be crucial

to their economic competitiveness. NGOs like the World Bank argued that most developing economies should strive to replicate such universities.

Because the character, behaviors and attributes of a WCU remain vague even to its promoters, the default was to simply refer to the ARWU, or one of a handful of other global rankings of universities that have since emerged. Most nations in Asia are pursuing higher education polices and funding schemes fixated on uplifting a selected group of national universities into the global ranking heavens.

National goals of reaching the top 100, or more ambitiously the top 25, are ubiquitous. Hence, the national role of the university as an engine of socioeconomic mobility, a producer of knowledge in STEM fields, a collaborator with local businesses and government agencies, or a creator of the next generation of leaders is not relevant in a globally based bell-curve notion of what constitutes the ideal university.

The *New Flagship University* model, first articulated in more detail in *The New Flagship University* (Douglass 2016), and briefly outlined in the first chapter of this book, provides both a more holistic and ecological vision of what constitutes the best and most influential national universities—a lens through which to view the past and future of Asia's leading national universities. The model offers a broad conception of the purpose and goals of these institutions.

This book is about Asia's leading national universities and is based, in part, on a seminar held on the Zhejiang University campus in May 2016 that included scholars and practitioners from China, Vietnam, South Korea, India, Japan, Singapore, and other Pacific Rim nations. The main question we asked: is the *New Flagship University* model applicable or useful to leading national universities in Asia? We also asked of our participants these questions: are the histories, or cultural and socioeconomic needs of these leading national universities so significantly different from the Western context that they are forging their own distinct, or perhaps, Asian model? What are the important contextual variables that constrain and influence institutions that might claim the *New Flagship* title?

The result was a robust discussion on the past and vital future of Asia's leading university. The chapters range broadly in their exploration of the impact of the WCU rhetoric and its myopic focus on rankings, in the concept of quality in Asian universities, the limitations posed by existing ministerial demands and academic culture, and provides examples of leading Asian universities that are, on their own terms, embracing important aspects of the *New Flagship University* model.

The New *Flagship University* as Aspirational

As presented in the first chapter of this book, the *New Flagship University* model focuses on four "Policy Realms" that help shape our understanding of not only the university's purpose in society, but also its operational characteristics: its role in national systems of higher education, its core missions of teaching, learning, research, public service, and economic engagement, and its internal management and accountability practices. In each Policy Realm, there is a short discussion of key policies, activities, and outputs. To be sure, a number of leading research-intensive universities are already pursuing many of the aspects of the *Flagship* model within their own cultural and political realities.

Douglass' 2016 book provides numerous examples of programs and activities of innovative universities found throughout the world. But it is also true that, in the face of the dominant WCU and ranking paradigm, most academic leaders and their academic communities have had difficulty conceptualizing and articulating the university's grander purpose and its potential for multiple engagements with society.

The *Flagship* moniker harkens back to this larger vision found not only in the origins of the US land grant universities, but also national universities in Latin America. The *New Flagship* qualification helps to stress that the most productive and engaged universities—those that seek societal relevancy—are much more diverse and complex in the range of their activities and goals than in any other time in their history. Take almost any current public research university, and some non-profit privates, and compare their sense of purpose, funding, programs, and expectations of stakeholders, with fifty or even twenty years ago, and they are very different.

At the same time, the *Flagship* model is not a rejection of global rankings. Ranking products are here to stay. They are a useful benchmark for ministries, universities, and citizens. The problem is that they represent a very narrow band of what it means to be a leading university within a region, or within a nation. Further, while there are effective strategies to boost article production, citations, and rankings, WCU advocates do not provide much guidance, or knowledge, regarding specific organizational behaviors and methods that can lead to greater productivity in research, better teaching, or the public services that best meet the needs of the societies these universities serve.

The *New Flagship* model is not intended as a set of required attributes and practices. This begs the question of which particular policies and practices, or indeed the larger understanding of the purpose of a university itself, are culturally determined and relevant to a particular nation-state. As Douglass notes in his previous book, "To state the obvious, different nations and their

universities operate in different environments, reflecting their own national cultures, politics, expectations, and the realities of their socioeconomic world. The purpose [of the *New Flagship* model] is not to create a single template or checklist, but an expansive array of characteristics and practices that connects a selective group of universities—an aspiration model. However, many institutions and ministries may see only a subset as relevant, or only some aspirations as achievable in the near term."

And finally, an important tenet of the *New Flagship* model is that there are limits to the effectiveness of governmental and ministerial interventions in university operations. Most universities in Asia, and within Europe and elsewhere, have had weak internal cultures of accountability and management. Government driven interventions and funding incentives have pushed much needed reform in much of the world. But ultimately, leading universities need to have greater control and build their own internal academic cultures through efforts focused on institutional self-improvement. The *New Flagship* model attempts to decipher, and provide examples of, pathways for building this culture and for internal accountability practices that bolster academic management.

Asia's Leading National Universities: The Context

Higher education in Asia has a long history of elite, leading national universities that have served the region well over the decades of their existence. Most are highly selective institutions, employing among the best scholars, and serving as the primary path for creating a nation's civic elites in the absence of other postsecondary institutions (Hawkins 2013). These leading universities have, historically, been grounded in national service, but with a limited vision of their role in socioeconomic mobility, economic development, and public service. There was little external pressure and internal desire to change. One thinks of the grand national role played by the University of Tokyo, Zhejiang University, Peking University, and Seoul National University in East Asia, and on a smaller scale their counterparts in Southeast Asia and South Asia, all largely fitting the mold of what we are calling the *Traditional Flagship University*. Even as national governments pushed to expand access to higher education—the process of massification—many leading national universities sometimes seem stuck in time, until recently.

Today's leading Asian national universities have undergone a metamorphosis, pushed by increasing expectations of a more expanded role in society and the competitive needs of national economies. Because their mission was primarily "internal," these universities were not initially concerned with competing with other universities outside of their national setting. With

the rise of the complex interplay of neoliberalism, globalization, and internationalization beginning in earnest in the 1990s, however, ministries and universities began to look "externally" for benchmarks of their quality and performance framed almost exclusively around the WCU/ranking paradigm—a worldwide phenomenon.

While the pursuit of improved rankings and a claim to WCU status continues as seemingly the primary goal for many universities in the Asian Pacific region, there has been a growing debate about the value and feasibility of this vision. Alternative paths are being discussed, which challenge and critique this model and suggest other more creative ways to look at the role of teaching, community service, R&D, and scholarship in higher education.

In turn, this has created a "predicament" for these Asian *Flagship Universities*: in a rapidly changing ecology of higher education in the region, Asian universities are compelled to search for strategic ways to increase research income, journal publications, and citations, while also seeking a more holistic approach to their mission and engagement with the regions they serve (Hawkins and Mok 2015).

Is it possible to strike a balance between teaching and research in the modern university or is the "research model" being blindly imitated globally? In the *New Flagship* model, these are compatible, indeed mutually reinforcing ideals; but this is not true for those focused myopically on the WCU and ranking paradigm. It has been difficult for universities in the region to avoid the temptation to be narrowly imitative rather than innovative in the race for WCU status, and almost exclusively focused on research productivity and faculty incentive practices found in the US and the UK, while ignoring the ethos of creating and sustaining an academic community. It is an erroneous understanding of an "emerging global model" (EGM) (Hawkins and Mok 2015).

In the rush toward imitation, it is important to keep in mind a criticism of American research-intensive universities, where many faculty are attracted to the prestige of research at the cost of teaching as a core responsibility; where increasing numbers of students are left without the benefit of mentoring by the very faculty they came to encounter. As faculty sort themselves out along the research axis (those who are successful and those who are not), particularly in STEM fields, another divide appears as those faculty less able as researchers pick up the teaching load or are simply let go through the tenure process. Again, this is a "research is the primary product" model that may not be the most productive for many universities and may in fact limit the possibilities of becoming an "innovative" university. This should not be the path of the leading national Asian universities!

A Yi Liu Future?

This brings us back to the concept of the *New Flagship University* and its applicability in Asia. There is a place for both the *New Flagship* ideals and practices and the desire for the ranking-focused WCU model to co-exist. As Douglass argues, the *Flagship* model can be a route to WCU status, but WCU status is less likely to guarantee status as a *New Flagship University*. In a message intended for both ministries and university leaders in Asia and elsewhere, Douglass notes that the current top-ranked research-intensive universities on the ARWU, and particularly the public universities in the US, were not built around a narrow band of quantitative measures of research productivity or reputational surveys. "The path to national and international relevance is rooted in their larger socio-economic purpose, and to internal organizational cultures and practices focused on self-improvement."

In contrasting the WCU paradigm with the *New Flagship* model it is important to note that scholars of higher education, and practitioners and ministerial actors, may have their own concepts of what a *Flagship* is, or should be, in different parts of the vast area we call Asia. The *Flagship* model also makes a number of major assumptions, such as: national and regional higher education systems have significant levels of mission differentiation among institutions, and a place for only a select number of truly leading or *yi liu* universities; there is a significant level of policy and practice convergence, and best practices that can be adapted to different national cultures and traditions; and universities can manage their evolution if given enough autonomy and sufficient levels of academic freedom.

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Again, this book explores the political, economic, cultural, and institutional peculiarities that are vital for understanding the past, present and future of leading national universities in Asia. It also devotes attention to the policies and practices, and the context and societal expectations, of these universities—subjects that are largely ignored in the literature and attention given to the WCU narrative. Here the strengths and weaknesses of universities are discussed and framed by the aspirational *New Flagship* model.

In his chapter on the historical context in which Asia's leading universities operate, John N. Hawkins explains that although Western academic models currently impact various aspects of Asia's modern higher education systems (including patterns of institutional governance, the ethos of the academic profession, the rhythm of academic life, ideas about science, procedures of examination and assessment, and in some cases the language of instruction)

they do so in a context of rich intellectual and institutional traditions. In both East Asia and South and Southeast Asia, centuries of higher education development predate Western influence. These strong intellectual traditions were firmly entrenched in the local context prior to Western contact and therefore continue to influence and dominate, in many aspects, the social, cultural, intellectual, and educational life of the Asian region.

While many institutions are currently patterned on Western models, it is also clear that Asian countries have adapted these models to suit local needs and realities, creating in some respects what is now called a "hybrid" model of higher education. Hence, notions such as the *Flagship University* are not unknown in the Asian context, but they are tempered by higher education developments and practices (such as traditions related to public service and engagement) that pre-date Western contact, in some cases by thousands of years.

Next, David P. Ericson explores the notion of quality in higher education in Asia, noting a fervor in each country to have one or more universities listed among the elite in the world rankings of universities. His chapter explains why chasing after high world rankings is not necessarily the same as exhibiting high educational quality as a university. He then discusses different meanings of "quality" in higher education and how this can be usefully linked to the *New Flagship* ideal in Asian higher education, providing several examples of Asian universities that are moving, whether knowingly or not, toward this model.

The chapters that follow explore the historical development of various leading universities in South Korea, China, India, and Japan. While national universities in South Korea have historically enjoyed a privileged position in their higher education system, Stephanie K. Kim, and Minho Yeom explain that these elite institutions face acute challenges, including the status pressure created by global rankings. Ultimately, they argue that the future relevance of these institutions may require the adoption of a more flexible approach to excellence that strikes a balance between the ranking-dominated World Class University concept and the aspirational *New Flagship University* model.

Miloni Gandhi draws a similar conclusion in her chapter on India, which focuses on Delhi University; she also asks if there is room for other *Flagships* to emerge in a vast country with a largely underperforming higher education system. Ka Ho Mok and Xiao Han's chapter is a case study of an elite Chinese university located in an underdeveloped region. They investigate this unnamed university's institutional capacity in four of the areas of policy and practice outlined in the *New Flagship* model: research, international collaboration, regional economic engagement/technology transfer, and governance mechanism. In their view, the unfavorable location of the university, coupled

with restrictive funding policies, create large barriers for this Chinese university to elevate its social mission and boost research productivity.

Satoshi P. Watanabe and Machi Sato examine Hiroshima University and Shinshu University as case studies of mission nuance and regional engagement. In their analysis, the authors observe that the *New Flagship University* model offers a framework that can guide the transformation of Japanese universities, but that allows them to remain grounded in their founding purposes and historical commitments—a dedication to tradition that is not adequately captured or recognized by global rankings or the rhetoric of World Class Universities.

Similarly, Mosi Weng and Jia Zhang analyze the many ways that China's Zhejiang University is expanding its regional economic role. Zhejiang plays a significant role in the building of major scientific and technological innovation platforms in local districts, through which it supports both the upgrading of traditional industries and the expansion of strategic emerging industries. In addition, Zhejiang is attracting and cultivating high quality talent (in part the result of an innovative entrepreneurship education program) that fills local labor needs and generates new businesses in the Zhejiang province. The university also promotes regional development by collaborating with local governments to establish both independent and affiliated colleges, while also supporting the operations and betterment of existing local universities.

Bryan Edward Penprase offers two chapters that focus on Singapore. The first discusses a set of innovative undergraduate educational initiatives pursued by the National University of Singapore (NUS). Beginning in 2000, the University President and the Singaporean government collaborated on major reforms in NUS's governance. In turn, this enabled innovation in the design of its undergraduate curriculum, which began as small pilots that were carefully assessed and then "scaled" up to university-wide programs or new degree programs. They include a new and wide-ranging Core Curriculum, an interdisciplinary science program, Design-Centric approaches, and new ways of teaching engineering. Penprase also provides a separate chapter on Yale-NUS College. He discusses the path to this innovative collaboration between two great universities, which purposefully elevates the liberal arts in Asia. Both chapters provide examples of how a *Flagship University* can rapidly develop its capacity for excellent undergraduate education across a wide range of faculties when enabled by strategic leadership.

Deane Neubauer, Joanne Taira and Donald Young provide a final case study. They explain how the University of Hawai'i is unique among public universities in the United States, in part because it borders the worlds of the East and West, and because of its formal relationships in the delivery of education and training across an archipelago with institutions at all higher

education levels, including community colleges. In its earliest manifestations, it more closely resembled a hybrid of the University of California system, but over the past several decades it has evolved to have more extensive and sophisticated functions performed at the institutional level, by all ten members, and by the over-arching system administration.

Operating through a recently developed ten-year strategic plan, the University of Hawai'i system is focused on developing new tools to help define and operationalize activities that enhance the public good, while simultaneously continuing traditional aspects of its historical mission: namely, service to the state, world-class research in designated fields, international outreach, especially to Asia, and increasingly, identification with and support for Hawaiian culture.

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Combined, the chapters in this book raise a number of interesting questions. For one, what are the cultural and organizational barriers for pursuing the holistic and aspirational *New Flagship* model, or perhaps more specifically, to pursuing it in a way that is shaped by and serves national cultural and social norms? Zhejiang University offers an interesting focus on regional economic engagement and coordination with other postsecondary institutions; is this a path that could be replicable in other parts of Asia? Hiroshima and Shinshu Universities also provide examples of local yet also selective economic engagement linked to their academic strengths and historical role in the region.

The National University of Singapore demonstrates a persistent desire to innovate, including major reforms in its undergraduate programs. How much does this reflect NUS's maturing academic culture as an institution that constantly seeks improvement (a hallmark of the *New Flagship University* model)? And finally, there is the concept of multi-campus systems. Is there the possibility of leading national universities in other parts of the Pacific Rim forging more formal regional relationships with other types of higher education institutions—like the University of Hawai'i?

The strength of this book lies in its contemplation of a larger purpose for leading national universities, and in its examples of how institutions approach aspects of the *Flagship* or *yi liu* concept. But it is also true that few of the authors were able to conceptualize the breadth of the *New Flagship University* model—a model that has one foot in the past, but is in many ways a very new type of institution.

In thinking of the future, the authors also contemplate what the Chinese, South Korean, Indian, and Japanese version of the *New Flagship* could be. It is difficult to pinpoint what pathways exist for the internal discussions within

universities that will allow them to strategically broaden their search for improvement, beyond the rankings-driven quest to simply generate more scholarly publications and chase similar prestige factors. A prerequisite is a robust internal academic culture that enables a collaborative and strategic management capability—a key variable in the *New Flagship* model.

National higher education systems in Asia are rapidly changing; old ways are being replaced by new policies and practices in an era where universities are being redefined in their mission and societal reach. Many academic leaders and ministries are beginning to understand that the bell-curve approach of rankings and the research-dominant notion of the "World Class University" are no longer adequate to help guide policy, funding, and practice. We hope that this manuscript helps to further discussions within universities about their larger purpose and the sort of internal academic culture that will bolster the drive of the best universities in the world: to constantly look for ways to improve and positively shape and influence the societies they serve. Globalization and the urge for international benchmarking, interaction, and status, are among the forces that leading universities must engage with; the rise of nationalism in many parts of the world is another force.

We think that the *New Flagship* ideals provide a pathway for university leaders and faculty, and ministerial actors, to navigate these forces, and to generate an academic culture and management capacity that is enlightened and influential. Their future vitality depends on serious contemplation within the academy. The questions we asked of our contributing authors can be, and should be, asked and contemplated at all universities that view themselves as innovative and progressive institutions.

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Chapter 1
Profiling the *New Flagship University* Model: An Introduction*

John Aubrey Douglass (UC Berkeley)

Among the many profound ideas wrought by globalization is the relatively new notion of a "World Class University" (WCU). The World Bank, in its effort to shape national education systems, was one of the first to promulgate the idea that most nation-states need some group of WCU's if they are to be full participants in the global economy. Among its vaguely defined attributes, according to its admirers, a "World Class University" is supposed to have highly ranked research output, a culture of excellence, great facilities, and a brand name that transcends national borders. But perhaps most importantly, the particular institution needs to sit in the upper echelons of one or more world rankings generated each year by non-profit and for-profit entities. Rankings, and in particular the criteria they use, have become the proxy for WCU status.

Yet global university rankings are fixated on a narrow band of data and prestige scores that ignore much of the teaching and learning, research, and public service activities of the best universities. Citation indexes are biased toward the sciences and engineering, biased in which peer reviewed journals are included (largely US and European, and in the English language), and tilted to a select group of brand name universities who always rank high in surveys of prestige, the number of noble laureates and other markers of academic status.

It is not that these indicators are not useful and informative. But government ministries, and many university leaders, are placing too much faith in a paradigm that is not achievable or useful for the economic and socio-economic mobility needs of their societies they serve. Ministries aim for some subset of their universities to inch up this or that ranking by building accountability systems that influence the behavior of university leaders, and ultimately faculty. The result? Much of the current policymaking and funding by ministries responsible for higher education is fixated on the WCU and ranking mentality.

Some of the WCU and ranking frenzy is good, creating incentives to reshape the internal culture of some national university systems that have

* This summary is adapted from the book *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy* (Palgrave Macmillan 2016).

weak internal quality and accountability policies and practices. But it also induces gaming by university leaders and arguably is pushing institutional behaviors toward a vague model of global competitiveness.

What drives much of the current waves of ministerial edicts and funding? One cause is the sense that their universities are not productive enough, and not innovative enough—opinions shaped mightily by global rankings. The realization that Russia, or France, or Germany, or China, does not have a top-ranked university has generated immense anxiety and a subsequent search for government-formulated solutions. To be without a globally ranked university is now viewed as a distinct disadvantage in the new knowledge economy. National pride also plays a role.

Like no other institution in our modern world, universities service the needs of the increasingly expert-driven society. Higher education provides a key source of human capital; it is an increasingly crucial tool for bolstering socioeconomic mobility, for providing a transition for talented young people moving from home to the working world, and for attracting and retaining talent that is increasingly globally mobile. Graduates flow into the labor market, becoming entrepreneurs, professionals, good citizens, and community leaders. Some devote them- selves to public service; some become the next generation of researchers and faculty.

The explosion in knowledge is another reason universities play an increasingly central societal role. The world's academic community steadily creates new fields of inquiry, innovative ideas, and new technologies. Virtually every major technological advance in the past six or more decades, for example, relates in some form to academic related research—from communications and computing, to lasers and health-related technologies like magnetic resonance imaging, the science behind research on climate change, and revolutionary discoveries in nanotechnology and biotechnology. Interdisciplinary and collaborative research is the contemporary mode, particularly in the sciences, in turn informing the teaching and the public service role of well-managed universities.

At the same time, it seems that many national universities, and their academic leaders and faculty, have difficulty conceptualizing and articulating the wide range of university activities and their engagement with society. The best universities are those that are always striving to improve, and not simply in the realm of research productivity—the primary concern of the rhetoric and policy initiatives associated with improved international rankings and attaining recognition as a WCU.

In the following, and based on an earlier book, I advocate the notion of the *Flagship University* as a more relevant ideal—a model for a select group of leading or *yi liu* public institutions and perhaps some private institutions, one

that could replace, or more realistically supplement and alter the perceptions, behaviors, and goals of ministries and universities in their drive for status and influence on society. It is a model that does not ignore international standards of excellence focused largely on research productivity, but is grounded in national and regional service, and with a specific set of characteristics and responsibilities that, admittedly, do not lend themselves to ranking regimes. Indeed, one goal here is to articulate a path, and the language of a *Flagship University*, that de-emphasizes rankings and that helps broaden the focus beyond research.[1]

After a long period of governments and their ministries attempting to shape the mission and activities of universities, including various accountability schemes and demands focused on the WCU model, we need to enter a period in which institutions themselves gain greater autonomy and financial ability to create or sustain an internal culture of self-improvement and evidence based management. Edicts from ministries have, arguably, reached a stage of diminishing returns; at the same time, the WCU rhetoric, and industry, is a fading fad that has entered a period of consternation and sense of inadequacy voiced at WCU conferences and in the WCU literature.

Henceforth, the great challenge for the network of universities that are truly leaders in their own national systems of higher education is to shape their missions and ultimately to meaningfully increase their role in the societies that gave them life and purpose.

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As discussed in more depth in the book *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy* (Palgrave Macmillan 2016), the *New Flagship* model is aspirational and explicitly intended as a possible construct for providing this alternative narrative. The following provides a brief discussion on the relationship of the WCU imagery and rankings. I then turn to the origins of the *Flagship* concept and its historical evolution before then outlining the purpose, policy realms, and policy and practices of its modern adaption by the best and most innovative universities. This provides a basis to then explore its applicability, in sum or in part, in Asia via the observations and cases studies written by the authors of the subsequent chapters.

The intent of the following summary is not to create a litmus test for achieving the status of a *New Flagship University*. Many universities are already fully engaged in many of the characteristics and programs featured in the model. And not all universities, for example, will view the wide range of public

and community service practices described as relevant within their national culture and societal needs.

Resource constraints add another extremely important variable. The existing academic culture of faculty adds yet another constraint along with issues related to management capacity, and the larger political and economic environment in which universities operate. In much of the world, there is a limited pool of faculty with the PhD, for example, and there are major challenges related to effective university management. As discussed in the book, and in the chapters by contributing authors who focus on various regions of the world, the level of autonomy, governance structure, and management capacity, and the alignment of an institution's academic culture, are key factors for pursuing institutional self-improvement.

Taking these national and academic culture variables into account, the idea is that the *New Flagship University* model is, as noted, familiar (a recasting into a holistic narrative), aspirational, adoptable, and waiting for greater definition and expansion.

How Rankings Came to Determine World Class

A direct correlation exists between the emergence of international rankings of universities and the pervasive rhetoric and obsession with the WCU status. Building on a model first ventured by commercial rankings of colleges and universities in the US as consumer guides for prospective students, international rankings based on similar formulas made their appearance around 2003.[2] As government ministries focused increasingly on universities as a primary path to economic development and their self-assessed need for some collection of top, research-intensive universities, they quickly embraced rankings as a quantifiable source for assessing the place of their universities in the global marketplace.

University administrators and academic scholars have also embraced the language of WCU and rankings, essentially reinforcing a paradigm that, as noted, focuses on a narrow band of activities, largely international measures of research productivity.[3] In my view, campus rankings are not all bad, but none are particularly good—whether it is a commercial enterprise or a university think-tank doing world rankings, or a government entity. If you subscribe to the notion that the methodology is hopelessly inadequate, biased, and overly influential, then the answer for ministries and national universities not landing in the top ranks of, say, the widely cited Academic Ranking of World Universities (ARWU): create your own.

Dissatisfied with the poor ranking of Russia's universities, the Russian Federation generated a world ranking that placed Moscow State University

fifth, just ahead of Harvard University and the University of Cambridge. Consternation over the poor showing of French universities, and Europe in general relative to the UK and the US, led to a European Commission supported effort at ranking that would be "more objective and more favorable to European universities." Known as the "Multi-Dimensional ranking of higher education institutions," or U-Multirank, the effort by the European Commission is largely intended as a consumer guide for prospective students.[4]

Commercial enterprises like Thomson Reuters have also attempted to have a larger presence in the rankings market, again with an eye to the information desires of students attempting to evaluate where they should apply and enroll. This is the significant and lucrative market that *US News and World Report* originally carved out in the US. Thomson Reuters' Global Institutional Profiles Project plots to generate university profiles using multiple aspects of a university mission as a tool for consumers and governments. It includes results of Thomson Reuters' Annual Academic Reputation Survey used in the THE rankings, data provided by universities, along with bibliometric data from the Web of Science. [5]

Acknowledged biases in world rankings have led to searches for alternative and sometimes thoughtful quantitative assessments. The international consortium known as Universitas21 seeks to rank the overall performance of national systems as opposed to individual campuses. This effort does not profess to find the "one best system," but to add to our understanding that national context is important, including the relative national investment rate in higher education and research publications in relationship to a country's population. Using many of the variables used by other international rankings (like citation analysis), plus new ones like "connectivity" (an analysis of on-line interactions and similar evidence of links with the global world), the results provide a contrary view of quality and productivity. And what are the top five countries in terms of overall performance? They include the United States, Sweden, Switzerland, Canada and Denmark.[6]

Universitas21's national rankings are a welcomed alternative and provide a nuanced view. Yet the global campus rankings computed each year by the THE-World University Rankings and the ARWU clearly have the market advantage in influencing ministerial and campus behaviors. The singular institutional ranking regimes are not overly complicated, creating an "accountability" tool that is hard to displace.

There are other problems with current campus rankings regimes that are important for this discussion. Besides being methodologically suspect, global rankings generate unachievable goals for the vast majority of aspiring universities. The top 10 to 25 universities in almost all the recognized world rankings have changed very little over the past decade, and they will likely not

change that much in the future. It's a consistent bunch among the current crop of highly cited ranking efforts.[7]

My purpose here is not to engage in a long discussion on the biases and inadequacies of these and other institutional ranking efforts, but it is worth noting the dominance of the US and the UK as the home of the top rated academic journals.[8] The heavy concentration of journals and their citation impact is a reflection of the historical strength of research universities and the dominance of English as the *lingua franca* of academia. As the use of English in the classroom and in research publications expands globally, this dominance my fade. But clearly, it still provides an advantage for Anglo universities in the ranking game and stability in the rankings in the near- and perhaps long-term. At the same time, citation indexes are declining in their meaning. The proliferation of new academic journals, in Asia, South America and elsewhere, generates more and more articles, and indicators of declining quality. Citation inflation in journal articles further erodes the meaning of rankings.

Assuming that a WCU is an institution that ranks among, say, the top 50 or even 100 universities on some recognized world ranking, then it is a zero sum game, analogous with rating universities on a bell curve. Yet many governments and many universities strive for the WCU status under the assumption that the current ranking systems will decipher that moment in time.

European governments complain that there are not enough European universities in the top 50 and many are spending money to do something about it. To encourage greater engagement with the economy, and improve rankings, Germany's federal Ministry of Education and Research launched a widely publicized national competition to identify about 10 among its 104 universities with the potential of becoming elite universities—the Excellence Program with an initial budget of €1.9 billion.[9] Under French President Sarkozy, and extended by President Hollande, France has a similar initiative to help boost the research productivity of the national universities. Despite plans to cut some €50 billion in general government spending over three years, Hollande pledged €2 billion for the creation of new regional university research centers as part of a second wave of '*Initiatives of Excellence,'* or Idex.

Having helped to fuel the ranking frenzy, China plans on having 20 top universities that match MIT in productivity and prestige. In Africa, Nigeria hopes for 20 WCU's by 2020[10]; Sri Lanka wants at least one world-class university. Japan's Ministry of Education (known as MEXT) has a target of 30 universities becoming 'world-class' institutions (beyond the University of Tokyo) and with five in the top 30 global ranking and at least one breaking the top 10 mark.[11]

In 2013, and with slightly more sober expectations, the Russian

government announced a plan to have at least five of its National Research Universities in the top 100 WCU by 2020. They have designated which ones, besides Moscow State University, providing (like Germany and others) special financial subsidies: Tomsk Polytechnic University, the Higher School of Economics—Moscow, the Engineering Physics Institute, the Moscow Institute of Steel and Alloys, and the National Research University of Information Technologies, Mechanics and Optics.[12]

However, ambition cannot outpace reality if rankings in the shape of a bell curve are the standard. As the ranking competition has heated up, universities in some parts of the world have not only attempted to game the system via key faculty and sometimes temporary recruitments just in time for a government ranking exercises (a known practice in England), manipulating data, or seeking international students with on average higher standardized test scores (as in the US). There is some evidence that reporting on student-to-faculty ratios by US universities and colleges is becoming increasingly unreliable—a major variable in the US News and World Report college ranking. There is also speculation that some rankings agencies have been offered remuneration to help a university creep up a bit higher.

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The construction of international and national campus ranking regimes that are largely similar has led to the question, and subsequently advice, on how to achieve the WCU status. Perhaps no agency has been more engaged in advocating the proper path than the World Bank,[13] although a small industry of various associated consultants and pundits has emerged, even a biennial conference on how to get there.[14]

So, what defines a WCU? According to the World Bank, and others, there are three rather generic but informative traits: a *high concentration of talent* (faculty and students), *abundant resources*, and a *favorable governance organization with a high level of autonomy*.[15]

Indeed, these are important, but they are clearly not sufficient.[16] While influencing government ministries in budget allocations and "excellence" initiatives, in relatively new national accreditation regimes and various accountability demands, and, of course, the behaviors of institutions, there is increased recognition of the inadequacy of the WCU paradigm.[17] Even the initial proponents of the WCU model are recognizing its inadequacies and worry over its perhaps unexpected influence.[18]

Ministries pouring funding into special initiatives intended to induce higher research productivity and higher score on citation indices might also take heed of one conclusion by those studying how universities can achieve WCU status:

it seems that most nations without a highly ranked university will find the fastest path is by starting a new institution from scratch, rather than attempting to shape, and fund, existing ones.[19]

Despite the complaints and words of caution, the reality is that the ranking and accountability regimes are here to stay. Most national systems are transitioning to performance-based funding and often large-scale restructurings that include mergers of institutions. For ministries concerned with the overall quality and efficiency of their national higher education systems, rankings provide some form of internationally recognized evidence of the effects of these and other reforms; at the same time, rankings are also driving the behaviors of universities and the policies of these ministries who now yearn to have many or at least some of their national universities in the top tier.

In part induced by the ranking anxiety, many of the "excellence" initiatives are having positive influences on the resources and the culture of national universities, largely because they are competitively distributed and are generating new initiatives by universities and their faculty. More funding, more competition—this is all good. Yet, as argued here, there is room for more innovative and broad thinking on what a leading university might or should be, indeed a thirst for an alternative or revised conceptual model. At least among a cadre of leading national universities, might the ranking paradigm, and the sometimes narrow thinking and gaming it is inducing, be amended?

The Origin of the *Flagship* Idea

The notion of a public *Flagship University* relates to the early development of America's higher education system in the mid-1800s that, essentially, was a mix of influences, including a devotion to the English tradition of the residential college, and the Humboldtian model of independent research and graduate studies. Academic research would, in turn, inform and shape teaching and build a stronger academic community.

These European traditions fed into the development of a very American public university model that sought relevance by advancing regionally and statewide socioeconomic mobility and economic development. These are the added elements that made the *Flagship* model more practical, more engaged in society. The public universities that emerged in the mid- and late-1800s in mid-western and western states exuded a particularly American model of the public university and provided the foundation for America's subsequent pioneering effort to create the world's first mass higher systems—supported primarily by state government coffers. Historically in the US, this model included a number of unique characteristics:

- **Access**—The idea of creating public universities that would be open to a wide range of citizens from different economic, social, and geographic backgrounds—and a marked contrast from an array of private colleges and universities that were linked to sectarian communities and social classes. In the words of one famous 19th century advocate, the *Flagship* public university needs to provide "an uncommon education for the common man [and women]."
- **Engaged Economic Development and Public Service**—These universities would be comprehensive institutions, with academic programs in traditional liberal arts fields *and* programs with a direct link with local and regional economies. Both teaching and research in areas such as agriculture and engineering, along with extension programs providing outreach and educational programs and services to farmers and local businesses, would help fuel economic development and socio-economic mobility.
- **Leadership**—Public universities also had a responsibility to help set standards and develop other sectors of a state's evolving education system—from the elementary and secondary schools, to other public tertiary institutions. Throughout the US, state and local governments had the responsibility to build their education systems, and most initially invested in "common schools" (what today are elementary schools) and in one or more universities and colleges for teacher training, but not in secondary schools. State *Flagship Universities* became central players in helping to develop the public high school, in part out of self-interest to help generate students to enter the university, but also as part of their assigned role to increased educational attainment rates.

The use of the word "*Flagship*" to describe a university emerged in the late 1800s in the US, drawing on the nautical term in which the *Flagship* or lead ship in a navy provided the primary means of coordinating naval maneuvers by an admiral or his staff. As US states developed a network of public colleges and universities, most designated one institution in the leadership position, eventually using the term "*Flagship*."

In the eastern seaboard, where the US population first settled, private institutions tended to dominate and their development of public higher education was latent. Few established *Flagship Universities*. In the Midwest and throughout the West of the US, however, states rushed to create new educational opportunities and established public universities committed to expanding access.

States had and still have the responsibility for organizing and coordinating their education systems; there is no equivalent power at the federal level in the US of a higher education ministry found in other parts of the world. But the

push toward the *Flagship* model had an extremely important impetus from Washington. In 1862, and in the midst of the American Civil War, Congress passed and President Lincoln signed a bill entitled the Agricultural College Land Grant Act. It offered the one thing the federal government had lots of: land largely in the expansive West, given to each state to sell and generate income to establish or build existing universities, and requiring degree programs and research that would support local economies.

Without excluding "classical studies," military training, and other scientific fields, the largess was, "to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." Admittedly, the historical role of major public universities supporting and providing leadership for other education sectors in a state has waned. But I do think this ideal has important relevance for other parts of the world—particularly in developing economies and where higher education systems are undergoing dramatic reforms and increased access.

Most leading national universities have been traditionally highly selective in their admissions, employing among the best scholars, and serving as the primary path for creating a nation's civic elites—often replicating or reinforcing the existing social structure and helping the privileged remain so. As noted previously, these leading universities have, historically, been grounded in a form of national service, but with a very limited vision of their role in socioeconomic mobility, economic development, and public service.

The *Flagship University* nomenclature has been used in various parts of the world, but never with a clear and commonly held sense of its definition or meaning. In the post–World War II era and into the 1960s, the South Korean government established what it called "*Flagship National Universities*" in each of its eight provinces and two independent cities (a history retold in the chapter contribution by Stephanie Kim and Minho Yeom). In this era of nation building, and for a time in the midst of the Korean War, most of these institutions were the result of mergers of existing, smaller regional colleges. Today, each of these ten institutions have medical schools and like other designated national universities in Asia, they have the most competitive entrance exams. As noted, there was no clear description of what a *Flagship University* should be in Korea and the term was no longer used after about 1968.

Some European nations, in particular Hungary after the end of communist rule, explored using the *Flagship* title to distinguish a number of its leading universities. But an inherent political and organizational challenge of designating one or more existing institutions as a leading and perhaps favored

university, particularly within the context of a national system with politically powerful universities with equal claim on public funding, essentially ended the reform drive. The need for mission differentiation, where a select few truly research-intensive universities are adequately funded, is now widely understood by ministries and those who study higher education systems to be important. Yet achieving this, either through government directive as originally attempted in Hungary, or indirectly by competitive and selective funding of certain institutions, is politically difficult.

In more recent decades, leading national universities have undergone a metamorphosis, pushed by increasing expectations for a much more expanded role in society and the competitive needs of national economies. A research project based at the University of Oslo's Centre for European Studies uses the *Flagship* title to explore how some European universities are adapting to the demands of ministries and businesses to become more engaged in economic development and social inclusion.[20] This project explored the activities and goals of a variety of existing departments in some 11 northern European universities—in essence, an inductive approach in which case studies will help define what it means to be a *Flagship University*. At the heart of the analysis: a profound sense of the range and nature of activities that major research university are now pursuing compared to only ten or so years ago.

Another example of the use of the *Flagship* moniker is a project focused on collecting data and supporting the development of eight sub-Sahara African universities by the Centre for Higher Education Transformation. Based in Cape Town, researchers at CHET have used the *Flagship* title to help outline the current vibrancy, goals, and challenges facing these institutions. Under the title the Higher Education Research and Advocacy Network in Africa (HERANA), the project initially pursued the hard work of gathering comparative data among the universities and, via a collaborative mode, outlined the idea of the need for an Academic Core of variables—for example, student-to-faculty ratios, goals, the percentage of faculty with doctoral degrees, and correlations necessary for top-tier national universities to pursue institutional improvement.[21]

It is clear from these examples that the *Flagship University* title means different things to different people, and is often influenced by the national context. Internationally, it is only now coming into vogue as a term familiar to academics as well as ministerial leaders. But the competing paradigm of the WCU remains dominant. While the pursuit of improved rankings and a claim to WCU status continues as seemingly the primary goal for many universities in all parts of the globe, there has been a growing debate about the value and feasibility of this vision. Scholars and university leaders are critiquing this model and seeking more creative ways to look at the role of teaching, community service, and scholarship in higher education.

National and Regional Relevance as an Alternative Mantra

It is important to note that the current top ranked universities, and particularly the public universities in the US, were not built around a narrow band of quantitative measures of research productivity or reputational surveys. Their path to national and international relevance was, and is, rooted in their larger socio-economic purpose and practices.

National policies and, more importantly, institutional practices, whether in developed or developing economies, should focus on how to support and build in each nation one or more *Flagship Universities* that are:

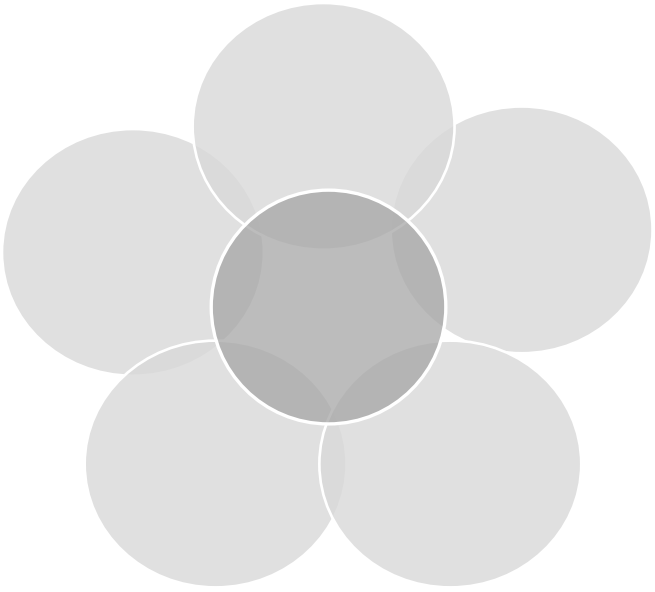
- ***Generally Comprehensive and Research Intensive Institutions*** that are focused on being regionally and nationally relevant—this does not exclude institutions focused almost entirely on science and technology, for example, but they have more limited abilities to fully embrace the *Flagship Model*.
- ***Highly Selective in Admissions Yet Also Broadly Accessible*** so as to be representative of the socioeconomic and racial/ethnic demography of a country, while being open to international talent.
- ***Broadly Engaged in Regional/National Economic Development and Public Service*** in some form across all the disciplines.
- ***Intent on Educating and Providing Talented Leaders,*** generally for the regional and national societies they serve, but also to enhance engagement with the larger and increasingly international world.
- ***Sufficiently Autonomous*** **and** ***Sufficiently Publicly Financed*** so that institutions are leaders of knowledge generation and thought, not followers.
- ***Focused on an Internal Culture of Evidence-Based Management***, the constant search for *Institutional Self- Improvement*—quality assurance that, ultimately, cannot be achieved by Ministerial policies and directives alone.

From this institutional focus on regional and national relevance, and the support of government and the private sector, emerge truly globally important and productive universities. This is the history of the great US *Flagship Universities* who, historically, never sought to meet ranking metrics.

This does not mean institutions should not have international strategies that, for example, attract Nobel Laureates, repatriate academic stars, offer more courses in English, and attract international student and faculty, or robust research and degree programs focused on various parts of the world. But until these institutions emerge as independent nation-states divorced from their regional context or become completely virtual, they should primarily serve the goal of being regionally and nationally relevant. Globalization is a powerful force, yet our public universities remain tied in important ways to geography,

culture, and the societies that need them the most to improve the quality of life. They act as anchor institutions that attract talent and promote innovation.

Figure 1.1. The Purpose of Public *Flagship Universities*: Regional and National Relevance Leading to Global Influence and Prestige



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

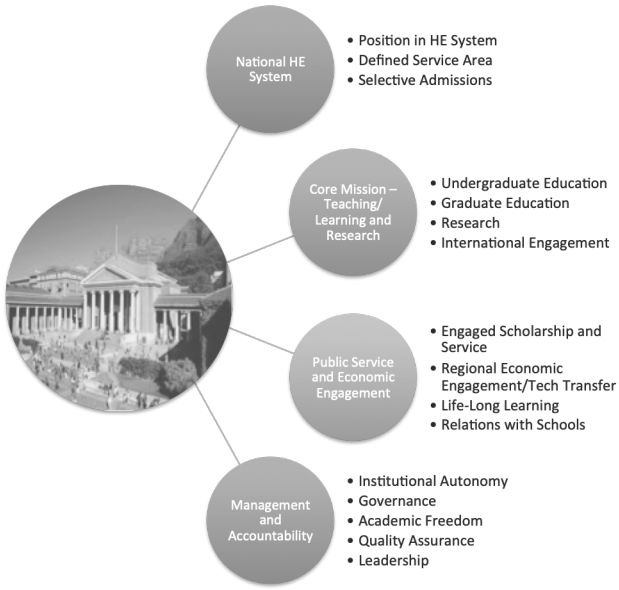
Figure 1.1 offers one way to capture the output of the *Flagship University* model that is based in regional and national service, and that in turn is globally influential. These are characteristics shared by many different types of universities throughout the world, yet they have special meaning for *Flagships*.

Outlining these general responsibilities is simply a reference point to the larger, and harder, questions on the path to truly building or expanding on the *Flagship* idea. The logical sequential path for nation/states and institutions is from regional/national engagement, then to global influence. There probably is no shortcut—although many ministries are banking that external and targeted inducements will do the trick. What are the characteristics, values, and practices of a small group of institutions we can identify as *Flagship Universities*? In the following I attempt to answer this question.

Profiling the *Flagship* Model

The following provides a profile of the *Flagship University* model. The goal is to define what are the characteristics and activities of *Flagships*, framed around the mission of research-intensive universities: Teaching and Learning, Research and Knowledge Production, and Public Service.

Figure 1.2. A *Flagship* Profile



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

To state the obvious, different nations and their universities have different ways of operating that reflect their own national culture, politics, expectations, and the realities of the socio-economic world in which they operate. The objective here is to not to create a single template or a checklist, but a list of characteristics and practices that connect a selective group of universities to the socioeconomic environment in which they must participate and shape—a model that others might expand on and indigenize. Further, the *Flagship University* ideal is not, and could never be, a wholesale repudiation of rankings and global metrics, or the desire for a global presence.

The following *Flagship* Profile is organized in four categories summarized in Figure 1.2, and that relate to their external responsibilities, and their internal operations. The idea is that, within the context of a larger national higher education system, some institutions have a set of codes, aims, logics, and capital.

Profile I: *Flagship* Institutions and National Higher Education Systems

1. ***Position within a Larger National Higher Education***—As noted previously, the idea of the *Flagship University*, like the idea of the World Class University, assumes that national higher education systems required mission differentiation among an often growing number of tertiary institutions.

   Most nation-states now realize that it is neither cost-effective nor possible to develop high quality higher education systems in which all universities are all things to all people. Within a larger, hopefully coherent network of public and private tertiary institutions, it is in fact vital that a select subgroup provide leadership and pursue a range of activities, and with high quality, that can help nations pursue economic development and improved socio-economic mobility.

   But the number of *"Flagship*" institutions in a nation can vary and be determined by geography, population density, socio-economic needs, and financial resources; the primary identifier is their characteristics that include traditional notions of quality like research productivity and their overall impact regionally, *and* a commitment to helping to produce leaders in business and civic affairs.
2. ***Defining Service Area***—Most public universities have a sense of their responsibilities in regards to student admissions by some defined geographic area, with a caveat related to international students. But they have a vaguer understanding of their role in economic development and public service. Greater and overt definition of a distinct "service area"—without exclusion of larger regional and international activities—is an important framework for directing or encouraging universities activities, and for evaluating their effectiveness.
3. ***Selective Admissions***—Conditioned by its position within a larger set of universities and service area, the *Flagship University's* admission focuses on enrollment largely on a national and regional pool of talented students. But this should not be to exclusion of a drawing talent from a continental and international pool—with different goals at the first degree and graduate and professional levels.

Admissions criteria at the first-degree level is often regulated or structured by national policies focused on a single national test. *Flagship Universities* need greater flexibility for determining the talent and potential of prospective students and to balance their selection of an entering class with other considerations, including the socioeconomic background of their student body, geographic representation, and exceptions for students with special talents.

Profile II: *Flagship* Core Mission—Teaching and Research

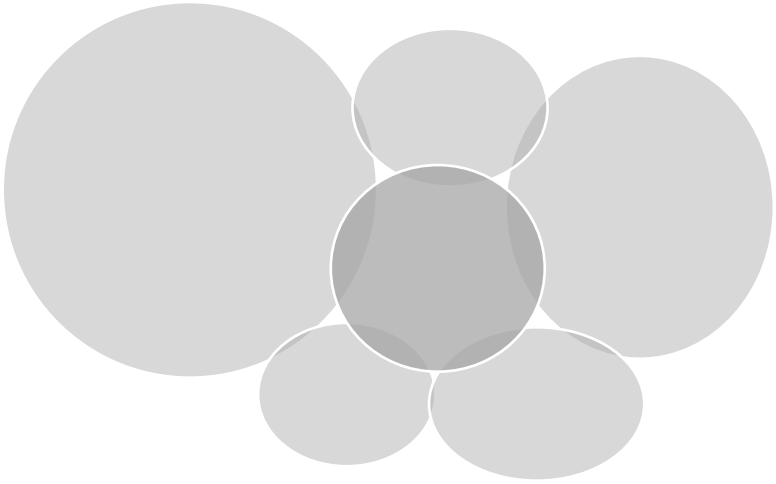
4. ***First-Degree/Undergraduate Education Goals***—An essential goal of the *New Flagship University* is to provide first-degree students with an education that is engaging, that promotes creativity and scholarship, and that results in high-order skills that are useful in the labor market, for entry possibly into graduate education, for good citizenship, and for a fulfilling life. Pedagogical research has generated the concept of engaged learning. This includes two observations: (1) The amount of time and energy students put forth in academic and other pursuits (e.g., community service) is positively correlated to learning and other desired outcomes of undergraduate education; and (2) Institutional policies and practices can influence the level of student engagement.

   Our universities strive not to produce passive students who meet some minimum floor of knowledge and skills, but innovative and creative students who are ambitious and talented. One important concept is that there are many different student experiences and learning processes, shaped by the socioeconomic background of students; their mental health, social support systems, and sense of belonging at a large university; their different intelligences, abilities, and interests that may change overtime; their field of study; opportunities for engaging in research, and for being mentored. At the same time, with their wide array of disciplines and faculty, and existing and potential links with local communities, universities must assess and view the student experience holistically, and beyond the narrow confines of the traditional classroom.

   Research-intensive universities can conceptualize Five Spheres of the Undergraduate Student Experience: curricular engagement (including courses as well as interaction with faculty and graduate students, learning communities etc.), research engagement (faculty directed or mentored, paid and unpaid), public and community service (voluntary or integrated into requirements or credits toward a degree, often termed service learning), co-curricular activities, and their social life and conditions

(comprising a wide array of factors, including their living arrangements, financial needs, working full-time or part-time, and sense of belonging).

Figure 1.3. Five Spheres of the Undergraduate Experience



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

In the accompanying Figure 1.3 the size of each of these spheres of the student experience is representative, reflecting the relative importance for a generic student. Curricular engagement is at the core of the student experience. It is therefore shown as a larger sphere. However, the student experience is not a singular model, but nuanced and varied, within a university itself, within a disciplinary field of study. The socioeconomic background and interests of students are a variable. At the same time, there are academic cultures, and norms in different nations, that may value certain spheres over others.

Curricular Engagemen

Many universities are now engaged in a relatively new collaborative process that involves outline learning and professional development goals for students, and assessing outcomes. In some form, these campus-wide objectives provide a tool for focusing faculty deliberations on the shape and structure of the curriculum at the discipline level and, at the same time, providing students with a sense of what they should get out of their degree program. With a set of campus-wide learning outcome goals,

academic departments and schools at Berkeley have also developed their own set of goals for their first-degree students (see Figure 1.4).

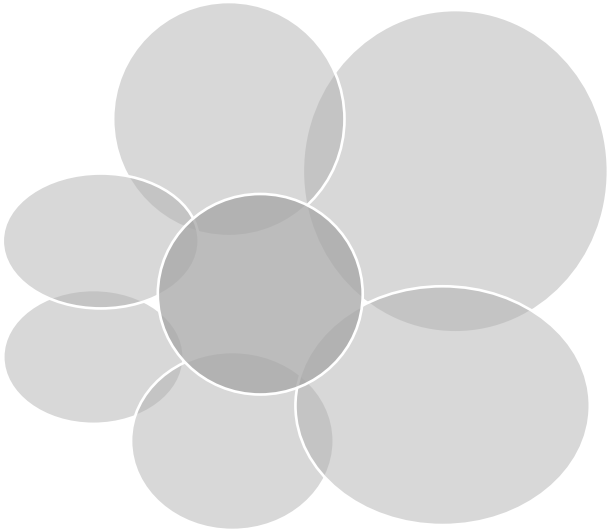
Figure 1.4. Case Example: UG Learning Objectives for Electrical Engineering and Computer Sciences, UC Berkeley

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to configure, apply test conditions, and evaluate outcomes of experimental systems.
- An ability to design systems, components, or processes that conform to given specifications and cost constraints.
- An ability to work cooperatively, respectfully, creatively, and responsibly as a member of a team.
- An ability to identify, formulate and solve engineering problems.
- An understanding of the norms of expected behavior in engineering practice and their underlying ethical foundations.
- An ability to communicate effectively by oral, written, and graphical means.
- An awareness of global and societal concerns and their importance in developing engineering solutions.
- An ability to independently acquire and apply required information and an appreciation of the associated process of lifelong learning.
- Knowledge of contemporary issues.
- An in-depth ability to use a combination of software, instrumentation, and experimental techniques practiced in circuits, physical electronics, communication, networks and systems, hardware, programming, and computer science theory.

5. ***Graduate Education***—*Flagship Universities* have special responsibilities for graduate and professional education, and should have a ratio of first degree and second degree students that reflects this purpose: generally, having 30 to 50 percent of all student enrollment in graduate education, and with an array of doctoral and professional degree programs. Another important marker is the number of degrees granted, along with on-going quality assurance measures.

   In addition, *Flagship Universities* need to have and develop graduate programs intended to educate and prepare future academics and researchers, but also professionals that directly benefit the host nation and greater region. The presence of professional master's and doctoral programs and degrees does not feed into the current notions of a WCU, but I would argue they are an important component of universities that are comprehensive and vital to regional economic development.

Figure 1.5. Six Spheres of the Graduate Student Experience



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

Similar to the graphic representation of the various activities shaping the student experience at the undergraduate level, Figure 1.5 depicts the graduate student experience. Here, six spheres reflect the complexity of graduate education and training: curricular engagement, co-curricular activities, research engagement, teaching experience, and professional development (including employment and internships in business and government), public and community service, and the social life and conditions in which students pursue their degrees—from master's and professional programs, to the doctorate. In this portrayal of the graduate experience, the size of the sphere illustrates the world of a doctoral student that is not only dominated largely by developing research expertise and preparation for the job market, but is also heavily influence by their personal life.

Again, universities, and their various disciplines and professional fields, will vary tremendously on what components influence the student experience. For example, co-curricular and public and community service are not always associated with graduate education; yet, degree programs

in medicine, social welfare, and law often have significant components related to public service; and STEM fields also can have robust co-curricular activity and forms of social networking. Historically, there has been great diversity in the approaches to graduate education, in terms of what type of students enter graduate programs (e.g., natives versus international students), how they are educated, what professions they are trained for, and how they find employment. But the elevated role of graduate education has brought an increased focus on the structure and quality of graduate education.

And similar to reforms in undergraduate education, there is significant global movement to improve the quality of graduate programs. This includes but is not limited to:

- More deliberately structured curricular requirements geared toward the array of professions the program is intended to serve.
- Increased use of English in courses and for master's theses and dissertations in programs attempting to attract and retain international talent, and for preparing future academics and business leaders whose professions are increasingly global in context.
- Clearly stated skills students are to acquire and expectations on their academic performance.
- Articulating the mentorship responsibilities of faculty.
- Coordination with the professions and business to better match training with labor needs.
- Collaboration with the private sector in providing internships as part of graduate training and integrating graduate students into faculty- led university–industry research activity.
- Assessments of the quality of life of graduate students and efforts to support their financial and social needs to make them productive members of the academic community.
- Improved integration of graduate education into the larger purpose and operations of the university.

6. ***Research***—High levels of research productivity by faculty is a significant characteristic of *Flagship Universities*, a responsibility that is roughly equal to teaching responsibilities, and with a variety of purposes that include:

- **Discovery**—basic or blue-sky research that has no immediate application, commercial or otherwise.

- **Integration**—synthesis of information across disciplines, across topics within a discipline, or across time.
- **Engaged Scholarship**—rigor and application of disciplinary expertise with results that can be shared and that connects the intellectual assets of the institution, that is, faculty expertise, to public issues, such as community, social, cultural, human, and economic development. (The characteristics of engaged scholarship are more fully discussed in Profile III.)
- **Teaching and Learning**—systematic study of teaching and learning processes. It differs from scholarly teaching in that it requires a format that will allow public sharing and the opportunity for application and evaluation by others.

While these are widely recognized distinct modes of academic research, it is important to note changing notions in how research is being undertaken and defined. A relatively new research culture has emerged, which increasingly seeks transdisciplinary approaches to inquiry and recognize the extensive social distribution of knowledge. Knowledge and data are now so diffuse that many researchers are required to work interactively. This creates both challenges and opportunities for *Flagship Universities* to support research in the various disciplines, and to effectively evaluate its quality and influence.

A key component in the *Flagship* model is regular peer evaluation of faculty research (a topic for later in this chapter). However, as noted, research activities, and knowledge production, are not simply the realm of faculty. Having graduate and undergraduate students engaged in knowledge production has always been a value in American higher education, an antecedent to the Humboldtian model of the modern university as a learning and research-focused community.

Profile III: *Flagship Universities* and Public Service/Economic Engagement

7. ***Engaged Scholarship and Civic Service***—*New Flagship Universities* promote public service in various forms by faculty, students and staff via formal programs and incentives. This form of "outreach" is extremely important, providing a significant impact on local and regional communities and direct evidence of a *Flagship University's* priorities.

a. ***Community Volunteering***—faculty, students, and staff at most universities interact informally (as individuals) in various forms of

community service. But *Flagship Universities* should include formal mechanisms, such as "community service centers" that attempt to identify and link the university community with opportunities for volunteer work

b. ***Student Civic Service Learning***—Universities should offer opportunities for students to engage in learning opportunities, including course requirements and course credits) that also support public service objectives. This is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development.

c. ***Faculty Engaged Policy Research***—*Flagship Universities* look for ways to encourage academically relevant work that simultaneously meets campus mission and goals as well as community needs. In essence, it is a scholarly agenda that integrates community issues as a value for faculty. In this definition community is broadly defined to include audiences external to the campus that are part of a collaborative process to contribute to the public good.

8. ***Regional Economic Engagement***—This is a key mission of the *Flagship University*, critical for justifying its funding and role in society – essentially, one avenue for making university generated basic and applied research (intellectual property) relevant.

a. ***Labor Needs***—While *Flagship Universities* are engaged in the education and training of talent for national, indeed global labor markets, they must include a conscious effort to support regional economies. This is a dynamic process with two general routes:

- Supporting local labor markets and the needs of businesses and municipal and regional government via public service activities, research engagement usually via faculty directed projects, and by part-time work. Public service and research engagement activities, in particular, can act as apprenticeship opportunities and often help guide both student career interests and shapes local economies.
- Education and Training sometimes for specific professional careers like engineering, law, and medicine, but just as often via students entering the labor market with high order skills such as writing and analytical abilities.

b. ***Technology Transfer***—Effective Tech Transfer relates not only to faculty-generated research (and the national/regional systems that

support their work), but organizational issues at the campus level and relations with the private sector and government. The major steps in technology transfer are: disclosure of inventions; record keeping and management; evaluation and marketing; patent prosecution; negotiation and drafting of license agreements; and management of active licenses. University technology transfer is mainly a system of disclosure, patenting, licensing and enforcement of patents and licenses. Among the issues that require policies:

- ***Goals of Tech Transfer***—While the specter of substantial and steady income from patents and licenses, or university associated businesses, is often a goal of *Flagship Universities*, this is rarely a reality. Costs can be high for getting university inventions into the market place, and to then protect them against infringement. Much more importantly, Tech Transfer is part of a larger effort to promote economic development and interaction of faculty and students with local and regional business and industries—a major route for brain circulation between the public and private sectors. It is important to note that patent and licensing activity and the number of spin-offs is not necessarily the most important evidence of the key role of universities in promoting economic development. The flow of information between university and business sectors and, perhaps most importantly, the movement of personnel to and from the academy are often cited as the critical factors for promoting a vibrant business climate. [22] The structure of a nation's economy, along with a stable government and legal framework for businesses and universities to operate in, are also important influences on the ability of universities to strategically increase their role in the economy.
- ***Organization and Support***—Most major universities have an Office of Technology Transfer with varying levels of authority and effectiveness. The trend is for universities to first set up a centralized office for a campus to liaison with faculty, help assess the value of ideas and inventions, help in the process of patenting and licensing, and providing links with venture capital and potential business partners. But large universities with robust research programs in science and technology fields tend to evolve by creating technology transfer staff that work in specific disciplines.
- ***Rules on Ownership of Intellectual Property***—Policies are generally set at the national and institutional level, with it becoming increasingly common that university researchers share in the ownership of Intellectual Property (IP), and in any resulting income, with the university, and sometimes with the source of research funding—often a government agency. The structure and ratio of ownership may vary, but the driving principle is some form of self-interest by the inventor and the university to

get ideas and inventions into the market, and facilitating "spin-off" businesses.

9. ***Life-Long Learning/Cooperative Extension***—A critical component in the strategy to extend university based research-based knowledge is to offer non-formal educational programs and services in the field (some defined service area) and that relate to key economic development activities. Historically, this has been an extremely important part of the mission of *Flagship Universities* in the US, with a focus on agriculture and food, home and family, the environment, community economic development. Elements of this type of activity exists throughout the world; but it is often not organized and financed in a way that places it more centrally into the array of university activities.

10. ***Relations with Schools***—Another key concept in the *Flagship* model are indirect and direct influences and assistance to schools within a university's designated service area. This includes:

    a. ***Shaping Curriculum Standards***—Through its admissions criteria (e.g., required courses) or other means such as creating or participating in national/regional curricular standards, or special courses in subjects such as math and composition via Cooperative Extension, *Flagship Universities* can and should have a significant influence on school development—particularly at the secondary level.

    b. ***Teacher Training***—All *Flagship Universities* should operate teaching training programs that are selective in admissions. They need not be large, but viewed as setting standards in teaching education. Historically, many *Flagship Universities* have also established "Laboratory Schools" owned or jointly owned and operated by the university, creating a school that can employ innovative curricular ideas and unique training opportunities that should also reflect socio-economic realities of the societies they serve.

    c. ***School Principal Education***—As part of their critical role in supporting local schools, and the path to a postsecondary education, many *Flagships* have distinct graduate programs for current and future heads of schools, often with a focus on secondary schools.

    d. ***School and Student Outreach***—*Flagship Univ*ersity faculty, staff, and students should provide opportunities for students from designated service area schools to visit and be introduced to what it means to be a tertiary student via formal programs.

11. ***Relations with Other Postsecondary HEIs***—The *Flagship* model assumes formal and informal forms of coordination and mutual support with other major tertiary institutions in a service area and beyond. Admittedly, this runs counter to the political culture of many major research universities where national norms tend to view each institution as an island, seemingly disconnected from the operation and welfare of what are sometimes viewed as competitors. Among the forms of coordination:

    a. ***Course Coordination and Articulation***—In some instances, *Flagship's* may develop programs at the first degree and professional level jointly with other usually nearby institutions. Where there are binary higher education systems with polytechnics-vocational oriented institutions, *Flagship Universities* can create avenues for students to matriculate to degree programs.

    b. ***Transfer Programs***—Course articulation can also lead to formal programs between institutions in which students matriculate at a designated stage at one institution to the *Flagship University*.

    c. ***Joint Community Outreach Efforts***—*Flagship's* should lead and collaborate in efforts to expand access to higher education for lower income and other disadvantaged groups at the secondary and lower levels of education. This can include providing secondary students information and personal contacts on what it will take to enter a higher education institutions (and not just the *Flagship University*), and programs at the *Flagship* and other post-secondary institutions in which targeted students come to a campus and are exposed to its environment and gain a sense that they have an opportunity to aspire to a university degree within a supportive academic community.

Profile IV: *Flagship Universities*—The Building Blocks for Management and Accountability

12. ***Institutional Autonomy***—The organization and management of higher education systems are changing globally, generally moving toward greater levels of autonomy for institutional decision-making *and* demands for greater accountability. Yet this still means national and cultural differences—some heavily influenced by traditions of command economies—are significant. Generally, however, *Flagship Universities* should have "Four Essential Freedoms":[23]

- The right to *select students*—within some general framework of national and sometimes regional policy.
- To determine *what to teach*.
- How it will be taught
- And *who will teach.*

13. ***Governance***—The level of autonomy provided by governments and their ministries varies tremendously, although generally characterized by greater levels of freedom in financial and academic decision-making, and increased management authority among university administrators.

    Without significant levels of autonomy, including budget management (e.g., the ability at the university level to shift some or all allocated funds to campus identified needs), and the distribution of personnel (e.g., the allocation or reallocation of faculty positions), self-anointed *Flagship's* cannot compete as top quality universities or meet their responsibilities.

    At the same time, a high-level of institutional autonomy (via law, via government provisions) is not sufficient into itself to support the goals of a *Flagship*. It must be accompanied by a governing and management structure that allows for decision-making with relatively clear lines of authority and rules on shared governance.

    a. **Governing Board**—Common to all *Flagship Universities* in the US, and increasingly at major, top tier research universities throughout the world, is some form of a governing board that includes members from the larger society that the university serves and that is sufficiently autonomous from national ministries and government in general.

    b. **Executive Leadership**—In many countries, the role of the president (or the equivalent title of rector, vice chancellor, warden, etc.) has been extremely weak, largely either a ceremonial position or a temporal, elected position in the university community with no distinct authority to manage an institution. Similarly, the extensive, often invasive, authority of ministries and rules and regulations generated by national governments on university activity has provided little room for institutional governing boards of any significance to arise. This is changing in most parts of the world, with formal government policies creating broader authority for university presidents, including greater authority in budget management and administrative authority.

    c. **Faculty and Shared Governance**—Depending on the cultural traditions of various nation-states, the distinct role of faculty in the academic management directly relates to the long-term quality and

performance of universities. With the increased authority of academic leaders, such as the president, there is a need for a clearly articulated role for the faculty, particularly in issues related to the academic activities of a university, including academic programs and curriculum, academic advancement, and admissions policies (where there is institutional discretion).

Generally, higher education institutions must have a formal faculty representative organization (a "faculty senate" or equivalent) with authority over its own self-organization, and stated areas of primary authority (decisions related to academic programs), shared authority (faculty appointments), and consultative rights (major budget decisions related to academic programs).

The University of California has one of the most clearly articulated policies on shared governance that includes a series of delegated authority to its Academic Senate—a representative body of the faculty. Authority granted by the UC Board of Regents include:

- The authority to determine the conditions for admission.
- The authority to establish conditions for degrees and to supervise courses and curricula. The Senate has the responsibility to monitor the quality of the educational programs that students must complete to earn their degrees and to maintain the quality of the components of those programs.
- The authority to determine the membership of the faculty has two elements. The Senate has a responsibility to monitor the quality of the faculty who teach courses, who develop the educational program and who conduct research at the University of California. Faculty are evaluated under a uniform set of criteria that are intended to maintain a level of excellence on each campus. Second, in order to ensure the quality of the faculty, the Senate monitors faculty welfare issues that affect recruitment and retention of high quality faculty.
- The authority to advise on the budget of the campuses and the University empowers the Senate to advocate budget allocations that channel resources into activities that enhance the academic programs of the University.
- The authority to conduct hearings in disciplinary cases charges the faculty with responsibility for enforcing standards of faculty conduct that are embodied in the Faculty Code of Conduct and other policies of the University.

Yet it is also important to note that relatively well articulated designations of authority for faculty and administrators is not sufficient unto itself for effective modes of shared governance. There also needs to be a culture of a shared burden and mutual respect within the academic community. In his study of the changing nature of shared governance among Norwegian universities, Bjorn Stensaker notes that while most universities are emphasizing leadership and governance capacity, most efforts "overlook the cultural and symbolic aspects of governance along the way." In universities undergoing major shifts in authority, and the role of faculty, creating such an environment can be very difficult and will take time.

14. ***Academic Freedom***—Critical to the success of the *Flagship University* is the principle of Academic Freedom which can be defined as the following:

> The freedom of faculty to determine the content of what they teach and the manner in which it is taught and the freedom to choose the subjects of their research and publish the results. It also guarantees that they will not be penalized for expressions of opinion or associations in their private or civic capacity. [24]

This is Columbia University's statement on academic freedom. But there are many similar statements, including the 2013 "Hefei Statement on the Ten Characteristics of Contemporary Research Universities" formulated as an international declaration and jointly sponsored by the Association of American Universities, the Group of Eight Australia, and the League of European Research Universities. The statement reads: "The responsible exercise of academic freedom by faculty to produce and disseminate knowledge through research, teaching and service without undue constraint within a research culture based on open inquiry and the continued testing of current understanding, and which extends beyond the vocational or instrumental, sees beyond immediate needs and seeks to develop the understanding, skills and expertise necessary to fashion the future and help interpret our changing world." [25]

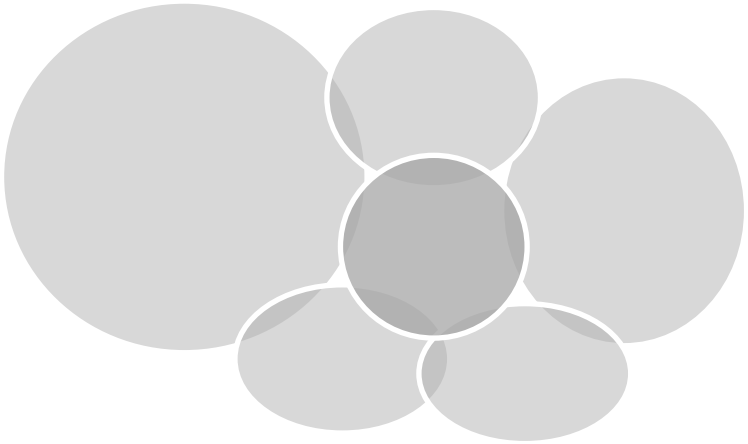
Similar rights should be extended to students, in regards to freedom of expression. Yet for both faculty and students, there are restraints in all societies in some form regarding speech—including "hate speech" or varying forms of sedition. The cultural and political environment in which *Flagship Universities* operate cannot be ignored; yet each should have some formal statement of Academic Freedom, including an axiom that in some fashion states that no political test shall ever be considered in the

appointment and promotion of any faculty member or employee.

15. ***Quality/Accountability***—In all nations with advanced systems of higher education, ministries or other government entities have evolving efforts of insuring quality and accountability. Yet the marker of a *New Flagship University* is its own internally derived efforts at institutional quality intended to induce a culture of self-improvement and that link its teaching, research, and public services mission with rules and behaviors of faculty and other members of the academic community.

16. ***Faculty Appointment and Advancement***—The faculty at *Flagship Universities* need clear outlines of expectations that help shape behaviors and advance the broad range of responsibilities of an institution, and that are based on a process of peer review – and not on a civil service structure. How to evaluate faculty performance and promise? It is important to recognize considerable variation in the research interests of faculty. Harking back to the previous sections, some pursue traditional forms of research and other "engaged scholarship."

Figure 1.6. Five Spheres of Faculty Appointment and Promotion



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

Research and Creative Work

Further, faculty teaching, research, and public service interests evolve over time. Figure 1.6 provides a conceptualization of the primary areas of responsibility and activity for faculty: teaching and mentoring, research and creative work, professional competence and activity, university service (including activities related to academic management at the program, discipline, and campus-wide levels), and public/community service. Like the previous depiction of the experience of undergraduates and graduate students, the size of each sphere is only an example of a faculty member with significant research productivity. Theoretically, the weighting will vary depending on faculty members' interests, abilities, and stage in their academic careers.

a. ***Faculty Responsibilities*** - Based on this model, the following provides a sample of criteria for faculty appointment and advancement adopted from policies at the University of California:[26]

Teaching—Clearly demonstrated evidence of high quality in teaching is an essential criterion for appointment, advancement, or promotion that includes documentation of ability and diligence in the teaching role. In judging the effectiveness of a candidate's teaching, peer review should consider such points as the following: the candidate's command of the subject; continuous growth in the subject field; ability to organize material and to present it with force and logic; capacity to awaken in students an awareness of the relationship of the subject to other fields of knowledge; fostering of student independence and capability to reason; spirit and enthusiasm which vitalize the candidate's learning and teaching; ability to arouse curiosity in beginning students, to encourage high standards, and to stimulate advanced students to creative work; personal attributes as they affect teaching and students; extent and skill of the candidate's participation in the general guidance, mentoring, and advising of students; effectiveness in creating an academic environment that is open and encouraging to all students, including development of particularly effective strategies for the educational advancement of students in various underrepresented groups.

Attention is payed to the variety of demands placed on instructors by the types of teaching called for in various disciplines and at various levels, and should judge the total performance of the candidate with proper reference to assigned teaching responsibilities.

Research and Creative Work—Evidence of a productive and creative mind should be sought in the candidate's published research or recognized artistic production in original architectural or engineering designs, or the like. Publications in research and other creative accomplishment should be

evaluated, not merely enumerated. There should be evidence that the candidate is continuously and effectively engaged in creative activity of high quality and significance. Work in progress should be assessed whenever possible. When published work in joint authorship (or other product of joint effort) is presented as evidence, it is the responsibility of the department chair to establish as clearly as possible the role of the candidate in the joint effort. It should be recognized that special cases of collaboration occur in the performing arts and that the contribution of a particular collaborator may not be readily discernible by those viewing the finished work.

Professional Competence and Activity—In certain positions in the professional schools and colleges, such as architecture, business administration, dentistry, engineering, law, medicine, etc., a demonstrated distinction in the special competencies appropriate to the field and its characteristic activities should be recognized as a criterion for appointment or promotion. The candidate's professional activities should be scrutinized for evidence of achievement and leadership in the field and of demonstrated progressiveness in the development or utilization of new approaches and techniques for the solution of professional problems, including those that specifically address the professional advancement of individuals in underrepresented groups in the candidate's field.

University and Public Service—The faculty plays an important role in the administration of the University and in the formulation of its policies. Recognition should therefore be given to scholars who prove themselves to be able administrators and who participate effectively and imaginatively in faculty government and the formulation of departmental, college, and University policies. Services by members of the faculty to the community, State, and nation, both in their special capacities as scholars and in areas beyond those special capacities when the work done is at a sufficiently high level and of sufficiently high quality, should likewise be recognized as evidence for promotion. Faculty service activities related to the improvement of elementary and secondary education represent one example of this kind of service. Similarly, contributions to student welfare through service on student-faculty committees and as advisers to student organizations should be recognized as evidence, as should contributions furthering diversity and equal opportunity within the University through participation in such activities as recruitment, retention, and mentoring of scholars and students.

b. ***Standards of Ethical Conduct and Conflict of Interest Policies***—Faculty, and staff, are increasingly engaged in activities outside of the

university, often serving the larger public service role of the university, sometimes with additional compensation. Universities need policies that insure that these university employees are maintaining their commitments in time and service, such as teaching courses and mentoring students. They must also avoid engaging in consulting and research grants in which their financial interests may interfere with normal duties as university employees or their impartial judgment as researchers.

National or regional governments may have general policies related to ethical conduct, but universities need to have their own set of policies and the means to enforce them. Here is an example of policies at the University of California that reflect state policies:

> Employee members of the University community are expected to devote primary professional allegiance to the University and to the mission of teaching, research and public service. Outside employment must not interfere with University duties. Outside professional activities, personal financial interests, or acceptance of benefits from third parties can create actual or perceived conflicts between the University's mission and an individual's private interests. University community members who have certain professional or financial interests are expected to disclose them in compliance with applicable conflict of interest/conflict of commitment policies. *In all matters, community members are expected to take appropriate steps, including consultation if issues are unclear, to avoid both conflicts of interest and the appearance of such conflicts.*[27]

c. ***Program Review***—Reviews of existing academic programs ensure that standards of excellence are maintained and that schools and departments have an opportunity to plan strategically for the future.

In many parts of the world, academic program review, like post-tenure review, are new concepts. Increasingly, ministries of education are creating requirements for forms of program review and accreditation. But the most significant path for institutional self-improvement, and evidence based management, are internal, campus driven review processes that can offer an honest assessment of the strengths and weakness of a department, like history, or physics, or a college.

Effective Academic program reviews are designed to elicit input from faculty, students and staff of the department under review. The model at Berkeley, and similar to that at other top public universities, is to perform a review of an academic department, school or program that includes the following:

- A Program Review Committee of the Academic Senate coordinates and monitors the review process, with staff support offered by the campus' office of institutional research.
- Each department, school or program undertakes a self-study, assessing its intellectual agenda, its programmatic goals and resources, and identifying critical challenges and opportunities facing it. The department, or unit, is supported in this effort by data provided by the Office of Planning and Analysis.
- A carefully selected external committee completes a report based on its interviews with faculty, students, and staff and relevant review documents provided by an institutional research office. The academic program being reviewed has the opportunity to respond to the committee's report and to one written by the member of the Senate's Program Review Committee. Subsequently, all review documents are submitted to the Academic Senate for the committees' and the Executive Vice Chancellor (or EVC, the head academic officer at Berkeley) response.
- Reviews culminate in an outcome letter that delineates action items for units, deans, and central administrators. The dean responsible for the program under review completes the EVC and senate reports are distributed to units after the review.
- The EVC outcome letter is formally transmitted to the unit, which concludes the review. At this point, all review reports and the outcome letter become part of the public record.

The unit is expected to take actions to address the findings of the program review. The outcome letter designates the timeline for acting on the recommendations. The unit is expected to report on actions it has taken as part of its annual request for new or replacement faculty positions to the responsible dean unless otherwise negotiated at the wrap-up meeting. The dean is expected to comment on the unit's progress in his/her annual request for new faculty positions. The institutional research office is responsible for maintaining a database of initiatives undertaken in response to the recommendations.

17. ***Diversity of Funding Sources***—Most universities in the world are seeking a greater array of financial sources, moving away from a funding model dependent completely or largely from the government (national or municipal). Should *Flagship Universities* have a certain mix or balance of funding sources? Besides the particulars of the nation/state they operate in and, specifically, the dependency level on ministerial funding, it also depends on the array of programs and activities of an institutions.

In the US, for example, state governments were the primary source of operating funds for institutions such as Berkeley, Michigan, Texas, and North Carolina. In the 1950s, state funding would have represented some 70 percent of a public universities operating budget. Today, Berkeley, for example, has only 12 percent of its operating budget coming from state government, with the other major sources of funding coming from tuition and fees, research grants and contracts, and income from patents and gifts. On the one hand, this reflects significant decline in state investment in higher education, accelerated by the Great Recession); on the other hand, it reflects the growing diversity of activities by research intensive universities—a trend that is global.

The key is that while *Flagship Universities* generally are diversifying their funding sources, they retain a commitment to their regional and/or national socioeconomic role. At the same time, a diversified funding portfolio promises greater funding stability and, in most circumstances, a path to greater institutional autonomy.

18. ***Institutional Research Capacity***—Institutional research (IR) is an essential activity for *Flagship University*. Most universities have had very limited formal policies and strategies for gathering institutional data, and for employing trained staff to generate the information and analysis required for competent and innovative management. One catalyst for increasing IR capacity is the growing demand of ministries for data to meet evolving accountability schemes; various inter-national and national ranking efforts are also leading to relatively new campus efforts to generate and maintain databases and formulate strategies for improving citation index scores and similar measures of output.

    In many research-intensive universities, however, there remains a significant lack of IR capacity and understanding, by academic leaders and by faculty, of the critical role of IR for institutional self-improvement and quality control. *Flagship Universities* need to focus on their own data and analysis needs, including internal accountability efforts like Program Review, and not simply react to external demands. IR capability generally includes the following co-dependent functions:

    - Data development and maintenance on core university activities
    - Enrollment, personnel, and financial management
    - Outcomes assessment, program review, accreditation
    - Institutional reporting and analysis
    - Strategic planning.

Figure 1.7. Example: Organization of an Institutional Research Office

Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

These are interconnected purposes, of course, that link general data collection and management with efforts at strategic planning. But how to effectively pursue them? Figure 1.7 offers a model on how an Institutional Research office at a *Flagship University* might be organized. All major universities need a professional IR staff. They also need to seek collaborations with similar regional or national universities, and even international partners, to help build a comparative perspective, and to bolster institutional research as a profession with common standards of data collection, research, and analysis methods.

Yet there remains in many research-intensive universities a lack of IR capacity and a poor understanding among campus leaders of the critical role and potential benefits of a more organized effort essential to advanced management and information based decision-making at all levels of university administration. [28] Information is power. It is of course ironic that most universities have extremely limited IR capabilities, partially understandable, as most universities have had a decentralized structure of decision-making and, until recently, limited accountability demands externally. Organizational models may differ, including the focus of IR efforts that are influenced by the varying demands of ministries.[29] Yet I sense that all campuses need some form of a centralized IR office and that, as over time, and since information is power and helpful in requesting

resources, for example, IR capacity will be increasingly found at various levels of campus administration.

19. ***International Cooperation and Consortia***—While *Flagship Universities* should have a strong focus on the regional and national needs, they must also leverage collaborations with faculty, programs, and more generally universities in other parts of the world. There are numerous opportunities to bolster the teaching, research, and public service activities, and to also learn about best practices and build specific program and institutional strategies based, in part, on a comparative view.

    This essay assumes that there is significant policy convergence in the activities, and social and economic demands, being made of public universities; a corollary is that institutions, and national ministries, can learn much from each other and benefit greatly by exposure and participation in how institutions can best meet their missions and, ultimately, to improve.[30] Indeed, international cooperation and joint activities can be transformative interactions.[31]

    At the same time, universities, whether a *Flagship* or otherwise, need to focus their international engagement so that it supports and does not detract from its local or regional role and effectiveness. Arguably, there are institutions who have formed various forms of international agreements and programs that are not well focused on this goal and, sometimes, appear to value the volume of engagements than in their value and the costs to the institution—in money, but also faculty time, etc. This is not to discourage experimentation and risk taking. But we are in the early stages of volume and various forms of international engagements by universities, by nation's subsidizing, for example, branch campuses.[32]

National Context and Other Variables

The *Flagship University* model purposefully offers an alternative conceptual approach to the vague World Class University paradigm. Yet my goal is more ambitious: to support the ethos and an institutional culture among a select group of institutions, self-identified or formally so by national or even regional governments, and rooted in a devotion to national and regional relevancy and supported by an internal culture of self-improvement. The best universities are always striving to get better, and not simply in the realm of research.

At the same time, there are national and regional contextual or environmental variables that shape the sustainability or emergence of the *Flagship University*. These include, but are not limited to, the following:

- ***History of Higher Education System Building***—Different nations have significantly different histories of how they built their higher education systems, which, in turn, influences efforts at reform. As noted previously, if the national political culture traditionally supported uniformity among universities, in their mission and funding, then any effort to create differentiated missions among sometimes politically powerful universities will hinder any official government designation of the *Flagship* title and needed financial resources. Yet leading universities in a region or nation, with components of the *Flagship* model, including a breadth of academic programs across the disciplines and a culture and programs focused on public service, may self-identify as a *Flagship*, adopt the language and perhaps use it in helping to shape its institutional culture and discussions with ministries and the public.
- ***Demographic Variables and Economic Growth***—Nation/states with growing populations, often accompanied by increasing diversity, including immigrant groups, are in particular need of universities that claim or exude the ethos of the *Flagship University*. Generally, but not always, universities are then operating in an environment of increased enrollment demand and financial resources. Stable or declining populations and economies create a more difficult environment for the *Flagship* model, but may lead to a focus on certain aspects of the model, including public service, tech transfer, and regional economic development.
- ***Gender, Racial, and Class Discrimination***—A variable related to demography are those policies and cultural practices that discriminate on the basis of gender, race or class. To some extent, all societies suffer this social malady that excludes or segregate groups not by actual or potential academic ability, but based on societal biases. One extreme manifestation is gender discrimination, excluding women from some or all forms of higher education. Severe forms of formal and sometimes informal discrimination essentially bars any nation from achieving a *Flagship University*.
- ***Democratic Traditions and Stable Governments***—Nations that have strong democratic traditions, and widespread faith in the capability and openness of government, generally provide the foundation, along with diversified and growing economies, for a viable higher education system and the *Flagship* model. Failed states, or highly centralized and controlling oligarchies create significant limits on the ability of universities to be fully engaged in the *Flagship* ideal. At the same time, some nations with strong democratic traditions can have ministries that are constantly pursuing major changes in accountability regimes and funding models, resulting in an unstable policy environment and that distract from internally derived mechanisms for quality assurance and strategies for regional and national relevance.

- ***Quality Feeder System of Students***—The path to a university, including the quality of secondary education, is a major factor for buttressing one of the *Flagship Universities* main goals: equitable access. Almost all universities, including those who are ranked or view themselves as among the elite and best quality, have thus far largely neglected their potential to help shape and influence the quality of their respective national school systems. As outlined in the *Flagship* model, there are a wide array of activities in which universities can be engaged in supporting and shaping the curriculum and experience of prospective students, and generally the education of all students, and providing outreach to regional school systems.
- ***Open Societies***—Societies that suffer from extreme forms of discrimination, and that do not provide significant levels of freedom of speech and widely understood standards of academic freedom, are excluding themselves from the pantheon of truly great universities. University academics and leaders understand this and have made various attempts to articulate it, and to seek improvements in nations that have significant government controls on information and designated forms of sedition. [33]
- ***Attracting and Retaining Talented Faculty***—It is a simple truth that the quality and achievements of a university, *Flagship* or otherwise, is determined by the quality and morale of its faculty. From this fact come other markers of quality and excellence, including attracting and enrolling top quality graduate students who are increasingly operating in a global market for academic degree programs. There are, however, many variables that make the process of recruiting and retaining high quality faculty difficult. Particularly in developing economies, there is generally a shortage of PhD programs and graduates trained as both teachers and researchers. Faculty with the appropriate credentials and abilities are generally more mobile with many educated abroad in more developed economies. They can be difficult to retain when better paying options abroad can seem attractive. [34]

The global mobility of talent—whether faculty, staff, or students—poses great opportunities and challenges. What strategies universities can use to create a critical mass of good to top quality academics, and to retain them, varies tremendously, influenced by quality of life issues, pay, teaching loads, and the sense of purpose and vibrancy of the university itself. The *Flagship* model focuses on institutional values and expectations of faculty, and their appropriate role in management and governance.

- ***University Management and Governance Capacity***—Much of the *Flagship* model focuses on the operational aspects of an institution, including the appropriate levels of institutional autonomy, the role of faculty in management

versus that of the academic administration, expectations for faculty and the process for their advancement, policies related to academic freedom, etc.

Yet there are other elements related to the management and governance capacity of institutions that include the quality and respect faculty have for a university's leadership team, and the ability to create a process of consultation and consensus for major policy initiatives, and the spending of resources. Institutions that are constantly reacting to ministerial directives, including where and how funding should be spent, or, to provide another example, that have highly decentralized organizations in which department or schools are seemingly immune to university wide efforts at reform and resource re-allocation, each reduces the capacity of institution to mature and expand their role in society.

International Assessments of the *New Flagship* Model

The *Flagship* model has a number of major assumptions, including that national and regional higher education systems have significant levels of mission differentiation among institutions and a place for only a select number of truly leading or *yi liu* universities; that there is a significant level of policy and practice convergence, and best practices that can be adopted to different national cultures and traditions; and that universities can manage their evolution if given enough autonomy and sufficient levels of academic freedom.

The political, economic, and cultural peculiarities may make such assumptions a non-reality in many nations—for now. Such was the conclusion for a number of the authors who contributed chapters to the *New Flagship University* book focused on the role of leading national universities in Latin America, Russia, and Asia, They noted that the biggest obstacles lay often in inadequate public funding models, the incalcitrant civil service mentality of faculty, severely inadequate university governance and management structures, mounting governmental controls and, often, political dynamics that make universities inordinately subject to political movements and encroachments.

In their assessment of the *New Flagship* model, Amasa P. Ndofirepi and Micheal Cross note that, "In their pursuit of competitiveness, higher education institutions across Africa set themselves the target of becoming 'world class,' and labels such as a 'world-class African university' are not uncommon in their mission statements." The authors see greater value in the *New Flagship* identity and conclude: "Without being overly selective, we propose the possibility of strengthening a few existing, fully established universities in each country to pursue the *Flagship* model, on condition that they prioritise African interests in order to become an authentic African university."[35]

For universities in Asia, Phan Le Ha has written that it is more than, "just blue-sky thinking but a solid concept that governments and countries would find useful to adopt to reform their higher education systems and deliberate over their future." [36] In an article in *University World News*, Elizabeth Balbachevesky sees the *New Flagship University* model that exposes the weaknesses of leading university in Brazil, and in particular the University of Sao Palo (USP). USP has the reputation as the top research-intensive university in all of South America, ranking highly in the QS World University Rankings by Subject and the Shanghai Jiaotong rankings. But in her view, USP's role as a vehicle of socioeconomic mobility and regional economic development is lagging.

"What is the missing link that prevents USP from fulfilling the role of a *New Flagship University*? I would like to advocate that its main problem arises from its governance processes . . . this unrestricted autonomy coupled with the lack of a clear and independent voice coming from outside make the university deaf to societal demands and expectations, and leave the rector and the senior administration hostage to internal power struggles. This situation," Balbachevesky continues, "combined with the politicization of university life, prevents the university from performing a real *Flagship* role, providing leadership and actively searching for collaboration with other higher education institutions." [37]

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National higher education systems in Asia and elsewhere are rapidly changing. Many academic leaders and some ministries are beginning to understand that the bell-curve approach of rankings and the research dominant notion of WCU are no longer adequate to help guide policy, funding, and practice. Might the *New Flagship* model provide a pathway to a more elevated discussion on the role and outputs of leading national universities?

It is important to again note that the *New Flagship* model is not a rejection of global rankings of universities. Ranking products are here to stay, with good and bad consequences. They are a useful international benchmark for ministries and universities, and for students who seek a means to unpack the growing market of higher education providers. The problem is, to reiterate, they represent a very narrow band of what it means to be a leading university within a region, within a nation, and in turn globally. Strategic initiatives by national governments, and by university leaders, are getting lost in the weeds of rankings and the rhetoric of "World Class."

My hope is that that the *New Flagship* model provides a path for some universities, in Asia and elsewhere, to explain and seek a revised institutional identity, to help them build a stronger internal culture of self-improvement

and, ultimately, a greater contribution to the economic development and socioeconomic mobility rates that all societies seek.

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Notes

[1] Offering a similar critique of rankings and the WC university model, Simon Marginson and Ma Wanhua have offered the idea of "the criterion-referenced notion of the "Global Research University" (Ma 2008; Marginson 2008), which allows for the material elements underpinning the performance of institutions to be observed and measured. Moreover, there is no limit to the number of universities (and systems) that can acquire these qualities, for the tag "global research university" is not confined to the top 50 or 100 institutions." See Marginson 2008. "Ideas of a University" for the global era. Paper for seminar on Positioning University in the Globalized World: Changing Governance and Coping Strategies in Asia. Center of Asian Studies, The University of Hong Kong; Central Policy Unit, HKSAR Government; and The Hong Kong Institute of Education, December 10-11, The University of Hong Kong; Ma 2008. The University of California at Berkeley: An emerging global research university. Higher Education Policy, 21(1): 65–81. I see value in this revision to the WC model, but it remains largely a research focused concept of what a leading university should be, whereas the *Flagship* concept is a broader view of the appropriate the ideals of an institutions mission and role in society.

[2] In the US, there has been a long history of academic efforts at ranking the quality of institutions, or graduate programs. The arrival of commercial rankings came in 1985. That year, seeking new forms of income, the *US News & World Report* published its first "America's Best Colleges" report—the most widely quoted of their kind in the United States. Since 2003, Shanghai Jiao Tong University has produced the *Academic Ranking of World Universities*, analyzing the top universities in the world on quality of faculty (40%), research output (40%), quality of education (10%) and performance vs. size (10%). Its ranking is exclusively of research universities, mainly in the empirical sciences. The *Times Higher Education* publishing its first annual *Times Higher Education–QS World University Rankings* in November 2004. On October 30, 2009 *Times Higher Education* broke with QS, then its partner in compiling the Rankings, and signed an agreement with Thomson Reuters to provide the data instead.

[3] Francisco O. Ramirez and Dijana Tiplic provide an analysis of the growth in the focus on WCU in higher education journals over time, with a significant jump in the use of World Class University beginning in 2006. Francisco O. Ramirez and Dijana Tiplic. 2013. "In Pursuit of Excellence? Discursive Patterns in European Higher Education Research." *Higher Education*.

[4] U-Multirank is based on a proposal in the Commission Communication on modernisation of Europe's higher education systems (COM 2011, 567

final) [1] (accompanied by Staff Working Document [SEC 2011, 1063] final), 5-6) and is implemented by a consortium of research organizations—CHERPA Network (Consortium for Higher Education and Research Performance Assessment) under a two-year project funded by the European Commission. A preparatory study "Design and Testing the Feasibility of a Multidimensional Global University Ranking," concluded in June 2011 demonstrated the feasibility of this project.

[5] "[A]s the world continues to flatten and specialize, profile databases must broaden in scope, deepen in content, and become increasingly flexible," states Thomson Reuters project website. In some ways this reflects a similar effort to move away from the computational rankings of institutions toward program and other sub-unit forms of analysis[5] for the European Higher Education Area noted previously. Available online at: http://ip-science.thomsonreuters.com/global profilesproject/.

[6] Universitas21 and the Melbourne Institute of Applied Economics and Social Research, *U21 Ranking of National Higher Education Systems 2013,* University of Melbourne, May 2013.

[7] The Times Higher Education World Rankings claim that it is, "the only global university performance tables to judge world class universities across all of their core missions—teaching, research, knowledge transfer and international outlook. The top universities rankings employ 13 carefully calibrated performance indicators to provide the most comprehensive and balanced comparisons available, which are trusted by students, academics, university leaders, industry and governments."

[8] The production and publication of academic knowledge has distinct geographies. This map uses data from the Web of Knowledge Journal Citation Reports (JCR) from 2009, allowing us to measure the locations and impact factors of journals. The JCR Science Edition contains references from over 7,300 journals in science and technology. The JCR Social Sciences edition contains references from over 2,200 journals in the social sciences. A reference for each of the 9,500 journals in the sciences and social sciences was downloaded to extract the journal's location. A cartogram is used in which each country is represented by a box that is sized according to the number of journals published from within it. The shading of each country indicates the average impact factor (a measure of how often articles within a journal are cited) of journals within that country.

[9] Germany's Excellence Program. Available online at: http://www.Germaninnova tion.org/research-and-innovation/higher-education-ingerm any/excellence-initiative

[10] Ibikunle H. Tijani. "Developing World Class Universities in Nigeria: Challenges, Prospects and Implications." Paper delivered at the 2nd FUNAI Leadership Development Seminar, Federal University Ndufu-Alike Ikwo, Ebonyi State, Nagieria, June 5, 2013; "Guidelines for raising Nigerian universities to world class status." Report submitted to the National Universities Commission (NUC) and the Association of Vice Chancellors of Nigerian Universities (AVCNU), September 27-29, 2010.

[11] Jannuzi, Charles. 2008. "Japan Aims for 'World Class' Universities." Japan Higher Education Outline, February 5, 2008. Available online at: http://japanheo.blogspot.jp/ 2008/02/japan-aims-for-world-class-universities.html; Kenglun Ngok and Weiging Guo,

2008. "The Quest for World Class Universities in China: critical reflections." *Policy Futures in Education*, 6(5).

[12] Eugene Vorotnikov. 2013. "Government approves universities for world-class bid." *University World News*, September 11, 2013. Available online at: http://www .universityworldnews.com/article.php?story=20130911144451887 .

Smolentseva, Anna. 2010. "In Search for World-Class Universities: The Case of Russia." *International Higher Education* 58: 20–22.

[13] Among the publications sponsored by the World Bank is a professed "guide" to build a "research university from scratch." See Philip G. Altbach and Jamil Salmi, *The Road to Academic Excellence: The Making of World-Class Research Universities*, Directions in Development Series.

[14] Held in Shanghai and supported by the Academic Ranking of World Universities based at Shanghai Jiaotong University, the 5th International Conference on World-Class Universities occurred on November 3-8, 2013. Participants general come from campuses that do not rank among the top universities under the ARWU ranking. Available online at: http://www.shanghairanking.com/wcu/cp.html.

[15] Jamil Salmi, The Challenge *of Establishing World-Class Universities,* Directions in Development, World Bank: Washington D.C., 2009; Deem, R., K. H. Mok, and L. Lucas. 2008. "Transforming Higher Education in Whose Image? Exploring the Concept of the 'World-Class' University in Europe and Asia." *Higher Education Policy* 21(1): 83–97.

[16] In a paper presented in 2006 attempting to help define what a World Class University is, Henry M. Levin, Dong Wook Jeong and Dongshu Ou at Teachers College, Columbia University, noted the subjectivity of the title, noting for example: "Although teaching, service to society, and research are all emphasized in the statements on what makes a great university, reputational ratings seem to be limited largely to the research dimension on the basis of our statistical analysis." Henry M. Levin, Dong Wook Jeong and Dongshu Ou, "What is a World Class University?" Paper presented at the Conference on Comparative & International Education Society, Honolulu, Hawai'i, March 16, 2006. Available online at: http://www.tc.columbia.edu/centers/coce/pdf_files/c12.pdf.

[17] See Wende, M.C. van der. 2014. "On Mergers and Missions Implications for Institutional Governance and Governmental Steering." In *Global Outreach of World-Class Universities: How It is Affecting Higher Education Systems*, eds. Q. Wang, Y. Cheng, and N.C. Liu. Center for World-Class Universities. Jiao Tong University, Shanghai. Sense Publishers: 137-153. Wende, M.C. van der. 2013. "An Excellence Initiative in Liberal Arts and Science Education—The Case of Amsterdam University College." In *Building World-Class Universities. Different Approaches to a Common Goal*, eds. Wang, Qi, Cheng, Ying, Cai Liu, Nian. Center for World-Class Universities. Jiao Tong University, Shanghai. Sense Publishers: 89-103.

[18] Jamil Salmi, a major proponent of the WCU model writes warnings: "Avoid overdramatization of the value and importance of world-class institutions and distortions in resource allocation patterns within national tertiary education systems. Even in a global knowledge economy, where every nation, both industrial and developing, is seeking to increase its share of the economic pie, the hype surrounding

world-class institutions far exceeds the need and capacity for many systems to benefit from such advanced education and research opportunities, at least in the short term. Indeed, in some countries where the existing tertiary education institutions are of higher quality than the economic opportunities available to graduates, excellent tertiary education may exacerbate existing brain-drain problems."

[19] Philip G. Altbach and Jamil Salmi. 2011. *The Road to Academic Excellence: The Making of World-Class Research Universities*. Directions in Development Series. The World Bank.

[20] Based at the ARENA Center for European Studies at the University of Oslo, the research project is titled European *Flagship Universities*: Balancing Academic Excellence and Social Relevance. Available online at: www.sv.uio.no/arena/english/ research/pro jects/*Flagship*/.

[21] The HERANA project is supported by funding by the Ford Foundation and the Carnegie Corporation and includes the University of Botswana, Cape Town, Dares Salaam Tanzania, Eduardo Mondlane University Mozambique, University of Ghana, Makerere University Uganda, Mauritius, and the University of Nairobi Kenya. Beyond developing comparative data and analysis, it has the goal as, "to disseminate the findings of the research projects, better co-ordinate existing sources of information on higher education in Africa, develop a media strategy, and put in place a policy dialogue via seminars and information technology that facilitates interactions between researchers, institutional leaders and decision-makers." Available online at: www.chet.org.za/programmes/ herana/.

[22] David C. Mowery, Richard R. Nelson, Bhaven N. Sampat, and Arvids A. Zeidonis. 2004. *Ivory Tower and University-Industry Technological Transfer Before and After the Bayh-Dole Act*. Stanford CA: Stanford University Press.

[23] In 1957, Justice Felix Frankfurter set an anchor for academic freedom in the US, drawing from language of South African educators then fighting their nation's ban on education of whites and non-whites in the same university: *" . . . It is the business of a university to provide that atmosphere which is most conducive to speculation, experiment and creation. It is an atmosphere in which there prevail `the four essential freedoms' of a university—to determine for itself on academic grounds who may teach, what may be taught, how it shall be taught, and who may be admitted to study."* Sweezy v. New Hampshire 354 US. 234 (1957).

[24] This is one sample statement drawn from Columbia University, but many similar statements can be found at major research universities.

[25] Group of Eight. 2013. "Hefei Statement on the Ten Characteristics of Contemporary Research Universities." Joint statement of the Association of American Universities, Group of Eight, League of European Research Universities, Chinese 9 Universities October 10, 2013: Available online at: http://www.leru.org/files/news /Hefei_statement.pdf.

[26] This outline of criteria is adopted from the University of California's Academic Personnel Manual (APM), section 120.

[27] Business and Finance Bulletin. 2010. Available online at: http:// policy.ucop.edu /doc/1220367/BFB-G-39.

[28] Volkwein, Fredericks J., Ying Liu, and James Woodell. 2012. "The Structure and Functions of Institutional Research Offices." In *The Handbook of Institutional Research*, eds. Richard D. Howard, Gerald W. MacLaughlin, and William E. Kight. San Francisco: Josse-Bass.

[29] Chirikov, Igor. 2013. "Research Universities as Knowledge Networks: The Role of Institutional Research." *Studies in Higher Education*. 38(3): 456-469.

[30] Douglass, John Aubrey. 2009. "Higher Education's New Global Order: How and Why Governments are Creating Structured Opportunity Markets." CSHE Research and Occasional Papers Series, December. Available online at: http://cshe.berkeley.edu /publications/publications.php?id=348. See also Douglass, John Aubrey. "The Race for Human Capital." In *Globalization's Muse: Universities and Higher Education Systems in a Changing World*, eds. J. Douglass, C.J King and I. Feller. Berkeley Public Policy Press.

[31] For a discussion of models for international consortia, see Tadaki, Marc and Christopher Tremewan. 2013. "Reimagining Internationalization in Higher Education: International Consortia as Transformative Space?" *Studies in Higher Education* 38(3): 367-387.

[32] See Edelstein, Richard and John Aubrey Douglass. 2012. "The Truth About Branch Campuses." *Chronicle of Higher Education*, February 27, 2012. Available online at: http://chronicle.com/article/To-Judge-International-Branch/130952/.

[33] Group of Eight. 2013. "Hefei Statement on the Ten Characteristics of Contemporary Research Universities." Joint statement of the Association of American Universities, Group of Eight, League of European Research Universities, Chinese 9 Universities October 10, 2013. Available online at: http://www.leru.org/files/news /Hefei_statement.pdf.

[34] A series of studies developed by the Centre for Higher Education Transformation has outlined the capacity challenges for sub-Sahara African universities due to a significant degree to the lack of faculty with the doctorate, a poor pipeline to supply the growing number of faculty positions, along with other factors including inadequate time and funding for faculty directed research. Higher Education Research and Advocacy Network in Africa (HERANA) Center for Higher Education Transformation, Cape Town, South Africa. Available online at: http://chet.org.za/programmes/herana/.

[35] Ndofirepi, Amasa P. and Michael Cross. 2016. "World-class or *Flagship*—Which way for universities?" *University World News,* No. 183, October 21, 2016; see also Teferra, Damtew. 2016. "*Flagship universities*—Enrollment, typology, graduates." *University World News*, Global Edition Issue 396, January 16, 2016.

[36] Le Ha, Phan. 2016. "A realistic model for international universities," *University World News,* January 22, 2016 Global Edition Issue 397.

[37] Balbachevsky, Elizabeth. 2016. "Academically excellent, but deaf to society's needs." *University World News*, January 29, 2016 Global Edition Issue 398.

Chapter 2
The *New Flagship University* in the Context of Asian Higher Education Traditions

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Asia's cultural and regional diversity has profoundly shaped the evolution of its higher education institutions and systems. It is commonly thought that Asian universities have their roots in the West. Historically, however, those regions under the influence of China and India have long, indigenous higher education systems. The region influenced by China, what is now called East Asia (Japan, Korea, Taiwan, Hong Kong, Mongolia, and some might say Singapore and Vietnam due to the large Chinese populations), has a several thousand-year old history of higher education development. India, and the South and Southeast Asian nations that are culturally associated with that large country, are also distinguished by long-standing higher education histories.

These strong intellectual traditions were firmly entrenched in the local context prior to Western contact and continued to influence and dominate, in many aspects, the social, cultural and educational life of the Asian region (Hawkins 2013). This is consequential for this volume. The idea of a *New Flagship University* clearly exists in Asia, but is mediated by this enduring higher education legacy, and might often be called something else in the national languages. Here I will focus on the East Asia tradition that encompasses much of the region in what has also been called Sinicized Asia, and where China looms large, keeping in mind that, as Douglass points out in Chapter 1, the *New Flagship* model is a holistic, aspirational, and relatively new concept of the modern university not yet fully understood or embraced by Asian institutions. Why and how they might adopt this model on their own cultural and social terms relates very much to their rich historical traditions.

Modalities of Higher Education in the Traditional Context

It is useful to discuss the intellectual history of China to provide a framing for the discussion of educational forms that, it is argued, have had a profound and lasting influence on East Asia and China's 20th and 21st century higher education transformation. They have also powerfully shaped Chinese higher education's

response to the West, including the contemporary consideration of the *New Flagship* model.

The intellectual foundations of China are associated with a brief historical period during the latter part of the Zhou dynasty (500-200 BCE), popularly termed the "golden age" of philosophy in China, for it was at this time that the major philosophers and thinkers who came to dominate traditional Chinese intellectual, and eventually educational thought, lived and worked (Mote 1971). Thinkers as diverse as Confucius and Laoze are purported to have vied with each other intellectually during this period. It was also at this time that the basic foundations of Confucianism, Daoism, and the later development of Legalism were formed, thus providing the primary groundwork for future East Asian and Chinese cultural and educational development.

Although Confucianism was eventually to triumph as the predominant intellectual strain in Chinese thought, the traditions of Daoism and Legalism made important contributions in this early period. When Confucianism was declared the state philosophy during the Han dynasty (202 BCE–220 CE) there was already a mixture of Daoism (particularly the laissez faire attitude toward economics) and Legalism (bureaucratic organization and administrative control) present, resulting in the fact that Confucianism became a useful tool for the state, but never its master (Ho 1962; Ho 1968).

The moral code permeating Chinese education from the time of Confucius to the Qing dynasty consisted of a set of codes regarding social relationships such as those between parents and children, brothers and sisters, teachers and students, subject and ruler. These hierarchical social relationships, especially between teachers and students, have carried over into the modern era throughout the region. The proper harmony among these relationships resulted in the individual expression of *ren* (仁), or benevolence, toward society. This concept of benevolence and harmony became a universal ideal for the Chinese, as well as for educators in Japan and Korea. Because the codes involved social behavior they could be taught, and Confucianism particularly emphasized the power of education to improve society and citizenship in both an intellectual and moral sense (Ho 1968). By providing a model, which people could emulate, education could transform society. There was, in other words, a strong base for the idea of higher education serving the public good.

The sophisticated and deep intellectual tradition of China provided a rich philosophical foundation for the development of an equally sophisticated "educational system." While this was not a system in the sense that we think of today, it contained many of the features that allow us to make comparisons with contemporary educational developments. This early "system" is particularly important in any discussion of the concept of the *Flagship* model. In fact, it may have provided an evolutionary trail leading to the "Western"

university and its iterations in the US and elsewhere. Here the focus will be on higher education, although it is important to note that a wide-ranging pre-collegiate structure gradually came into place during the traditional period that served as a preparatory "system" for the emerging higher educational levels (Galt 1951; Hayhoe 1989). As Hayhoe (1989) has noted, higher educational institutions can be found as far back as the Eastern Zhou dynasty (771-221 BCE). But it was during the Tang (618-907 CE) and later Song (960-1279 CE) dynasties that these institutions reached a maturity that allows us to speak of them as colleges and universities, or places of higher learning and training.

The range was wide, from *guo zi xue* (国子学, "colleges for sons of the Emperor"), to the *tai xue* (太学, often translated as "university") which served a wider though still elite demographic, a variety of professional schools for law, medicine, mathematics, literature, calligraphy, and Daoism among other topics, to smaller, private but often very innovative *shuyuan* (书院), often translated as "academy." These latter institutions constituted a private system in contradistinction to the state run colleges and universities for officials. However, in both cases (the state sponsored and the private HEIs) their purpose was first and foremost to serve the state, to "harmonize" society, and provide the empire with talent and knowledge.

Structure

Only the briefest outline of China's traditional higher education structure can be provided here, especially given the centuries-long period of growth and development, and an effort will be made to focus on those aspects that might be relevant to our discussion of the *Flagship* model. Basically two forms came to dominate this system: senior institutions (i.e., colleges and universities) for the imperial civil service examination (including the *guo zi xue*), and the smaller, private academies (*shuyuan*) which provided both personal enrichment and professional development, and were more closely aligned with the world of work (Galt 1951; Cleverly 1985).

At the apex, the Imperial College was established in 124 BCE as an institution for scholar-officials to study Confucianism. By the Sui-Tang period (581-907 CE) a codified system had been established at this level for examination procedures, assessment, and evaluation in such areas as law, calligraphy, mathematics, and science. A hierarchy of degrees emerged from this system, each with various rights and privileges.

The *jinshi* (进士) was the most advanced degree, but even lower, so-called qualifying degrees had rights and status. An important component of the system was job placement. Graduates were hired directly into career positions by their superiors (not unlike the early post-1949 system in the People's

Republic). The Board of Rites in 736 CE assumed the authority of a central monitoring agency for higher learning, a structure that prevailed right down to the establishment of China's first Ministry of Education in the early twentieth century. The transition to a Ministry a thousand years later was a relatively easy transition due to this well-established legacy of central control and likely has implications for resistance in the modern era to proposals for decentralization (Cleverly 1985).

By the late Imperial period (Ming and Qing, 1368-1644 CE; 1644-1911 CE respectively) there existed a complex yet coherent system of pre-collegiate and collegiate schools. While the structural form of this system shifted over this long historical period, the principal institutions consisted of academies (*shuyuan*), dynastic schools (官学 *guanxue*), clan and family schools (族塾家塾 *zushu jiashu*), charitable schools (義塾 *yishu*), community schools (社学 *shexue*), and two imperial universities (国子监 *guozijian*). This was essentially a two track system, one governmental, elite, and primarily focused on examination preparation, and the other private, also concerned with examination preparation but in addition offering more practical, applied topics as well as self-cultivation (these were predominantly the *shuyuan*). These latter higher education institutions, dating back to the Tang dynasty (618-907 CE) had expanded to the rural areas and thus formed a network that was later used as a platform for "modern" higher education expansion at the provincial, prefectural and country levels (Cong 2007).

It is the *shuyuan* that are of particular interest here. They constituted a widespread and protean higher educational form that predated Western models by 1,300 years, influencing how China later interpreted and adapted Western higher education, including the notion of how it could best serve the public interest, and the pedagogy of engaged learning. The term *shuyuan* came about, as indicated, in the Tang dynasty and originally referred to a scholarly library, which came to signify a place where young men could gather to read books and be instructed by one or more scholars. Heavily influenced by both Buddhism and Daoism, these institutions, unlike the imperial universities, were initially not strongly linked to the Confucian tradition (Meskill 1982).

Over time, these institutions developed a more decentralized organization and management, in contrast to the more centralized Imperial College model, thus framing a debate on the competing values of centralization versus decentralization in higher education; a debate and enduring theme that continues into the present day. It also framed China's response to Western models of higher education, whether presented by the Germans, Japanese, French, the Russians/Soviets, or the US. By the Ming period, the *shuyuan* displayed many of the features of modern higher education, including an "academy" style of campus architecture with lecture halls, various shrines,

dormitory facilities, eating facilities, a library, study bays, and so on, usually situated on roughly one acre of land (Meskill 1982).

By the late Qing dynasty, when confronted with Western higher education, China had two indigenous, historically entrenched, higher education structural models in place: one highly centralized, Confucian and state-centered (the Imperial Colleges and universities); and the other decentralized, where one observed freer discussion and a more innovative curriculum with multiple philosophical influences, including Buddhism and Daoism (Rawski 1979). Later, in the Republican period (1911-1949 CE) when China sought to move forward on a "modernization" track, they were presented with two external traditions that were therefore not unfamiliar to them. These were the European model, with its emphasis on a more centralized approach within more authoritarian structures (not unlike Confucian learning) typified by Beijing University and the German supported Tongji University, and the American model somewhat reminiscent of the *shuyuan*, typified at the top by Qinghua University and a host of missionary colleges and other institutions founded by both missionaries and Chinese scholars recently returned from the US (Hawkins 1973; Franke 1979; Hayhoe 1989; Clark 2006).

Another contrasting feature of indigenous Chinese higher education with the Western models was the institutional identity that corporatization gave European higher education and which by contrast, in the case of Chinese higher education, came either from the State (i.e. the Imperial Colleges) or individuals (i.e. the *shuyuan*). Thus, in the China case, "correct knowledge" was legitimated either by an individual scholar or by the State. Nevertheless, the multiple European influences present in China in the modern period gave them much to choose from without wholly giving up the main elements of either the imperial educational tradition or the *shuyuan*. The structural result, it could be argued, has been the fluid development of a hybrid higher education model, one that is still evolving within a template of the Western model but not entirely of it (Hayhoe 1989; Clark 2006).

Curriculum

In addition to a well-defined higher education organization and management, early Chinese institutions of higher learning had evolving curricula that, like the organization of the institutions themselves, basically reflected two tracks: more formalized Confucian learning designed for the elites, focused on examination preparation; and a more flexible studies program that offered a curriculum closer to professional and personal development. Hayhoe (1989) notes that there were parallels to European traditions which developed later; that is, there were clear boundaries between pure, classical knowledge as reflected in

what needed to be mastered to pass the imperial examinations, and everything else: medicine, mathematics, engineering, chemistry, etc. The successful completion of the former track credentialed one to be chosen for elite positions in the central bureaucracy and the latter for more practical "techniques." This kind of division is reminiscent of tensions and contradictions that are observable in more recent iterations of Chinese higher education, namely between theory and practice, "red and expert," as well as other expressions of the differences between mental and manual labor. This particular hierarchy of knowledge, which set clear boundaries between classical principles and more applied and practical arts, also helps explain China's early attraction to and adaptation of European and later Soviet approaches to higher education, involving specialized institutions and programs, and assigned institutional roles as entities of the state.

Prior to the Song dynasty, as records of the Hanlin Yuan indicate (960-1279 CE), syllabuses show a more diversified curriculum for the Imperial track. Subjects included, in addition to Confucian studies, composition, singing, archery, horsemanship, mathematics, and science. China's stunning advances in science and technology well before similar developments in the West owed much to China's higher education institutions and traditions of inquiry (Winchester 2008). It was here that the curricular basis of the Imperial examination system was established. After the Song dynasty, much greater emphasis was put on literary Confucian orthodoxy with less and less interest in diversification of subject matter. All of this was heavily examination driven, hierarchical, and focused on ranking, and although this system was terminated in 1911, the central role of high stakes examinations and rankings continues to this day in the form of the *gaokao* (高考) (Cleverley 1985).

As indicated earlier, in the second track, the *shuyuan*, the structure of knowledge was highly dependent on time period (pre-Ming more flexible, Ming and post-Ming more formalized) and type of academy as well as the proclivities of the owner. We know from Meskill (1982) that a typical Ming *shuyuan* curriculum might include the following subject matter:

- Rites (礼 *li*)—proper ritual deportment according to classical texts focused on the family, ceremonies, and other ancient classics such as the *Rites of Zhou* (1050-256 BCE).
- Literary style—cultivated prose writing of different styles, poetry, and essays—monthly essays were required, graded, and corrected.
- Examination style—this focused mostly on the "eight legged essay," a form of writing that was organized in a fixed sequence of sections and in parallel sentences.

- Political philosophy—students surveyed the Five Classics, other works on political principles and ethics, essentials of administration, learning, and the more practical "things."
- Administration—this course was wide-ranging with sections on military affairs, law, famine relief, waterways, and water control.
- Calligraphy—practice writing 100 characters per day.
- The Arts—lute playing, use of bow and arrow, and development of the "inner spirit."
- Examinations—assessment of the structure and meaning of different essays and passages, usually offered twice monthly.

In general, the curriculum of the *shuyuan* was more fluid depending on the variables mentioned above and covered a more diverse set of learning experiences. While still focused to some degree on the passing of the imperial examinations, especially from the Ming onward, its long history gave it a reputation and legacy of being structured, yet flexible to social needs; characteristics that were important as China began to encounter and adapt to the Western, and particularly American model, of the college and university.

Traditional development of curricular patterns powerfully informed China's higher education development, both historical and modern (post-1911). A significant tension always existed between the more absolutist and authoritarian state model, always more theoretical in its approach to knowledge and later to utilize the term *daxue* (大学, university), and the specialist institutions more closely linked with practical concerns and typically called colleges or academies (*shuyuan*). These boundaries and frames of knowledge were contested throughout modern Chinese history, were influential in determining how China approached Western learning and institutions, and since 1949 have been visible in such dramatic movements as the Great Leap Forward and the Cultural Revolution (Hayhoe 1989).

Teachers, Students, Learning, and Assessment

China's higher education traditions included a codified pedagogy and accepted methods of learning and teaching that were to carry over into the post-Western contact period. There was no professional training per se for faculty in the colleges and academies, but the development of "educational officials" due to the close linkage with the examination system provided a pool of officials who would later be recruited for ministry posts during the Republican period (1911-1949 CE). Those who did not ascend to the official level but had passed the examinations at some level, were considered credentialed and formed the

basis of a teaching and research faculty in the Imperial universities and the more localized *shuyuan* (Cong 2007).

Faculty members in these institutions were generally held in high regard even if pay was often minimal. In a famous essay by Han Yu (768-824 CE) entitled "The Teacher" the author extolled the virtues of this occupation, discussed the reward structure (according to status and a rank system), and their pedagogical beliefs and teaching methods (Cleverley 1985). The prototype of an excellent teacher was one who displayed a belief in developmental stages of child growth, embraced the idea that learning should be in a context of "half work, half study," or learning by doing (based on an essay by Chen Xianzhang, 1428-1500 CE), and possessed a capacity to "spot talent" and teach effectively to the gifted (Cleverley 1985). Students for their part were in general expected to be diligent, docile, show deference toward teachers, have reverence for the printed word, and develop a strong capacity for memorization and text analysis (Cleverley 1985).

These characteristics of teachers, students, and learning were generally accepted at all levels of the traditional Chinese higher education system and were strongly influenced by neo-Confucians such as Zhu Xi, so that by the Ming dynasty the five points in his essay, "Articles of Instruction," were generally accepted principles of what constituted good teaching and student learning behaviors.

1. Adhere to the five teaching relationships: between father and son, prince and subject, husband and wife, old and young, and between friends.
2. The order of learning: study extensively, inquire accurately, think carefully, sift clearly, practice earnestly.
3. Essentials of self-cultivation: in speaking be loyal and true, in acting be serious and careful, control anger and check desires, correct errors, and move to the good.
4. Essentials of managing affairs: stand square on what is right, do not scheme for what is profitable, clarify the "Way" (道 *dao*), do not covet honors.
5. The essentials of getting along with others: do not do to others what you would not like them to do to you (Meskill 1982, 50-51).

Specific colleges and academies had variations on these five general propositions, and the consequences for students who violated them could be severe. As noted in one esteemed academy: "If any student does wrong, the teacher above should guide him and his friends below, exhort him, striving to make him change. If he is stupid and does not reform, expel him. Do not let him break the school regulations" (Meskill 1982, 57 [from 1465 CE]).

The influence of the *shuyuan* in shaping China's traditional view of teaching, students, and learning was significant enough so that in 1923 even Mao Zedong referred positively to the impact of this traditional institution of higher learning on the development of modern schools and juxtaposed it to the teaching and learning style that was then associated with Western education. Mao stated:

> In looking back at the *shuyuan*, although there were faults in their form of organization, they were not the faults of contemporary schools—lack of warmth between teacher and students, an authoritarian style of teaching that does harm to human personality, too many hours of class, and too complex a curriculum so that students can't use their own idea to initiate research. Secondly, there was no 'academic government by professors,' but a free spirit and free research. Thirdly, the curriculum was simple and discussions ranged broadly, it was possible to work in a leisurely and carefree way and to play a little (Mao Zedong 1923; quote from Hawkins 1974, 82; also referenced in Hayhoe 1989, 23).

Other practices in the *shuyuan* were carried forward into the modern era, such as "quiet sitting" and self-study (自学 *zixue*) practices that inspired ideas such as Mao's "Self-study university in Hunan," ideas which have remained an active stream of pedagogical thought down to the present with the current *minban* (民办) schools in China (Hawkins 1974; Wang 2010). The founders of the more famous academies were generally motivated by what they considered to be the unreflective memorization and stylized writing methods that were common in the ordinary government schools. The teaching and learning method that then emerged from the Ming period *shuyuan*, in some respects in contradistinction to the more formalized Confucian governmental institutions, was characterized as congenial, moral, inductive, practicing continuous assessment, social, communal, and that which unified knowledge and action (Meskill 1982).

Finally, as is well known and studied, traditional Chinese higher education had a sophisticated and pioneering system of evaluation and assessment. The imperial civil service examinations, whose modern incarnation is the *gaokao*, gave early meaning to the phrase used in Japan, Korea, and China today (and perhaps elsewhere) of "examination hell." The system had features that came to be recognized in contemporary higher education, namely agreed upon standards, assessment, prescribed teaching methods, uniform syllabi, controlling bodies of literacy superintendents, and chancellors. This examination came to possess a powerful aura around it, and in modern times continues to drive much of education at both the collegiate and pre-collegiate level, shaping the curriculum and expectations of students. Indeed, as Cleverley (1985, 18) notes: "It was widely held [in traditional China] that sitting there [in

the examination cell] alone a candidate was prey to spirits seeking vengeance for his past misdeeds, a belief related to the opinion that examination success had magical components."

This system of evaluation also spawned in the private academies examination preparatory bodies, the precursors of contemporary "cram" schools throughout East Asia (补习班 *buxiban* in China; 塾 *juku* in Japan; and 학원 *hakwon* in Korea). Overall this system served the cause of social mobility and thus helped to integrate and stabilize Chinese society. On the other hand, it has always been associated with a certain level of corruptibility, privileged those with wealth, and raised questions about the content of the curriculum.

Traditional Asian Modes of Higher Education as a Base for the *Flagship University*

Given the rich and long history of higher learning in East Asia, how is the *New Flagship University* model, as outlined in Chapter 1 by Douglass, relevant? This is not an easy question, but I offer a few observations for this important region in Asia. On the one hand, as we have seen, the notion of "mission differentiation" was a familiar concept in traditional Chinese higher education. The Imperial University idea, with its centralized approach to governance, structure, and curriculum, and serving a small elite group of students destined to serve the state bureaucracy was clearly differentiated in mission from the more private, flexible, *shuyuan* serving a broader demographic, with less formal teaching and pedagogical methods, and including the professional fields discussed previously. What is different is that these two missions were never combined into one institution (pre-1911) as is proposed in our discussion of a "*Flagship* ethos." This fundamental difference is reified and reflected when one considers the issue of "quality assurance" (which evolved upward to become the responsibility of ministries of education and/or their agencies) and the role of the university in "a larger national higher education system."

The elite imperial track clearly had "selective admissions" through what became known today as the *gaokao*, or national examinations; however, prospective students often enrolled into one of the *shuyuan* hoping to increase their knowledge of what was needed to pass the Imperial Examination and find a place in the elite system. The *Flagship* notion of drawing from a larger pool of talented youth with broader geographic representation and a diverse socioeconomic background has not been unfamiliar to the Chinese/East Asian region. Likewise, the traditional elite Imperial institutions had a long history of what was considered a "research" mission for its time. The scientific and technological advances conducted there since the Song dynasty and referenced

above provided an easy transition to the *Flagship* notion of "high level research productivity" during the modern period.

Thus, what we see here are elements of the *Flagship* model that can be identified in the traditional higher education modality, but are often distributed between these two types of Chinese higher education institutions—namely, the imperial universities and *shuyuan* institutions—and then further shaped and modified by encounters with differing Western experiences in the early modern period. The *Flagship University* characteristics detailed in Chapter 1 are numerous and specific, and can be difficult to discuss in the same context as the traditional China/East Asian experience. At the same time, a focus on public service and economic engagement is partially visible in the traditional Chinese case and one could recognize some elements of life-long learning in the *shuyuan*. However, institutional autonomy, shared and self-governance, academic freedom, diversity of funding sources, program review, and so on, all essential to our discussion in this volume of the *Flagship University*, do not entirely fit the traditional Chinese/East Asian model, although there is progress in some of these areas as Asia's leading universities evolve, shaped in part by globalization and increasing expectations to meet the standards of other leading universities in the world.

Higher education in Asia has a long history of elite, leading national universities that have served the region well over the decades of their existence. Most are highly selective institutions, employing among the best scholars, and serving as the primary path for creating a nation's civic elites in the absence of other postsecondary institutions (Hawkins 2013). The University of Tokyo University, Zhejiang University, Peking University and Seoul National University -- each historically acted as Traditional *Flagship Universities*. But each is now expanding their socioeconomic role.

Part of the challenge in discussing the *Flagship* model in the Asian context has to do with terminology. Just to take the China case (which also covers much of East Asia), the literal term "*Flagship University*" is understood but rarely used. Part of this issue has to do with the fact that the contemporary usage of this term (旗舰型 *qi jian xing*, or *Flagship* model) either has to do with military usage or more likely business usage (as in a *Flagship* store that other stores seek to emulate). More commonly leading universities (for example Peking University) are called *zhuming daxue* (著名大学) or "most famous university" and do not see themselves serving as a model for others to emulate. There will need to be some terminology adaptation for this region's universities before they can understand fully what constitutes a *Flagship University*, and whether or not they want to claim the name and adopt elements of this model.

Yet, in the background there are other pedagogical changes occurring in Asian higher education that may be moving toward the aspirational *Flagship*

ideal. In recent decades, leading Asian national universities have undergone a metamorphosis marked by increasing expectations of a much-expanded role in society and the competitive needs of national economies. Because their mission was primarily "internal," these universities were not initially concerned with competing with other universities outside of the national setting. With the rise of the complex interplay of neoliberalism, globalization and internationalization beginning in earnest in the 1990s, however, ministries and universities looked "externally" for benchmarks of their quality and performance framed almost exclusively around the World Class University (WCU) and ranking paradigm—a worldwide phenomenon.

While the pursuit of improved rankings and a claim to WCU status continues as seemingly the primary goal for many universities in the Asian Pacific region, there has been a growing debate about the value and feasibility of this vision. Alternative models are being discussed which challenge and critique this model and suggest other more creative ways to look at the role of teaching, community service, R&D, and scholarship in higher education. In turn, this has created a "predicament" for these leading Asian universities: in a rapidly changing ecology of higher education in the region, Asian universities are compelled to search for strategic ways to increase research income, journal publications, and citations, while also seeking a more holistic approach to their mission and engagement with the regions they serve.

Is it possible to strike a balance between teaching and research in the modern university or is the "research model" being blindly imitated globally? As Douglass has noted, in the *New Flagship* model, these are compatible, indeed mutually reinforcing ideals; but this is not true for those focused myopically on the WCU and ranking paradigm (Douglass 2016). It has been difficult for universities in the region to avoid the temptation to be imitative rather than innovative in the pursuit of WCU status. The strategy of imitation has been largely focused on research productivity and the practices found in the US and the UK, while ignoring the ethos of creating and sustaining an academic community. It is an erroneous understanding of what has been called an "emerging global model" (EGM) (Hawkins and Mok 2015).

In the rush toward imitation, it is important to keep in mind a criticism of the American research-intensive universities where many faculty are increasingly attracted to the prestige of research and away from teaching as a core responsibility, and where increasing numbers of students are left without benefit of mentoring by the very faculty they came to encounter. As faculty sort themselves out along the research axis (those who are successful and those who are not), particularly in STEM fields, another divide appears as those faculty less able as researchers pick up the teaching load or are simply let go through the tenure process.

Again, this is a "research is the primary product" model that may not be the most productive for many universities and may in fact limit the possibilities of becoming an "innovative" *Flagship University*. Is this the current path being pursued by top Asian universities? Will the lessons of what a *New Flagship University* model offers be able to surmount this predicament and build upon the traditional context and legacy to transform higher education in Asia? Or will a new Asian hybrid *Flagship* model emerge? The chapters that follow will hopefully shed some light on these tensions and the current challenges facing specific *Flagship Universities* in Asia.

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Chapter 3
Quality and the *New Flagship* Ideal in Asian Higher Education

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A singular vision has propelled higher education and ministries of education in Asia since the new millennium. It is a vision launched by the once rising tide of a globalized world order that spilled into higher education: in order to be competitive on the world scene, each Asian country had to build "World Class Universities," which could be compared and rank-ordered with the pre-eminent research universities of America, Britain and elsewhere. And if the pre-eminent American and British research universities could not be quickly surpassed, punctuated jumps up the status ladder of global higher education would establish an "heir-apparent" trajectory. While such lofty status appears to be in the reach of a number of universities in the well-developed economies of Singapore, Hong Kong, and China, it is a vision that also enchants a rising country such as Vietnam. There the Ministry of Education and Training aspired to a university entrant into the top 200 by 2020 (MOET, *2020 Plan,* 2012).

Now, however, the rising tide of globalism has perhaps crested. Indeed, as some scholars of globalism and higher education point out, in certain aspects of national policy the rising tide is turning into a receding one (Ramo 2012; Hawkins 2015). Nation-states are recoiling from an elite-driven, transnational world order into an "inside economy" that is concerned with its own issues of development and sustainability, quite apart from measuring itself against the rest of the world. In time, higher education in Asia is likely to follow suit. Globalism created the vision of "World Class Universities" ranked in an imitative hierarchical order; its demise suggests the need for other ideals that can drive the quest for excellence in higher education in Asia.

The following explores key ideas in the quest for educational excellence and the place of the *New Flagship University* in Asia. There is a need to distinguish between the relatively new status system of higher education driven by rankings of universities and educational quality in higher education. Rankings and a narrow understanding of higher education excellence can even endanger educational quality as a whole. Universities and ministries of education are better off ending the chase after high rankings entirely; esteem and recognition are the consequence of true educational quality, not the target to be pursued. There are differing meanings of 'quality' in higher education. As we shall see, the most central notion of quality can be connected to the distinct

understandings in human experience in the world and the forms of knowledge we have created over eons of time to plumb their depths.

This essay concludes with a discussion on how the *New Flagship* ideal relates to the distinct forms of knowledge and their interweaving and applications in the world of everyday life. I argue that the pursuit of the comprehensive forms of knowledge and their applications are vital in understanding the *New Flagship* ideal and educational quality. A new understanding of the meaning of a "World Class University" emerges, an idea that is far more comprehensive, far more relevant to the local and regional community life that surround *Flagship Universities*, and far more worthy of cultivation by educators and ministries than that yielded by any measure of world rankings.

Status and Quality in Higher Education

Long ago, the sociologist David Riesman (1958) described the informal status system in American higher education as resembling a peripatetic snake. At the head of the snake were those institutions of highest status followed by institutions of increasingly lesser status as you moved down the snake to the institutions at the tail. There you might find American two-year community and junior colleges. Riesman noticed that there was a strong tendency for the institutions well down the back of the snake to aspire to the ranks of those immediately higher up. Such aspirations meant adopting the attitudes and practices of the immediately higher status institutions.

Thus, the community colleges might aspire to become four-year, baccalaureate institutions, while baccalaureate institutions might aspire to become more comprehensive colleges and universities, while these comprehensives might aspire to offering master's and doctoral degree programs, while doctoral intensive institutions might wish to join the rarified ranks of the Ivy League schools at the head of the snake. But since the serpent was constantly moving forward, this process of emulation never ceases, since the head of the snake is always forging into new territory. But what Riesman noticed here was the tendency of status seeking HEI's to move from diversity towards uniformity and what today we recognize as "mission creep" as the snake glides ahead. It is this movement of the global snake and the changing fortunes of HEIs moving up and down that the world rankings businesses seek to document on a formal annual basis.

It is the movement from diversity towards uniformity, if not mission creep, that characterizes the current Asian fascination with rising to the head of the snake. Some of its "Traditional *Flagship*" institutions—venerable, elite national institutions—as Douglass and Hawkins (2016) call them, and their respective

ministries of education are actively attempting to emulate those institutions at the head, even though many of those institutions developed over long periods (think Oxbridge), emulating no one. Whether it is the Academic Ranking of World Universities of Shanghai Jiaotong with its emphasis on research income and expenditures, citation indices, and Nobel Laureates or the more reputational Times Higher Education World University Rankings, these institutions may end up yielding some of their traditional native strengths in pursuit of chimerical goals.

Though it may be strange to suggest it, there is no straightforward connection between high status and educational quality in higher education. Indeed, we may find some instances of HEIs which rank highly and are considered "World Class Universities," but which deliver mediocre, at best, educational activities. On the other hand, there undoubtedly are many institutions that fare poorly on the institutional rankings but which perform at a high level. How might this be?

There are those universities who, by reputation alone, attract the best and brightest students. The institution may have earned its lofty reputation in the past, but now rests on its laurels. Still, the quality of its graduates remains high, not because of anything the institution added but simply because of the entering quality of its students. Since the students have little basis to know what they have missed out on, the university might rest on its reputational laurels for a very long time, indeed. On the other hand, there are those universities of little regard in the rankings but who take in middling to undistinguished students and find a way to spark them into exceptional growth and passion for learning and ways of being in the world. It may take generations of students, if ever, for such an institution to be recognized for the quality of its programs. Generally, such universities are too focused on their students than to worry about how to inflate their image externally. In both cases, status and quality are inversely related.

Finally, and most saliently, the university world rankings can be the source of great educational damage (see Green et al. 1997; Hazelkorn 2011). By and large, the least subjective ranking systems rely heavily upon research productivity, especially in the STEM areas, citation indices, library holdings, and other faculty and student characteristics in producing their top 100 universities of the year. Insofar as good Asian universities are lured into playing the rankings game, they will be tempted to throw more and more resources into bulking up research productivity. This will inevitably lead to three ignoble outcomes: (1) the creation of a star system for research faculty where the highest university bidder pays an exorbitant salary to attract and retain academic stars, subject to raiding from other institutions "on the make" (this will cause a cascade upwards of salary demands from lesser stars); (2) the

neglect of undergraduate teaching, the arts, humanities, and social sciences, as well as engagement with the surrounding community; and (3) the creation of two classes of academic citizens with inflated esteem for the first and lowered morale for the second.

Excellence in research and inquiry are, indeed, a fundamental aim of the university. But to make research—especially research income that can be harvested by only a few socially favored fields—the only goal of the university is to abdicate the university's other vital missions in teaching and public service. If grant-seeking, income-generating research is allowed to become the measure of university greatness, then faculty will soon disdain any duties to teach and engage in service. And those intellectual, aesthetic, and kinesthetic fields that generate little or no research income will soon become educational wastelands, if they survive at all.

It surely cannot have been the intention of the world university rankings systems and kindred World Class University purveyors to wreak educational damage throughout higher education. But by focusing upon research income and expenditures and the universities considered to be in the top 20 or so in the world, Riesman's serpentine procession beckons solid Asian universities towards the imagined snake's head. While some of those top 20 have not forsaken teaching and public service, the skewing to income generating research is evident and troublesome as a model for emulation. One wonders what will happen to these institutions should the government grants, comprising the bulk of the income generating research, dry up.

The Deep Meaning of Quality in Higher Education

In this section of the paper, I would like to note different senses of quality when used in reference to higher education. In doing so, I will pick out one of these as fundamental and central. It provides the base for institutional excellence. In the next section, I will use this fundamental and central meaning of quality in higher education to elaborate the *New Flagship University* model for higher education in Asia—a model that is aspirational yet attainable, and one which does not distort the mission of higher education in the way that the world rankings do.

But first we should note that academic quality itself has and continues to be an elusive concept that defies easy measurement. For scholars, it has that aspect of being easy to recognize when we see it, but something that repels any facile attempt to measure it. As a result, we see it constantly being invoked in academic contexts, but slips away from our grasp when we attempt to pin it down. That is not surprising once we recognize that it is a highly equivocal

concept that speaks to us in many voices in contemporary academic discussions.

Following Harvey and Green's seminal discussion in "'Defining' Quality" (1993), there are at least five rather different senses of the quality concept to be found in ordinary, everyday academic contexts. Many of these uses of the term have been influenced by the growing use of business management models in the language of higher education.

Quality in higher education as:

(1) Conformance to Specification,
(2) Fitness to Purpose,
(3) Effectiveness in Achieving Institutional Goals,
(4) Meeting Customers' Needs and Wants,
(5) The Traditional Concept of Academic Quality.

Conformance to specification as quality in higher education is clearly drawn from manufacturing. As Harvey and Green (1993, 5-6) note, it can be equated with "zero defects." Here there is no sense of excellence being based on exclusivity or elite versus common status, rather it simply means that an ongoing educational process or program measures up to the standards that are preset. While the standards themselves may or may not be anchored in anyone's sense of educational excellence, the educational product itself is consistently uniform and there can be checklists along the way to ensure that year after year there are no departures from what is desired. *Conformance to specification* provides an institutional perspective on quality, since it is the institution itself that develops the preset standards. It can then market its educational product to the public on the basis of an implied or express warrantee that the educational program proffered will live up to the presentational claims for it. Indeed, some institutions advertise a willingness to "recall" their graduates for further "servicing" if any defect is later discovered.

Fitness to Purpose, like conformance to specification, is also a non-exclusive, non-elitist notion of quality in higher education. It differs in that the purpose may either be specified by the institution or by the consumers of their education. If the offered education either does the job it was designed to do by the institution or desired by students, then we may speak of an education that meets quality in this sense.

Effectiveness in Meeting Institutional Goals and Missions as quality education is clearly a higher education institutional-generated notion. Indeed, it is one of the most common baselines used in higher education accreditation circles. Accrediting bodies typically take as given the stated mission of the institution without question, but then ask questions concerning whether the

goals and practices of the institution are effective in achieving that stated mission. Secondarily, efficiency issues enter into this picture (whether posed by the accrediting body or some external force such as government), since HEIs taking an inordinately lengthy time than other like institutions in educating its students in meeting its mission does raise questions about its effectiveness. Institutions that undergo and survive the accrediting process generally do tout their approval as a mark of distinction—especially if it results in a lengthy stay of the next round of the accreditation process. While accreditation approval provides a minimal level of quality approval, relative to institutional mission, it is the mainstay of the *quality assurance movement* in higher education. However, it says very little about whether the education is desired by anyone.

Meeting Customers' Needs and Wants is the baldly consumer-oriented notion of quality in higher education. No HEI can remain viable if the education it offers is desired by no one, and so it has its place in the language of quality in higher education. But few HEIs will admit to basing their educational decisions largely or solely on the basis of catering to potential customers—even when they try to do so in practice. This clearly mercenary approach runs counter to the supposition that higher education faculties know something more about the nature of education than their potential customers. Indeed, that supposedly is why they are there in the first place.

While higher educational administrators are left to worry about filling the seats, and so have to pay attention to institutional demand, the professors are more likely to pay attention to more elitist notions of educational excellence. Moreover, as Harvey and Green (1992, 10–12) point out, it is difficult, if not impossible, to provide an education based purely on customer needs and desires. Given their flux, and given that they have to be put through an institutional sieve of arrangements, logistics, potential resources, and projections, no institution can actually do so in practice. Coupling this with the fact that the public generally has only a vague notion of what their educational needs and wants are, HEIs generally settle for admissions demand to be the best measure of quality in this sense.

The Traditional Concept of High Academic Quality has largely rested on traditions of elitism, exclusivity, and distinctiveness, as Harvey and Green (1993) note. Here we find the conflation of two different senses of "educational excellence" in higher education both in the West and in Asia: a *systemic version* and an *educational version*, as noted by T.F. Green et al. (1997, Ch. 7). The *systemic version*, which tends to infect the higher education world rankings and striving for world-class universities, is based upon the notion that *the best education can be defined as the education that the wealthy and social elites buy for their own children.* Harvey and Green clearly allude to this in

writing, "This view of quality underpins the elitist view of the high quality of an Oxbridge education."

Quality is not determined through an assessment of what is provided but is based on an assumption that the distinctiveness and inaccessibility of an Oxbridge education is of itself "quality" (1992, 3). What is true of Oxford and Cambridge in the UK is true, as well, for the US with Harvard, Yale, and the other Ivy's, and equally true in Asia with such institutions as the University of Tokyo , Peking University, Chulalongkorn University, and Vietnam National University-Hanoi what Douglass and Hawkins in the introduction to this book call the "Traditional Ns" in Asia). It matters little what education these institutions offer, or whether the education offered is any good from a purely educational perspective. It matters only that the wealthy and social elite in each society traditionally want to send their own children there. That alone makes them institutions of high quality—hence highly sought after by others but accessible to only a few. The fact that they tend be awarded more resources than other HEIs merely adds to the allure and high status of these institutions, quite apart from what they do with these additional resources. Not surprisingly, reputation bolsters their standings in most of the world rankings.

There is, however, a second traditional concept of high academic quality: the *educational version* of "educational excellence"—the version that I believe underwrites the connection between the *New Flagship* ideal and high educational quality. We may express it in the form of a question: Is there any kind of basis from which we can judge the educational quality of any educational program that grounds human beings as human beings wherever they live, whatever forms of government they have, and no matter what economic system they employ? This would be a basis independent from the whims of politicians, the desires of employers, and the predilections of students. In answer, I think there is such a basis and that it has been called many different names around the world at different times in different places, but it has to do with the full-range of human intellect and understanding in discerning our experience of the world.

In recent times, P.H. Hirst (1972) has been most noted in drawing it out in his "Liberal Education and the Nature of Knowledge." Though Hirst, beckoning back to the ancient Greeks, calls it a "liberal education," we can find it in the great intellectual and ethical traditions of the East as well as the West. In this sense, it is better to understand it as an education that stands fairly and squarely on the various forms of human knowledge and understanding. It is these forms of human knowledge and understanding—and excellence in their pursuit wherever it occurs—that underpins the *New Flagship* ideal.

Whatever it fully means to acquire human knowledge and understanding, it at least means, as Hirst asserts, to structure our experience of the world and

ourselves by means of the conceptual frameworks we have built over the entirety of human history (1972, 12). Even before our primeval ancestors first left the savannah trees to set foot on ground, our progenitors were able to use past experience to project with some confidence the consequences of various forms of action through primitive forms of tests for accuracy and truth. Concomitant with the development and refinement of the conceptual schemata by which we structure our experience, we have developed more powerful ways of probing that experience and created the employed symbolic forms and expressions we use in their articulation. Tests of truth, justification, and method help to give objectification to the conceptual schemata, which make our experience both intelligible and accessible to others. As a result, we have built up over time ever finer distinctions in our experience that have allowed these forms of knowledge and understanding to become more distinct and differentiated from each other. Thus, we have created the disciplines of knowledge and understanding that articulate the entirety of human experience.

As these conceptual schemata have become more refined and sophisticated, and their methods of investigation and tests for truth and justification better elaborated, they have revealed that human experience is not of one piece, except to the very young. We have learned over time that the concepts, methods, and tests for significance or truth in one dimension of human experience do not carry over to the study of another. Hence the concepts, methods, and tests in the physical sciences, for example, fail to find purchase in the study of human history. Likewise, the kinds of proof found in mathematics have little to do with the concepts and tests of significance found in art or music. Though we find overlaps, and find the same tools and borrowed concepts useful in more than one form, the concepts of each form relate to each other in specific ways to create specific meanings that do not translate into the language of a different form without loss of meaning and significance.

Thus, there are a variety of forms and understanding that can only be studied in their own terms: the aesthetic (visual arts, plastic arts, music, dance, literature, etc.), the kinesthetic (including movement and dance), the ethical, the social sciences, human history, linguistics, philosophy, mathematics, religion, the life sciences, and the physical sciences. They range across distinctly the whole of human experience. Yet, for special purposes, they can form collaborations that we call interdisciplinary, multidisciplinary, and transdisciplinary. This latter point will be important in understanding the *New Flagship* ideal in its civic commitments, as we shall see later in this paper.

For now, however, I wish to focus on the meaning of quality in relationship to the forms of knowledge and understanding themselves and the ideal of the educated person. Quite simply, the ideal of the educated person is he or she

who is inducted into and comes to understand each of the distinct forms—their major concepts and field of application (ontology), their logical structures, their patterns of explanation, their methodologies, and their tests for truth, significance, and justification—in their own terms. Induction into all of the forms of knowledge and understanding is education in the broadest sense, and has variously been called "liberal education" or "education of the whole person." It matters not where such an education exists, it matters only that some persons have been introduced to each form in its own light and come to appreciate how each one of them illuminates a different facet of human experience.

Such an education, in and of itself, gives priority to no single or group of the forms of knowledge and understanding, but simply recognizes that each one makes a contribution to human understanding writ large. It is not a specialist education, for only later concentration and study in some kind of apprenticeship with a master of a particular form will enable persons to delve deeply to reach the frontiers of the form. And it is not a utilitarian education that aims at some end beyond itself. In that sense, it is a general education dedicated to introducing the young to all of the ways that we have come to understand—over eons of time—the totality of our human experience of the world and how we have improved our understanding through the advancement of each distinct form. What is aimed at is bringing students to come to the point at which they understand what it is to think like a professional biologist or philosopher, to see the world from their perspective, but well short of their becoming biologists or philosophers. (Though, of course, a later major in biology or philosophy may create the passion to pursue these forms to their depths.)

High academic quality, in this way, is simply *a function of the capacity of each academic institution to enable young people to enter into and grasp the significance and reach of each form of knowledge as far as possible for as many forms as possible*. This, of course, means that there must be corresponding faculties containing masters of each form who can provide the teaching and learning opportunities to make this possible. As we shall see, the quality of teaching and learning in general education over the whole range of human experience is of utmost importance in the ideal of the *Flagship University*. While research at the frontiers of the forms is a high function of these universities, it is not the only function. *Flagships* are research universities (and so are different than purely liberal arts colleges), but they must prize their teaching legacy in introducing their students into the forms in equal measure.

Research intensity complements the teaching excellence that is to be found in the best *Flagship Universities*. Once again, the forms of knowledge and understanding comprise the basis for research excellence and the formation of

faculties dedicated to their development and propagation. Comprehension of the forms themselves provides a continuum from neophyte to expert in the striving for educational excellence within each form. At the expert level within a form, further excellence is evident in the work of those thinkers and researchers who advance the frontiers of each form through insight and discovery through research and inquiry appropriate to the form. Thus, the various faculties devoted to the forms themselves are the mainstay of these important institutions. But as we shall see, *Flagships* do not stop with the forms themselves, for they are engaged with the life of their surrounding communities, which betokens both professional and interdisciplinary studies.

Now there are many excellent HEIs, which specialize in only a few of the forms of knowledge and understanding. Think, for example, of a Caltech or MIT, each of which is a perennial contender for the top of the world rankings. While they are doubtless "world class" in their fields of specialization, there are a number of reasons why they cannot be candidates for the ideal of the *Flagship University*. One of the reasons is that they specialize in mathematics, the physical sciences, and the life sciences. And they are indeed world class in each of these forms and do a wonderful job of taking already gifted students in these areas and provide educational experiences that allow them to grow ever closer to the cutting edge of research in these forms. It is precisely this specialization, however, that eliminates their consideration as *New Flagship Universities*.

Flagships, by their very nature, must be comprehensive and range over the entirety of human experience, not just a handful of facets. And quality is in good part a measure of both breadth and depth in teaching, something that research-intensive universities must be ever mindful of. For there is a tendency of *Flagships* as research universities to over-reward research, given the siren song of world rankings. Regretfully, some soon discover that the pull of research has led to the neglect of undergraduate teaching. What is wanted is balance between teaching and research, and faculty highly committed to both.

The Ideal of The *New Flagship* University—Civic and Social Purpose

Excellence in teaching and research with respect to the basic forms of knowledge and understanding are defining characteristics of the best *Flagship Universities*. But there is a further critical function in the ideal of the *New Flagship University* that Douglass (2016) notes that is crucial in developing and evaluating these institutions: a component of committed service to the surrounding community. These universities by their very nature are not merely embedded within a regional or national system of higher education; they are

also embedded deeply within the ongoing life of their community or region. Far from building up walls between the institution and their surrounding community, the ideal of the *New Flagship University* embraces the role of service to the community as only a committed, comprehensive institution can.

As Douglass (2016) states: "Leading national universities are now more important for socioeconomic mobility, for producing economic and civic leaders, for knowledge production, and for pushing innovation and societal self-reflection than any other time in their history." He also notes that leading national universities, if they are doing their job, "are constantly expanding their activities in response to societal demands, generating new avenues of research and discovery, and expanding their reach into most aspects of modern life. The net result is that the *Flagship Universities* of today are significantly different from the leading national universities of an earlier age."

Flagship Universities first emerged out of federal policy in 1862 in the United States with the founding of secular public universities by the various states, especially in the less settled Midwestern and Western states, through the granting of federally-controlled lands to the states for the purpose of expanding higher education opportunities to the citizens of that young country (hence the term 'land grant institution'). But the higher education opportunities envisioned in federal policy were far different than those found in the elite, private, generally sectarian universities found on the eastern seaboard (think Ivy League that imitated the ancient British universities of Oxford, Cambridge, and St. Andrews). These were higher education opportunities extended to the "common man" with a distinct purpose of advancing agriculture, the industrial arts, and the new professions that went well beyond, though included, study of the forms of knowledge and understanding (Douglass 2015, 38–51).

Thus, with the founding of such great public universities as Michigan, Wisconsin, Minnesota, Illinois, California, and Washington in the 19th century, open to talented men and women of all backgrounds and social classes, we see a certain democratization of higher education in the United States. But it was also a democratization of purpose insofar as these institutions were founded to serve the full-range of civic and social life in their regions, not just elitist values.

As these great public universities began to mature and prosper in the 20th century and their campuses began to swell with students seeking the higher learning that they offered, the demand for higher education in America continued at a greater pace, especially after World War II. With rates of high school completion moving past 60 percent of the age cohort in 1955 and with half again of these wanting to move into higher education, the demand outstripped the capacity of what these burgeoning campuses could supply. So, in pace with population increase and demand for higher education, the states

began creating new HEIs to meet the influx of new students, while retaining the main campus at the apex of the state system of higher education. At this time, we began to see a clear and distinct mission differentiation among these institutions. The main campus adopted the mantle of a research university, while the new campuses, often starting out as normal schools for the training of teachers, preoccupied themselves with teaching undergraduates. To this mix was added the American community college that serves as something of a safety-valve function in lessening pressure on the principle of selectivity that characterizes four-year institutions in America. Except through the non-selective two-year community college, which admits all, selectivity of students could be maintained above (see Ericson and Robertshaw 1982). Indeed, the *Flagship University* of the system could become even more selective in their student body in differentiation from the new teaching campuses, though pressure to meet the needs of the state tempers any drive towards the elitism of the Ivy's.

The long-standing tradition within the forms of knowledge and understanding of addressing one's peers wherever they may be in the world remains one of the most respected practices in the academy. As stewards of this tradition, we find historians writing for other historians, philosophers writing for other philosophers, and physicists writing for other physicists. Of course, as the forms have been refined and elaborated over time, they have been further sub-divided through specialization with focused journals as a means of scholarly communication and particular and distinct associations of inquirers. The old community of scholars has become a virtual plethora of smaller communities focused upon a single branch of the full form itself. And while the ideal of the *Flagship University* readily embraces research and inquiry into the forms themselves, new patterns and kinds of research have emerged that responds to the public purpose for which these universities were founded. These are new patterns and kinds of research that intertwine with the teaching and service missions of the modern public university.

Education for the professions is a natural part of the *New Flagship University*, since it directly impacts the lifeblood of the surrounding community. Though deriving from and building upon the base of the forms of knowledge and understanding, professional schools and colleges mark the difference between the mere survival of society and its positive enhancement. They represent social interests whose advancement makes life worth living. Thus, professional education in agriculture, law, medicine, engineering, education, business, architecture, and social work are but a few of the basic professions that advance society. But so, too, are music, dance, drama, and art that draw upon and speak to the aesthetic dimension of human experience without which human life is impoverished. Now professional education, in general,

carries little in the way of direct impact in advancing the forms of knowledge and understanding themselves. However, in advancing the professions and the problems of society they minister to, they bring the insights of theory in the basic forms to issues of everyday life in their community. In this way, basic knowledge and understanding in the forms gets applied in creative ways to social life. Hence in the best professional schools and colleges, faculty will have a deep understanding of one or more of the forms of knowledge and understanding and an ability to relate that understanding to the profession and its practice.

Take, for example, one of the most complex professions: education. While it may seem to be simple matter to teach something to someone, the actual complexity and scale of it is found in the setting of national educational systems where millions must be educated. So, the profession of education draws upon psychology and the social sciences, the humanities, human development and brain sciences in biology, while built on the ethical and the philosophical at its base. But it also must draw upon derived areas of the law and administrative theory, practice, and budgeting. Moreover, faculty in teacher preparation and professional development must have fair grounding in the forms of knowledge and understanding underlying each school subject, since without it, you can't really teach it. And finally, there is the theoretical and practical problem of taking disciplinary knowledge and understanding and transforming it in a way that is comprehensible to a classroom of 25–40 young people. Multiply each classroom by millions around the world, subject to arbitrary edicts, policies, and ministries of education, and we wonder why education is so difficult and the outcome so in doubt.

But this points to another issue concerning the *Flagship University* and public service. It is simply the fact that social problems and issues rarely present themselves in the garb of a single form of knowledge and understanding. The problems and prospects of society generally span multiple forms at the same time. The *Flagship University*, engaged as it is with its region of service, must encourage and reward faculty to work beyond their disciplinary form. The scholarship of social engagement must be interdisciplinary, multidisciplinary, and transdisciplinary in form. Now, obviously, not every faculty member of the *Flagship* should be working across the boundaries of the individual forms to illuminate and help solve social issues and problems. But a critical mass is needed to engage the community both at the level of multidisciplinary scholarship or in the field itself—whether by teams or individuals. This can best be done by ensuring that tenure and promotion policies recognize and celebrate scholarly contributions to the professions and to the solution of community problems as much as we celebrate scholarly advances to the forms themselves.

Moreover, we need to recognize and celebrate some of the newer forms of scholarship that seem to depart from certain scholarly conventions. I have in mind, in particular, the art of policy research and analysis, an art that is so germane to addressing community problems and prospects. Frequently, the social value of policy research and analysis is inversely related to its scholarly cogency. In the search for truth, the dimension of time is rarely an important variable. Surpassingly good scholarship demands that we muster as much evidence in favor of a claim or theory even if it takes another day, another month, or another year. In policy research and analysis—with the possible exception of policy evaluation—we seldom have the luxury of time to await the conclusive data. The urgency for decision on the policy problem often necessitates bringing as much rationality and evidence—as much of the forms of knowledge and understanding—to bear on the problem as possible knowing that it always short of what is desirable (see Green 1994). It is better to have a timely intervention in human affairs than to have the affairs settle themselves in the worst possible way through delay.

Contemporary Asian Universities and the *New Flagship* Ideal

Many of the contemporary universities recognized as "Traditional *Flagship Universities*" in China, Japan, South Korea, and Southeast Asia such as Peking University, Tokyo University, Seoul National University, and Vietnam National University-Hanoi, have long catered to their own internal needs and development, while maintaining their place at the top of the university status hierarchy in their respective countries. As demand for entrance into these traditional universities grew, they maintained their selectivity while opening their doors to those beyond the social and political elite. High entrance exam scores became the new sought after currency of a new meritocratic elite. Under pressure, however, from the forces of globalization and internationalization, ministries of education began to look for external validation of their quality and worth.

A sudden status anxiety within these universities, stirred by ministerial ambition, has made them easy prey for the eager clutches of the world rankings to provide testament to their value. Unfortunately, the narrow measures of the world rankings in terms of research income and scholarly citation indices may push them in the opposite direction of becoming less valuable to the societies they serve.

The world rankings metric, based on research income and research expenditures, is itself based on a foundation of sand. By far the largest percentage of funded research for universities comes from government, especially at the national level. But with the end of an era of globalization and

economic integration in sight, with declining national and world growth rates, and with the astronomical increase of national debt in the US, the UK, Europe, Japan, and China, national government research budgets are certain to stagnate, if not drop absolutely. Though many argue that national research budgets contain the seed stock of future national growth that must be protected come what may, it is politically naïve to expect national research budgets to remain constant when policy makers are faced with restive populations left behind by a globalization that has exacerbated inequality, rather than eliminated it as promised. As governments and central banks piled on debt in a vain attempt to resuscitate economic growth rates, it now appears that they have dug a deeper hole that will only prolong economic weakness amid calls for rising trade protectionist and mercantilist policies.

If our understanding of globalism is under transformation, can we expect the world rankings/world class university movement to falter for globalism itself gave rise to that movement? It was a mistake from the beginning for Asian policy makers and university leaders to join Riesman's reptilian procession and seek to imitate the cluster of universities, especially in the US and the UK, at the head of the snake. That is the "status model," not the "educational model" of university greatness and quality. We should not confuse the two. Indeed, university greatness in both senses is far more likely to be achieved by following the educational model of university development rather than apishly following the status model.

It is not too late for Asian universities to be innovators in creating new paths to university quality and greatness that rest in part on the educational heritage and intellectual traditions that are endemic to Asia. And this regardless of the waxing and waning of world economic integration. While excellence in the teaching of and research in all the forms of knowledge and understanding is of crucial importance to quality in higher education, it is important to consider areas of "comparative advantage" for special notice. Though China, for example, has a distinguished, ancient history of empirical work and technological achievement in the physical sciences, the theoretical developments of that form of knowledge and understanding in the West beginning in the 16th and 17th centuries allowed western nations to advance that form and its technological accompaniment immeasurably in comparison. It is only now in the 21st century that Chinese science and engineering are beginning to catch up with, and perhaps surpass, theoretical development of that form.

Certainly, if the numbers of students and focused attention on STEM subjects in Chinese universities are any indication, then we may soon expect such a result. But there are other forms of knowledge and understanding in which Eastern thought has excelled at the highest levels. I have in mind the

development of how we should live together as human beings—the ethical, the social, and the political dimensions—as developed in Confucian, Daoist, Buddhist, and Islamic thought, (many of these seep into the differing forms of philosophy and religion), and refined advancements in aesthetics and the arts (think of the Japanese high arts and dance in Southeast Asia).

It is unfortunate that the status model has valorized three forms of knowledge and understanding—the physical sciences, the biological sciences, and mathematics—beyond their readily acknowledged importance, since all of the forms are central to the human condition and experience. Yet I single out the ethical, the social, philosophy, religion, and the arts for special attention by Asian universities seeking to innovate new paths to university quality and greatness, since by heritage and tradition Asian thought has done so much to develop and elaborate them.

Deep contribution to the life of the surrounding community and region is a further area that the *New Asian Flagship University* may wish to play in the future. Indeed, several models along these lines of the *New Asian Flagship* are now emerging in China and Vietnam that I can draw attention to. Beyond the traditional Asian *Flagships* of Peking University and Vietnam National University, we have seen the rise of Zhejiang University in China and Thai Nguyen University in Thai Nguyen, Vietnam. What is remarkable about Zhejiang and Thai Nguyen is the manner of integration into and the part they play in their surrounding communities.

Though Zhejiang University has roots as old as Peking University back into the 19th century and an equally distinguished academic history, it did not attain its current form until 1998 when Zhejiang University joined with three other local universities—Hangzhou University, Zhejiang Agricultural University, and Zhejiang Medical University—to become the new Zhejiang University. Each of these parts were well-rooted in the local economy and culture of Hangzhou City and Zhejiang Province and made strong contributions, each in their own way, to the surrounding community. But together they represent a new intellectual and scientific powerhouse of a comprehensive university that can leverage its estimable parts into new academic, technical, agricultural, health, economic, and cultural realities and relationships that serve the region and China as a whole. Moreover, the new Zhejiang University has spawned or provided leadership for a number of new or growing local and regional colleges and universities. In this way, it acts similarly to a state higher education system *Flagship University* in the US. As clearly a world class university (in the best sense), it remains tethered to its region by the remarkable fact that about 50 percent of its funding comes from Zhejiang provincial government, not just the national Ministry of Education. The new Zhejiang University meets most of the criteria for *New Asian Flagship University* status.

Like Zhejiang University, Thai Nguyen University was formed of five other universities in Thai Nguyen Province in 1994 that focused on engineering, education, agriculture and forestry, economics and technology, and medicine. At this time, it is not nearly as well developed and comprehensive as Zhejiang, but its integration into the community and its strategic trajectory is likely headed towards the *New Asian Flagship University* model. As such, it may serve as a guidepost and beacon for other less developed universities in Southeast Asia.

Thai Nguyen University is situated in the most northeastern region of Vietnam, amidst mountains, forests, plateaus, and verdant valleys on the border with China. It is home to the largest concentration of ethnic minority peoples in Vietnam with nearly 55 percent of its surrounding population speaking a non-Viet (or Kinh) first language. Beyond its current academic development at the bachelors, masters, and doctoral levels, Thai Nguyen is mandated to engage the entire region in development activities. Phan (2016) puts it well, Thai Nguyen University is, "regarded highly for [its] community engagement and regional economic capacity. At the same time, compared to other research intensive and high profile universities in Vietnam, Thai Nguyen University . . . has been proactive in initiating and cultivating international engagement activities with ASEAN countries." As Phan notes, "The University pays attention to social mobility among students coming from low socioeconomic backgrounds in these countries while doing the same thing to its own students in rural areas in Vietnam." The internationalist perspective of Thai Nguyen and its own close attention to its regional development mandate (and distance from Hanoi), both rather unique in Vietnam, mark out the university as one to watch for the future.

One further aspect of both Zhejiang University and Thai Nguyen University deserve comment. Most of the Traditional *Flagship Universities* are hemmed in by their ministries of education or other controlling parties, suffer from political mandates from on high, and lack sufficient governance autonomy to mark out their own future. Zhejiang University is somewhat insulated from China's Ministry of Education by three factors. First, there is the illustrious academic history that arose in the four parts independently prior to their merger. The successful integration of them and the leverage created by their merger has shielded Zhejiang from bureaucratic interference. Second, the geographical distance from Beijing provides some degrees of freedom that even Peking University, Tsinghua University, and Renmin University do not enjoy. And third, there is the fact that Zhejiang Province fully matches the funding of the university provided through the Ministry. This gives Zhejiang University an unparalleled ability to navigate between the shores of its two major funding sources.

As for Thai Nguyen University, though in easy driving distance from Hanoi, it seems a world away from the Ministry of Education and Training. With its mandate to uplift the entire surrounding border and heavily ethnic minority region, even the ministry mandarins of Hanoi hesitate to intervene in this somewhat unfamiliar area of Vietnam. For the future, Thai Nguyen University may find that it can wrest more freedom from bureaucratic control to plot its own future.

Quality and Asia's Leading National Universities

The emerging model of the *New Flagship University in Asia* must be first and foremost an educational model founded on educational quality. If it merely emulates the status model as found in the current understanding of World Rankings and the World Class University movements, it will merely recreate an unsustainable vision of chasing external research funding for the sake of chasing external research funding. The *New Flagship University* will, indeed, feature high level research and inquiry to go along with a renewed purpose for invigorated teaching at the undergraduate and graduate levels. It is, above all, a high research institution. But it does not measure its worth in research income and expenditures. With recognition that available external research funding is variable and effervescent across fields over time, it places equal regard on funded and unfunded high quality research and inquiry.

The bedrock of educational quality for the *New Flagship University* in Asia is excellence in all of the forms of knowledge and understanding of human experience. The stronger the excellence in each form, the better the university's earned standing amongst its peers. But this is not a relative relationship, like the World Rankings, where worth is measured against other institutions in a game of winners and losers. Rather, it is measurement against the standards of excellence inherent in each form itself.

Out of this bedrock of educational quality—teaching, learning, research, and inquiry in each form—the *New Flagship University* brings the forms of knowledge and understanding to bear on the problems, hopes, and future of its surrounding community. Since these problems, hopes, and future rarely, if ever, wear the garb of a single form, the *New Asian Flagship University* engenders a plethora of interdisciplinary, multidisciplinary, and transdisciplinary research and teaching across multiple forms. The excellence and quality of this research and teaching depends not merely on the way the individual forms are employed and combined, but on the real-world effect on addressing and helping to solve the current problems and create new possibilities of community life. Thus, the educational model of the *New Asian Flagship University*, embedded in its social, economic, and cultural region and

relations with other schools and colleges, serves as beacon not merely to that region, but to the nation and the world at large.

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Chapter 4
An Uncertain Future: Leading National Universities in South Korea and the *Flagship* Model

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Though national universities have historically enjoyed a privileged position in the Korean higher education sector, today they face acute challenges as a result of the tensions created by global rankings and the quest for world-class status. This chapter surveys the history of national universities in South Korea, leading up to today. We pay particular attention to the influence of global rankings on the Korean higher education sector, subsequent government policy responses, and the consequences that these policies have had on universities. The uncertain future of national universities is explored against the backdrop of the World Class University narrative and its focus on global rankings, which dominates the Korean higher education sector today. Ultimately, we argue that the future relevance of these institutions may require the adoption of a more flexible approach to excellence that seeks to use the values and practices of the *New Flagship University* to achieve the global ranking and research productivity of the World Class University.

The Birth of National Universities in South Korea

The leading national universities in Korea first appeared just after 1945, following the end of the World War II and the era of Japanese colonialism (1910-1945). Similar to institutions in other former colonized nations, the leading national universities in Korea were the products of first colonialism and then of the American influence that followed the post-colonial period. For example, Seoul National University has its roots in Kyeongseong Imperial University, which was founded in 1924 by Japanese colonialists (Seo 2011).

Following the colonial period, the higher education system was radically altered by replacing its Japanese-inspired organizational structure and educational mission with that of the US state university model (Umakoshi 2007). For example, the Establishment Act of Seoul National University, passed on August 22, 1946, led to the merging of Kyeongseong Imperial University with other specialized schools to form a comprehensive university. The Establishment Act was later modified into the Act of Establishing National

Universities, which served as the primary means for building national and public universities in major cities nationwide during the period of American military governance, between 1945-1948. Also during this time span, private professional schools that had been established during the colonial period were converted to colleges and universities; furthermore, this three-year period saw local community leaders and citizens fund and establish additional national, public, and private universities (Umakoshi 2007).

Reflecting South Korea's broad cultural dedication to education (Sorensen 1994; Seth 2002; Yeom 2016a), the higher education sector grew dramatically in enrollment and programs during the decades following the Korean War (Jeong and Armer 1994; Lee et al. 1994; Yeom 2016b). Throughout the 1950s and 1960s, the United States invested heavily in educational aid programs in South Korea. The aid programs included teacher training workshops, faculty exchanges, and coordination of the curriculum of select Korean universities with that of American universities. Between 1953 and 1967, the United States invested over $19 million in Korean educational aid programs, and partially based on these programs a total of 2,883 Koreans received advanced training in the United States and other Western countries (Dodge 1971).

Through the increased emphasis on higher education, aid programs reshaped existing public colleges and universities. But even then, these institutions could not meet South Korean enrollment demands. Partly based on government support, the result was a proliferation of private universities and colleges, often commercialized to make profits without regard to the quality of their academic and professional programs.

At the same time, access to higher education and the educational attainment level between the capital of Seoul and the provinces became disproportionately skewed towards the capital. For these reasons, the South Korean government established the principle of "one national university in one province" that resulted in the national universities of South Korea today. Their establishment was intended to achieve three major goals: to improve the low quality of higher education in all regions of the nation; to resolve the educational gap between the capital of Seoul and the provinces; and to correct the imbalance between public and private universities and colleges (Umakoshi 2007).

Today, Seoul National University remains the premier leading national university in South Korea. But the earlier reforms led to a system of national universities outside of Seoul with *Flagship University*-like missions, evenly distributed across the seven provinces of the nation, including Busan National University, Chonbuk National University, Chonnam National University, Chungbuk National University, Chungnam National University, Gangwon National University, Gyeongbuk National University, Gyeongsang National

University, and Jeju National University. These ten national universities share both geographic and demographic commonalities. First, in terms of geographic positioning, they are located in the provincial capital cities. These large districts often have a population of more than 1 million people. For example, as of 2015, 12 districts had populations greater than 1 million, including Seoul with 10 million, Busan with 3.5 million, Gyeongnam with 3.4 million, Incheon with 3.0 million, Gyeongbuk with 2.7 million, Daegu with 2.5 million, Chungnam with 2.0 million, Cheonbuk with 1.9 million, Chungbuk with 1.6 million, Gwangju with 1.5 million, Daejeon with 1.5 million, and Gangwon with 1.5 million. The population of Jeju was 0.62 million.

The national universities are comprehensive institutions that share certain other characteristics, such as the number of students and faculty, the types of educational programs provided, and their methods of financing and management. Five universities out of ten have more than 20,000 students, four universities have more than 15,000 students, and one university has about 10,000 students. The number of graduate students ranges widely, from 2,000 to 11,000. The entrance quota for each institution is more than 3,000 students, with the exception of Jeju National University. The incoming students are typically in the upper-middle-grade or upper-grade on the College Scholastic Ability Tests (although there is some variation by institution and department). The number of international students in degree-granting programs varies from a minimum of 154 to a maximum of 495. The employment rates of graduates by institution ranged from 45.4 percent to 61 percent in 2014.

The number of faculty employed in these universities varies from 623 to 2,075 depending on the size of each institution. Faculty members working for the leading universities mostly hold PhDs, and the percentage of faculty with foreign doctoral degrees is higher than that of faculty with domestic degrees. The number of administrative staff members' ranges from 322 to 1,098. The national universities have undergraduate and graduate programs covering a wide range of academic disciplines, and most have professional schools including medical and law schools as well as affiliated secondary schools.

Most of the national universities are based on similar budget systems, regardless of the difference in their sizes. The budget structure consists of governmental and non-governmental sources, including tuition (about 30 percent), governmental aid (about 30 percent), funds from industry-university cooperation (about 30 percent), and endowments (about 10 percent). It is notable in the current budget structure that governmental aid has decreased while the proportion of non-governmental sources has been increasing.

The Challenges for the National University System in the Provinces

Over the last several decades, the national universities outside of Seoul have experienced a number of changes in their status and roles that have further accentuated the regional difference between Seoul and the rest of the nation. First, they have had to grow in enrollment and programs without adequate resources—a condition found in many other national higher education systems in Asia and elsewhere. Beginning in the early 1980s, a series of government policies and demand for access to higher education led to rapid massification with college entrance rates increasing from 11.4 percent of the college-age population in 1980, 23.3 percent in 1990, 52.5 percent in 2000, to finally 70.1 percent in 2010 (Statistics Korea 2016).

In terms of resources, the quality of their undergraduate and graduate programs, and other measures, the other national universities fell behind Seoul National University and the collection of major private universities located in Seoul. For example, students, and their parents, now generally prefer to enter private universities in Seoul due to the possibility of superior career and job prospects, an unsurprising outcome when one considers that half the country's population currently lives in Seoul and economic activity in the capital makes up more than half of the national economy. Furthermore, domestic university rankings evaluated by the JoongAng Ilbo for the last 20 years have included in their top ten lists more and more private universities based in Seoul, a result strongly influenced by their graduation employment rates.

Furthermore, the government has met growing demand for higher education in the provinces not necessarily by promoting its national universities, but rather by authorizing the establishment of more private universities. For example, after the policy called "liberalizing university establishment regulations" was introduced in 1996, 45 new private universities were founded during the four-year period ending in 2000. This also means that the financial burden for higher education increasingly falls on students and their parents. The low proportion of government aid for higher education clearly shows the government's principle of minimizing financial backing for higher education. Indeed, the ratio of public to private expenditure for higher education in South Korea is far less than the average in other OECD countries.

More recently, South Korea has been experiencing an overall decline in its student population primarily due to declining birth rates and the desire of Korean students to go abroad for their higher education. Today, a larger proportion of Korean students are going overseas for their undergraduate education, whereas in the past students mostly went overseas to pursue graduate degrees. Previously, there was also the perception that studying

abroad at the undergraduate level was the route taken by academically weak students who were trying to "escape" the competitive education system in South Korea. This perception has nearly disappeared. A large proportion of the students now going abroad graduated from top high schools in South Korea. One reason for this shift is the demand for English-language speakers in the Korean job market (Park 2011) along with the prestige that a foreign, particularly American, university degree confers (Cho 2014). The continuing increase in outbound undergraduate students coupled with a falling fertility rate since the 1990s has resulted in an overall decline in the college-age population. This set of circumstances is felt especially hard by institutions located in smaller cities outside the Seoul metropolitan region.

Chasing the World Class Model

As domestic student demand has declined, the South Korean government has pursued aggressive plans to make up for enrollment deficiencies by enrolling more international students. Beginning in the early 2000s, the government introduced a series of policy initiatives designed to recruit international students as a means of generating more income for its universities by way of raising universities' standing via global university rankings heavily influenced by World Class University rhetoric. Global rankings indicate not only research productivity, particularly in STEM fields; they also serve as a broadly accepted indicator of quality and a consumer guide for international students. These initiatives have also affected the goals and mission of national universities.

To help boost South Korea's international standing and market position, the first major initiative was the Study Korea Project, launched in 2004. It was initiated by the Ministry of Education, Science, and Technology (MEST) and actively targeted international student enrollment in Korean universities through government scholarships, sought improvements in their living conditions, and focused on administrative support capabilities and services for these students. The goal was, and is, to establish South Korea as the education hub of Northeast Asia through the following key policy tasks as indicated in the Study Korea Project 2007 report: (1) improve infrastructure for international students; (2) foster international student recruitment networks abroad; (3) increase publicity about study opportunities in South Korea; and (4) establish an effective administrative and support system. Study Korea has resulted in unprecedented growth in international student enrollment in Korean universities, beginning with under 4,000 students in degree-granting programs in 2000 and peaking at almost 90,000 students in 2011 (MEST 2000-2012). Of the international student population in South Korea, a high percentage is from other Asian countries, particularly China. International students are enrolled in

both degree and non-degree programs across universities and junior colleges, graduate and undergraduate programs, and capital and regional institutions. In fact, regional institutions that do not receive special funding for the recruitment of international students are oftentimes more aggressive about seeking their enrollment as they are more economically sensitive to fluctuations in tuition revenues.

The second initiative was the Brain Korea 21 (BK21) Project that ran from 1999 to 2012. Its objective was to internationalize the research capacity of Korean universities with the aim of improving their global rankings in the 21st century. Funded by the National Research Foundation beginning in 1999, the project provided resources to a selection of elite universities with the aim of nurturing and catapulting at least ten to World Class University status on the basis of their research and development capabilities. The project focused particularly on global university rankings as proof of their performance. The overall objectives were to: (1) achieve greater worldwide visibility for Korean research through publication in international journals; (2) support globally competitive researchers through scholarship programs; and (3) improve the overall competitiveness of the higher education system on the basis of the quality of students and academic activities (Moon and Kim 2001; Byun and Kim 2010).

The first phase of BK21 funded a group of 14 universities, a selection of public and private that also included national universities, and measured success primarily by the number of papers published in SCI and SSCI journals. The second phase cultivated graduate students and postgraduate researchers to become globally competitive researchers and enhance the human capital capability of South Korea. This was evaluated by a basket of qualitative indicators that measured the human resource capability of universities. The primary difference between the first and second phase is that the first developed the general research capacity of universities by targeting STEM fields whereas the second encouraged each university to choose the areas in which it wanted to concentrate its resources and differentiate itself from others (Seong et al. 2008). Since its adoption, the project has changed the nature of academic culture by instituting a results-oriented evaluative system where universities compete with each other in research output (primarily citation indexes and patents and licenses) and where faculty members are assessed by their research performance (Shin 2009; Shin and Jang 2013).

The third initiative was the World Class University Project. In operation from 2008 to 2013, it was a large-scale initiative for the internationalization of research and academic staff. It was, in essence, a higher education subsidy program that invited overseas scholars in possession of advanced research capacities to collaborate with Korean faculty members. The primary motivation

of this project was to counterbalance the outflow of prominent scholars from South Korea and to increase the global rankings of Korean universities. With the influx of international scholars and correspondingly more courses taught in English and more research published in top indexed journals in English, Korean universities would be able to attract more international students as a major component of attaining world-class status (Kim 2013). This was the first time the government had attempted to "import" scholars on such a large scale. Scholars were invited to establish new academic programs, particularly in key growth-generating fields. They were also recruited as full-time professors to conduct research and teaching activities within existing programs. Distinguished senior scholars were also recruited as visiting researchers and lecturers.

Most recently, the Brain Korea 21 Plus Project launched in 2013 and continuing until 2019, combines the goals and strategies of the BK21 and World Class University Projects, but with the aim of increasing the quality of research on a qualitative rather than quantitative scale. The following goals are highlighted in the project: (1) increase the quality of education and research in graduate schools; (2) strengthen the education and research capacity in regional graduate schools; (3) nurture master and doctoral level individuals who will be able to meet the needs of growth-generating industries related to their fields of study; (4) support high level experts in specialized fields; (5) strengthen the administrative operation of graduate schools; and (6) provide scholarships for graduate students and junior researchers (Suh 2013).

Global Rankings and Institutional Behaviors

The policy direction highlighted by these programs underscores the growing sense that Korean universities need to improve institutional quality vis-à-vis the prism of global rankings, a need that has become critical in response to the growing number of Korean students studying overseas. And because special funding is allocated on the basis of government evaluations, universities have responded aggressively in a way that has spurred deep institutional changes. Some of the most tangible developments occurring at Korean universities are the rise of English as the academic *lingua franca*, the establishment of institutional standards that give preference to research-intensive universities, and a shift in governance models wherein university administrators are emerging as powerful decision-makers. These changes have considerable implications for the future of national universities as even those institutions align themselves towards the World Class University model (i.e., a focus on ranking variables) dominant in the Korean higher education sector today.

The adoption of English is certainly a contentious part of the Korean higher education reform process, and has consequences that affect a wide variety of university practices. The most visible component of these reforms is to convert a sizable proportion of curricula into the medium of English to cater towards an international demographic. Following the launch of the Study Korea Project in 2004, the government began to provide universities with financial support for increasing the number of English-taught courses. As a result, the proportion of such courses has risen steeply. Today, top-tier universities (particularly the private ones) conduct a significantly large proportion of their classes in English. Even the premier national university, Seoul National University, conducts over 15 percent of its classes in English.

In turn, the dramatic increase in English-taught courses is fueling a demand for faculty able to teach in English. Many universities now require newly hired professors to teach at least some courses in English. Furthermore, because SCI and SSCI journals are predominantly English-language publications, English is quickly evolving into the primary language for publication of scholarly work, which in turn is part of the reward mechanism for employment, promotion, and tenure. In addition to the number of articles that have been published in SCI and SSCI journals, criteria for hiring and promoting professors have shifted to include their ability to conduct classes in English. This has indirectly resulted in a preference for holders of foreign degrees, particularly from the United States. Korean professors who have completed their bachelor's and master's degrees in South Korea often opt to pursue their doctoral degrees in the United States even if their end goal is to return to Korean academia (Shin 2012).

At the same time, special funding on the basis of government evaluation has also resulted in the establishment of institutional standards that give preference to research-intensive universities and thus engender competition among institutions. Since the launch of the BK21 Project, research output has become the primary objective when determining a university's funding status. The way the Project measured research output was by the number of papers published in SCI and SSCI journals, by institution. Though the Project proved to be a success in quantitative measures, the growth rate of research publications was not different from that of the United States and Japan, and even less than that of China (Shin 2009). Hence, while the Project contributed to the growth in publications, it did not lessen the gap between Korean universities and World Class Universities.

What the Project did, however, was establish a culture of research production as the primary means of assessing a university's value. While some universities have traditionally been the strong research institutions of South Korea (primarily Seoul National University, Korea Advanced Institute of Science and Technology, and Pohang University of Science and Technology) and are

well poised to become World Class Universities in the conventional sense of improved rankings, other universities that did not clearly position themselves as research universities prior to the implementation of the Project are now aspiring towards similar levels of academic publications and citations. Thus, the effects of the BK21 Project are most apparent in the previously lower-tier research universities, which are now aggressively reforming their systems to hire researchers and increase research output.

Following the success of the first phase of the BK21 Project, a second phase was implemented in order to develop Korean graduate students and postgraduate researchers into globally competitive researchers. The second phase resulted in a clear cultural shift within those Korean universities that aspire towards World Class status. Since the launch of the project, the government has also deregulated universities in order to allow them more autonomy and thereby enhance their competitiveness. This development has become particularly acute as the second phase of the Project encouraged each university to choose the areas in which it wanted to concentrate its resources and thereby differentiate itself from other institutions. It is against this backdrop that universities have adapted themselves to government policies based on special funding. For example, Seoul National University has made its evaluation for professors much more rigid by not allowing automatic tenure for associate professors; instead, associate professors are now required to publish a minimum number of papers if they wish to be promoted to tenured status and must also acquire recommendation letters from distinguished scholars in the field if they wish to be promoted to full professor (Shin and Jang 2013).

Other universities are also implementing time limits within which professors must apply for and pass their tenure review as well as championing a performance-based salary system determined not by seniority but by a professor's accomplishments in teaching, research, and service over a preceding number of years (Rhee 2011). In effect, these processes have forced junior professors to internalize the "publish or perish" mantra.

University governance models are also changing rapidly. Historically within the university, professors have had a strong influence on academic but not administrative affairs, while the government has had a strong influence on administrative but not academic affairs. Since the implementation of the BK21 and World Class University Projects, universities are now encouraged to handle administrative affairs on an institutional level. While the government may provide guideline, and conducts reviews of universities, procedural affairs such as management, organization, finance, and personnel are left to the universities themselves. Still, the government directs an evaluation-based budget allocation, which has a significant impact on universities.

Because the evaluation-based budget allocation is determined by a report submitted by each university, most universities are realigning their institutional policies to adhere more closely to government guidelines regardless of their mission focus, regional location, or the characteristics of their faculty and students. These guidelines also require new funding sources to support research-intensive endeavors, and to that end universities are aggressively searching for external funding from public and private partnerships. Through this process, the influence of university presidents has increased tremendously, and shared governance is losing influence. This has empowered the university administration as the strongest actor in higher education governance. Thus, while recent reforms in the higher education sector are intended to provide greater institutional autonomy—a decentralized model between the government and universities—they have also resulted in a highly centralized model within universities wherein the president and other university administrators have much stronger influence over faculty (Shin 2011).

Whither National Universities in South Korea?

The role of national universities in South Korea today is hard to define. Each stakeholder has different ideas about the institution's goals. Historically, the national universities were expected to reduce the gap between the capital and the provinces by expanding opportunities in higher education. In recent years, however, what the public expects from the country's leading universities has changed from an orientation towards the public good to a focus on measures of institutional excellence as shaped by the World Class University/global ranking model. Employment rates upon graduation are also widely used to evaluate universities. The net result is that universities in South Korea, and in other parts of Asia, are restructuring their academic departments towards a singular model of excellence while also focusing on employment and career development as the number one "service" for students.

In the face of the dominant paradigm of global rankings and the rhetoric of the World Class University model, the original vision for national universities is lost. In particular, the national universities outside of Seoul have a much harder time developing and initiating reforms appropriate to the characteristics of the communities of each province. While some professors have vocally criticized this trend, few have offered any plans to provide a feasible alternative. As a result, with perhaps the exception of Seoul National University, South Korea's national universities are struggling with the mismatch between their historical mission of providing a public good to the regional communities they were intended to serve versus reforming into research-intensive institutions that are more responsive to external evaluative criteria.

Thus, in the rapidly changing ecology of higher education in South Korea, can the national universities remain relevant? The future relevance of these institutions may require an adoption of a more flexible approach to excellence that strikes a balance between the research demands of the World Class University model, the close industry partnerships that secure employment for graduating students, and engagement with the region they are intended to serve. This brings us to the concept of the *New Flagship University* (NFU) model (Douglass 2016), and whether it can, (1) be applied in South Korea, and (2) challenge the dominant World Class University mentality that prevails among both government ministers and now academic leaders (Hawkins 2016). As Douglass argues, the NFU model can be a route to World Class status—but not through a narrow band of quantitative measures of research productivity or reputational surveys but rather through a larger socio-economic purpose and focus on self-improvement.

Indeed, several features of the NFU model already exist in national universities today. The national universities are comprehensive institutions that span the sciences and engineering as well as the liberal arts. Though they can be highly selective in admissions, they are also broadly accessible, and some schools even provide students who come from underrepresented smaller towns with a leg up in the admissions process, akin to affirmative action policies. They have also historically been leaders in the higher education sector, often occupying the position of the premier learning institution of the province in which they are located.

In particular, Seoul National University positions itself as both a leading national university as well as a World Class University by training the next generation of future leaders and enhancing engagement with an increasingly globalized world through special learning programs. It also has strong partnerships with various industries that provide its students advantages in securing employment upon graduation.

Today, however, the national universities do not necessarily formulate unique visions and goals that are both specific to the province in which they are located and relevant in the broader context of Korean higher education. This poses an obvious limitation to their future. Many of the national universities advertise on their websites the more generic goals of becoming innovative, strengthening global competitiveness, and investing in science and technology, goals that can be found on almost any public or private university's website. They also maintain a rather uncritical stance towards the priorities highlighted by government-led reforms based on the World Class University and global ranking model. While Seoul National University has a particular history and a set of circumstances that allow it to be a leading national university and a World Class University simultaneously, the other national universities may do

well to revisit their standards of excellence to include cultivating future regional leaders and enhancing engagement with the communities of the provinces in which they are located.

But the main drawback to the future of national universities is that they are pressured by external funding mechanisms to align themselves towards the values exuded by global rankings because acquiring government funding oftentimes depends on enhancing research capability. Although the Korean higher education sector is becoming more and more decentralized between the government and universities, this does not mean that each university maintains significant autonomy. University funding is still highly dependent on an institution's ability to align itself with government-set standards of research output. Given this environment, there needs to be not only a clear differentiation in mission but also a clear differentiation in funding that applies specifically to national universities in order to be effective.

Between 2004 and 2009, an attempt at such differentiation was made as part of a government project entitled the New University of Regional Innovation (NURI) program, focused on developing areas of specialization in universities outside of Seoul linked to local industries and labor needs. Previous research has found that NURI did contribute to the improvement of education within these universities (Choi and Yeom 2010). Programs such as these, where the government sets specialized missions and funding for regional universities, reflect elements of the NFU model that should be further explored.

On the whole, however, recent higher education reforms in South Korea are largely based on a blind aspiration for a World Class University concept that needs to be challenged. The government has played a leading role in setting the direction of the higher education sector through special funding schemes. As such, the government also has the capability of setting a new direction and supporting South Korea's national universities in a way that will sustain their future, driven by the more holistic, meaningful, and achievable NFU model.

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Chapter 5
A *Flagship University* Quest: Challenges and Dilemma for a Chinese University

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Having a number of "World Class Universities" (WCU) is now the aim of many ministries of higher education worldwide. In a global environment where scientific and technological knowledge, as well as other intellectual assets, appear be the marker of the most competitive economies, to be without one or more WCUs is seen as a distinct disadvantage by many nation-states. As a result, governments throughout Asia have made it a top priority to improve the quality and research productivity of not only their leading universities, but also those institutions that aspire to such status. In addition, having universities that are rated highly in the Academic Ranking of World Universities (ARWU), and a few other commercially popular rankings, is viewed as essential for retaining gifted domestic students and professionals, and for attracting foreign talent.

Despite the rhetoric regarding the importance of WCUs, there is no consensus on what defines such an institution, beyond the performance indicators favored by global rankings; nor is there agreement on the best strategies by which to obtain WCU status. In the early stages of the WCU movement, John Niland proposed nine characteristics essential to pursuing or sustaining world-leading status for higher education institutions (HEIs), including high-quality faculty, research reputation, talented undergraduates, international recognition, diversified resources, extensive networks, comprehensive disciplines, technical advancement, and efficient and effective administration (Niland 2000).

A few years later, Philip Altbach ventured to narrow the characteristics to four major domains, namely, research excellence, academic freedom and an intellectually stimulating environment, an internal self-governance system, and adequate investments (Altbach 2004). Jamil Salmi further suggested that a world-class university should be distinguished by its superior outputs, such as qualified graduates catering to the needs of the labor market, advanced research publishable by top scientific journals, and effective knowledge transfer through technical innovation and contributions to industry (Salmi 2009).

Yet after more than 15 years of debate on the WCU idea, Philip Altbach notes, "Everyone wants a world-class university. No country feels it can do without one. The problem is that no one knows what a world-class university is,

and no one has figured out how to get one. Everyone, however, refers to the concept" (Altbach 2004). Indeed, many universities throughout the world, of widely varying types and quality, simply claim they are World Class as they seek to assert their status and attract students.

Clearly, most national governments, and their ministries of higher education, use global rankings of universities, with their quantifiable measures, as the default indicator of a university's global status. Ellen Hazelkorn notes that national governments adopted rankings to "direct or inform initiatives" and as "a quasi-funding mechanism" (Hazelkorn 2009). Within a zero-sum competition for status, most of Asia's rising powers are concentrating their national resources on a limited number of elite universities for the purpose of challenging the dominant status held by US or European institutions.

Universities in Mainland China have exerted considerable effort towards achieving WCU status by improving their rankings in research productivity and other measures of prestige. These strategies seem to have borne fruit. Between 2003 and 2015, the Academic Ranking of World Universities generated each year at Shanghai Jiaotong University demonstrates progress: the number of Chinese universities included in the Top 300 increased from two to 13 (Shanghai Jiaotong University 2003; 2015). But this improvement in rankings is not without cost. Who has benefited and who has not from the increased standing of a select group of Chinese universities in the league tables and increased stratification among all institutions?

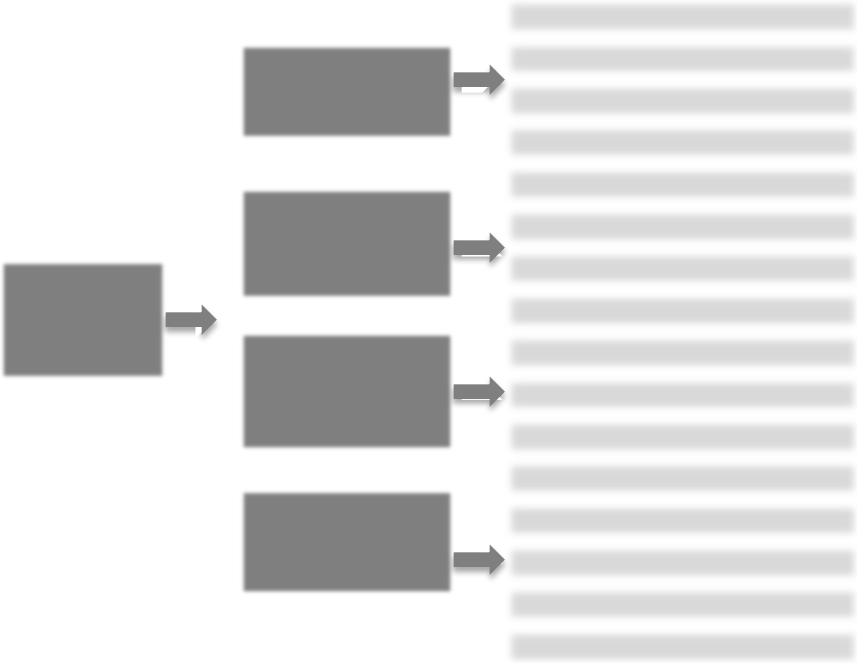
There is increasing evidence of growing funding and other disparities between universities in the major urban areas in the East of China versus those in the more rural West. In addition, academic leaders and faculty are increasingly focused on measures valued in the ARWU and other rankings—such as the number of research publications, or patents and licenses—at the expense of undergraduate teaching, the public service role of universities, and other important activities.

To address the negative consequences of overemphasizing university rankings, some scholars have begun to call for alternatives models. One alternative discussed in this book is the concept of the *New Flagship University (NFU),* with the goal of reducing the focus of ministries and universities on global rankings, in favor of a more holistic view of the varied activities and purposes of leading national universities, including diversified social purposes, and regional and national economic engagement (Douglass 2016).

According to Douglass' "Realms of Policy and Practice" (see Figure 5.1 for a summary), a *NFU* should, among other characteristics, have a distinct leadership role in the national or regional higher education system; it should define the main geographic service area in which it will focus much of its social and economic engagement; it should have highly selective admissions; and it

should provide engaging and high quality forms of education for both undergraduates and graduates that promote their academic creativity and practical skills. At the same time, successful *NFU* have policies and practices that support distinct academic cultures, promote quality assurance, research productivity, and also establish and maintain international collaborations, promote public service, accelerate knowledge transfer, and produce lifelong learning opportunities. Key is an academic culture that constantly seeks institutional improvement and has significant management capacity (Douglass 2016).

Figure 5.1. *Flagship University* Realms of Policies and Practices



Source: Douglass, John Aubrey. 2016. *The New Flagship University: Changing the Paradigm from Global Ranking to National Relevancy*. New York: Palgrave Macmillan.

Elements of the *NFU* correspond with a changing focus within both the Chinese government and many of China's leading universities, away from an narrow emphasis on research productivity as measured in rankings—as epitomized by such government initiatives as "Project 211" and "Project 985"—

and toward a larger concern for the quality of the student experience, educational excellence, and a greater emphasis on both socioeconomic mobility and economic engagement (State Council 2015). In this way, the *NFU* ideal appears to be more appropriate to direct the future development of China's major leading universities.

In this chapter, we analyze aspects of the *NFU* model to evaluate its compatibility with China's current academic culture and the challenges faced by its leading universities. Since a systematic examination of all the aspects of the *NFU* model is not practical here, we will focus on a single university in northern China, examining four major components of the *NFU* model: (1) research productivity broadly defined; (2) international collaboration; (3) regional economic engagement, including technology transfer; and (4) governance and management capacity. This study utilizes seven interviews with faculty and academic leaders at this unnamed university, which we will call "University A," as a window into the organizational behaviors, challenges, and opportunities for Chinese universities today. It is our sense that while Chinese universities may benefit from re-examining their larger purpose by exploring the *Flagship* model, they still face major challenges that relate to resource allocation and to the continued emphasis on research publications, which is now engrained in the cultures of these maturing institutions.

Higher Education in China: Expansion and Stratification

Before delving into our case study, it is useful to examine the development of China's higher education expansion over the last few decades. What we find is that though there have been a number of shifts and adjustments to higher education policy over the years, one constant remains: China continues to follow a strict state-controlled model, and this has major implications for the organizational behavior of its universities (Neave and van Vught 1994).

Under Chairman Mao (1949 to 1978), the Chinese government utilized education as an ideological tool to ensure political loyalty to the ruling regime. Universities at that time had no autonomy over the administration, syllabi, curricula, textbooks, enrollment, and allocation of school and university seats. The central government assumed responsibility for formulating educational policies, distributing educational resources, exerting administrative control, recruiting teaching staff, and deciding on the curricula and textbooks (Ngok 2007; Yang et al. 2007). In short, the state "monopolized the provision, financing, and governance of education" (Ngok 2007). As stated by the Ministry of Education (MOE) in the 1960s: "The establishment, change, and suspension of programs in all these universities must be approved by the MOE . . . Teaching activities should follow the syllabi designed or approved by the Ministry . . . No

programs, syllabi, and textbooks should be easily changed. The Ministry will be responsible for substantial changes" (MOE 1961).

The MOEs rigid regulations and inflexibility resulted in insufficient higher education opportunities relative to demand and a low quality of educational programs into the 1970s. In 1980, the higher education enrollment rate in China was only 1.7 percent while the world averaged 12.3 percent (UNESCO 1985). Chinese officials came to realize that low educational attainment rates significantly hindered economic growth in China. The Cultural Revolution (1966–1976) emphasized the importance of higher education in economic development and social progress (Ngok 2007), leading the Chinese government to adopt a series of policies intended to loosen the central government's control of universities and allow them the opportunity to pursue their own initiatives. (Mok and Chan 2012; see also Hawkins 2006). Higher education in China was transitioning from being primarily a tool for political control and indoctrination to a vehicle by which China might become a major economic player in the world.

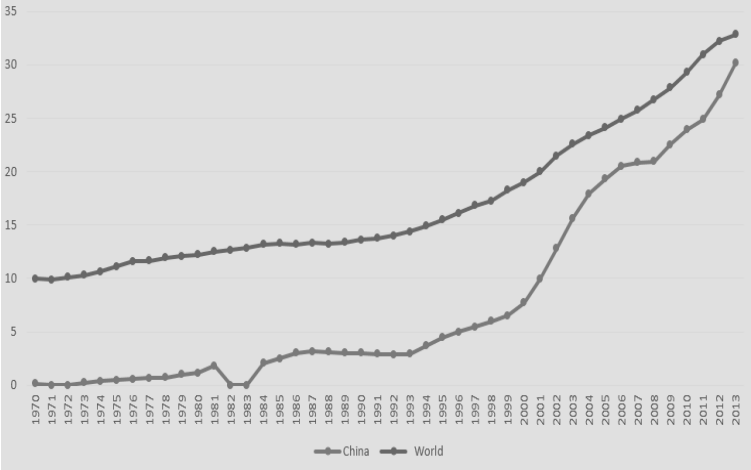
Both the *Decision of the Central Committee of the Chinese Communist Party of China on the Reform of the Educational System* in 1985 (Central Committee of the Chinese Communist Party 1985; hereinafter the 1985 Decision) and the *Education Law of the People's Republic of China* in 1995 recognized the pivotal role of tertiary education in newer conceptions of Chinese modernization. Minister of Education Zhu Kaixuan stated, for example, "education is no longer dissociated from the economy . . . Education is closely linked with the economy, and has become an organic component and key content of the plans for economic and social development" (cited in Rosen 1997).

Although the 1985 Decision introduced the concept of decentralization and devolvement of power to lower levels (Ngok 2007), the central government insisted that it would continue to supervise the education sector and provide basic guidelines for future development. Indeed, China's higher education system was not released from the strict national control of the Mao era until the introduction of the *Program for China's Educational Reform and Development* by the State Council in 1993 (hereinafter the 1993 Program). Consisting of six parts and 50 articles, the 1993 Program, "actively encourages and fully supports social institutions and citizens to establish schools according to law, and to provide correct guidelines and strengthen administration." Therefore, "democratic parties, popular bodies, social organizations, retired cadres and intellectuals, collective economic organizations, and individuals subject to the Party's and governmental policies" were encouraged to "actively and voluntarily" contribute to "developing education by various forms and methods" (Mok 2003). In the wake of the 1993 Program, *Minban* (private)

colleges, second-tier colleges, and greater transnational cooperation emerged and became more popular. According to our respondents, the above mentioned colleges/ collaborations had taken great responsibility during the education expansion period in China and facilitated the transformation of the Chinese HE system from an elite to a mass system (Trow 1973), while the traditional elite universities could maintain a relatively stable enrollment scale.

The massification of Chinese higher education begun by the government in the 1980s had a dramatic impact. The tertiary enrollment rate of its college age population increased from 1.7 percent in 1980 to 17 percent in 2003 (Figure 5.2). From 1998 to 2004, the enrollment rate grew 26.9 percent annually, and the admitted number of students increased from 1.08 million in 1998 to 4.47 million in 2004 (Wan 2006). Based on the 2012 enrollment rate, the expectation is that 50 percent of the college age cohort will enter a higher education institution by 2020 (Yuan 2016).

Figure 5.2. Enrollment Rate of Tertiary Education (1980–2013)



Source: UNESCO, 2016. *Note:* Data for the Chinese enrollment rate in 1971, 1972, 1982, and 1983 are not available.

In much of Asia the massification of higher education and the pursuit of WCU status are projects that have been attempted serially. In contrast, by around 2000 the Chinese government was implementing a program which sought to simultaneously achieve several goals: an increase in higher education enrollment and program expansion to produce a high-quality labor force and a push to elevate some major universities to World Class status. In the pursuit of

that cause, China's MOE spearheaded projects that combined both a top-down and bottom-up policy design. As early as 1983, Kuang Yaming, the president emeritus of Nanjing University, along with other distinguished scholars and administrators, wrote a letter to Deng Xiaoping, arguing the necessity of building first-class universities with concentrated national funding (Kuang et al. 1983). Following that letter, Nanjing University president, Qu Qinyue co-signed a letter to then Prime Minister Li Peng in 1990, emphasizing the desire to promote a limited number of Chinese universities to world-class positions once again (Qu 2002). In response to these appeals, "Project 211" and "Project 985" were introduced and implemented in 1993 and 1998 respectively, with funding support concentrated on selected universities (Li et al. 2011).

With the aim of enhancing research productivity, and elevating the teaching and management capacity of the nation's leading universities, Project 211 received 36.8 billion RMB from 1995 to 2005; Project 985 had a budget of 90.5 billion RMB (55.4 billion from the central government and 35.1 billion from the local authorities) between 1998 and 2012 (Ying 2011; see also MOE 2012). Only 39 universities, representing less than 3 percent of the nearly 2,000 full-time state universities in China, were selected for Project 985, representing a significant investment in a small core of China's higher education institutions. These 39 now enroll over 50 percent of all doctoral candidates and house most of the national laboratories.

A Chinese University Case Study

The evolution of China's higher education strategy clearly demonstrates its commitment to develop a set of universities that are ranked among the top 100 universities globally, and are thereby perceived as World Class Universities. In the following, we examine how the policies and practices of one Project 985 university, shaped largely around increasing research productivity and rankings, have restricted it from pursuing key values of the *NFU* model.

Located in an economically underdeveloped region of China, University A, our case study, is a national and world-renowned institution. It has been selected for both Projects 211 and 985 and has a long-standing history as one of the largest universities in China, with seven campuses in six districts, occupying over 6,000 square kilometers. Its faculty exceeds 6,500, with more than 2,000 full-time professors (around 1,100 doctoral advisors), 24 members of the Chinese Academy of Sciences and Chinese Academy of Engineering (including 15 adjunct academicians), and around 60,000 full-time students, consisting of 24,000 in master's and doctoral programs, over 43,000 in undergraduate programs, and about 2,000 international students.

As a member of an elite university group, University A covers a comprehensive spectrum in research and teaching. The university has 13 disciplinary categories, including philosophy, economics, law, education, literature, history, science, engineering, and agriculture. It also has significant research capabilities, possessing one national engineering laboratory, two national-provincial joint engineering laboratories, six state laboratories, one national animal laboratory center, one national engineering research center, more than ten MOE laboratories, and over 23 open research laboratories, as well as key laboratories of other state ministries (official website of University A). [1]

Based on interviews, the following briefly examines four areas of university policy and practices: research, international collaborations, regional economic engagement, and management capacity. Based on our seven interviews in University A (see Appendix 5.1 for more details), we observed significant limits and constraints on University A's ability to pursue the broader mission of a *NFU* due largely to the national appropriation system and the values of global rankings.

Research

An overemphasis on research outputs focused on global rankings metrics has been criticized repeatedly by scholars because of its disregard for regional and national cultures and needs. In the case of University A, we observe that a narrow focus on external metrics imposes very real constraints on a more holistic understanding of research activity and local engagement. As one interviewee, a senior administrator, frankly states, "When evaluating a young scholar's performance, we naturally pay more attention to his academic outcome" as measured by research productivity, specifically publications in peer reviewed journals listed in various international citation indexes. "[This] is easy to understand since [measures such as] teaching assessments may be subjective and are always hard to handle," he notes. "We [evaluators] could participate in one demo class, which is easy for the teachers to prepare sufficiently in advance, but cannot engage in the whole teaching process . . . " (Telephone interview B 2016).

Another interviewee confirmed this observation. After over twenty years at University A, this faculty member, popular among students, notes, "Actually we have little material rewards for outstanding teaching skills or excellent class atmosphere . . . The salaries for faculty are relatively stable, [and] firmly track one's position [as professors, associate professors, or lecturers]". He continues: "I could understand why the young ones devote more energy to producing papers . . . They encounter heavy financial pressure and some of them are

obliged to take part-time jobs in *Minban* colleges" (Telephone interview F 2016). For the departments concentrating on scientific areas, the situation may be more severe since they have to abide by the requirements of their research grants. As one graduate student in physics put it, "most of our time was spent in the laboratories, especially during graduate study period" (Telephone interview G 2016).

These and other observations by those interviewed indicate a disjuncture between the values and incentives shaped by global ranking metrics, the need for realistic job opportunities for graduate students, and the research interests and regional needs of the community University A is meant to serve.

International Engagement

Both the World Class and *NFU* models value international engagement, but in the WCU model this is often measured largely by rankings based on international student enrollment and, sometimes, co-authored academic publications. The *NFU* model has a broader conceptual idea of international engagement, which does include promoting global skills and knowledge for students, but which orients international activities around the core mission and purpose of the university, rather than pursuing international engagement as a goal unto itself. Yet in applying either model, we observe significant constraints on University A that reflect the demography of its student body and a number of local disadvantages and challenges.

Unlike its counterparts in the coastal areas, University A is located in Province X, which is a relatively underdeveloped region with a cold and often harsh climate. As one interviewee pointed out, "Nearly all international students in our university come from poor countries in the most undeveloped areas worldwide . . . It is the diplomatic strategy of the central government to fully support their study here." But attracting international students is difficult for University A: "We hope to attract more students with diversified nationalities, thereby improving our international profile and promoting our global recognition," he notes, but, "it is very hard to compete with provinces or cities that are perceived as more attractive" (Telephone interview C 2016).

University A also has a Sino-foreign branch college (Mok and Han 2014), established in partnership with overseas educational providers. Its productivity is measured largely by the number of students that enroll and graduate. Criteria such as the quality of the curriculum and faculty, or students' opportunities to develop global skills and knowledge, are not viewed as highly important. But it is worth-noting that except for this successful Sino-foreign branch college, University A has relatively less cooperation with overseas HEIs in joint degree and international collaboration. One interviewee explained to us

that it may be related to the disadvantageous geographical location that "we can hardly attract overseas returnees and thereby establishing the global connection" (Telephone interview A 2016).

Regional Economic Engagement

Regional economic engagement and the practices of technology transfer at University A relate largely to China's political and economic policies, the University's status as a Project 985 institution, and its relationships, financially and otherwise, with local governments and other local tertiary institutions. The aim of Project 985 was to help universities not only improve their global rankings, but also have a local impact through their teaching and research programs, and an economic impact in their region. Beyond that, the MOE in Beijing has agreements with local governments to fund the operational and capital costs (*gongjian xieyi*) of Project 985 universities. However, inequality related to the decentralization strategy stemming from economic reforms in the 1970s (Chen and Feng 2000; Démurger et al. 2002; Fleisher et al. 1997; Lyons 1991), has meant that some regions benefit from more significant investments in higher education by regional and city governments. In prosperous areas, local governments can match or even exceed the central government's investment, whereas in relatively impoverished regions, the cash inflow is generally very small in proportion to a university's operating and capital costs, often despite promises by the central government.

In the case of University A, the investment of the regional and city government is "small and ignorable," according to one university official. The local government, he notes, devotes very little funding to the university. "Although they have signed a contract with the central government, the promised funding has never been realized and we have to rely on national support for daily operation almost exclusively" (Telephone interview B 2016).

The reluctance or inability of some Chinese local authorities to fund their regional universities is not a new phenomenon. Governments recognize that high-quality research and educational programs can bring benefits to the local economy. But the regional disparities in China often translate into less funding and support for local universities. Furthermore, talented graduates of regional universities such as our case study institution tend to seek jobs in economically developed areas, thereby reducing the university's economic impact. For example, according to University A's own 2015 Report of Graduates' Employment Quality, out of more than 6,200 undergraduates, only around 1,200, or 20 percent, chose to work locally.

At the same time, University A has a nationally respected research reputation in some scientific areas and has established a number of

collaborations with local corporations. Yet there are a number of challenges for University A that again reiterate the disadvantages of its location, funding, and the directives for Project 985 universities. "We set up a Science and Technology Park (*keji yuan*)," notes one interviewee, but "the local government has invested little in cooperation." Without a strong sense of the value of collaborations with local businesses, the focus of faculty and researchers remains on national sources of research funding and international gauges of research productivity. As the same interviewee flatly states, "My colleagues show more interest in applying for national funding" (Telephone interview B 2016).

This focus, and the lack of interest and funding by the provincial government, appears to add to the brain drain in the region. As one faculty member argued, "We have lost a great number of talented people, not only students, but also faculty . . . I studied at University A for my undergraduate, master's, and doctorate degrees and I love this university. However, if the current conditions continue, I may seek to go to the Southern parts of China." He has counseled many students to "find decent jobs elsewhere . . . They are excellent graduates and I believe they could have more chances to prove themselves in other cities" (Telephone interview E 2016).

Management Capacity—Academic Culture and Funding

There are also serious challenges regarding the academic culture of University A and its management capacity. A strong sense of hierarchy, and a conformist civil service culture hinder its maturation as a *Flagship University* in the terms discussed in this book. University A is one of the earliest universities established by the Chinese Communist Party (CCP) and political loyalty remains a primary ethos, "instead of academic distinction, or a philosophy of public service," notes one interviewee. "The faculty can express their attitudes regarding any political event or argue their scholarly opinions in private. However, when they come to the classrooms and begin to teach, they have to ensure their political 'rightness'" (Telephone interview B 2016). This constraint on open discourse has major implications for university management.

There are two primary factors that account for University A's adherence to this tradition of political conformity. First, University A historically has a politically emblematic role, as part of the "System of Presidential Accountability under the Leadership of the Party Committee" (*dangwei lingdaoxiade xiaozhang fuzezhi*) as prescribed by the central government. In addition, it relies almost exclusively on national funding, and this, perhaps more than anything, ensures its allegiance to the party. As one interviewee observed, under such an appropriation system, there are "limited incentives or

motivations for either administrators or faculty members to place more emphasis on community service or research improvement [an exception being young scholars who desire to be promoted or acquire tenure positions]" (Telephone interview B 2016).

China is currently in a transition from a highly centralized economic planning system to a market economy and thus the criteria for national appropriations do not completely depend on the academic performance of a university (Mok 2000). According to Article 20 in the *Financial Regulations of Chinese Higher Education Institutions*, the appropriations of universities affiliated with the MOE derive mainly from the state (Ministry of Finance (MOF) and MOE, 2012) while overall appropriation patterns have changed over time. More specifically, the financial allocation patterns of these universities have undergone three different phases since 1955:

1) The Base plus Increase Model (1955 to 1985): The amount of public funding to a certain university was calculated based on the previous year's appropriation, plus the increased portion. The formula is listed below:

$$Y = \mathrm{A} - \mathrm{B} + \sum_{i=1}^{n} C_i X_i$$

In this formula, Y represents the amount of appropriation for the current year; A represents the funding allocated in the last year; B demonstrates the excessive expenditure, which is not supported by the MOE; and the summation represents the increasing items multiplied with the increasing rate that appears as the addition to the real financial allocation in the current year.

The model was simple in practice and satisfied the demand for a gradual increase in investments for the then relatively small number of HEIs. However, as the major criterion of this model was the appropriation in the previous year instead of the real cost, universities with higher unit costs would automatically enjoy more public funding from the central government. This approach inevitably suppressed university leaders' enthusiasm to perform in a cost-efficient and effective way. The evident weakness of this model was perceived by the central government, which subsequently changed the method of calculation in the second phase.

2) The Comprehensive Quota plus the Subsidy Model (1986-2002): The *Reform of Financial Management in Higher Education Institutions* was issued in 1986 by the MOF and MOE, demonstrating the enactment of the second allocation model (see the formula below):

$$Y = \sum_{i=1}^{n} A_i X_i + \sum_{i=1}^{n} B_i$$

Y in this equation represents the appropriation to a certain HEI in the current year; A_i represents the items of funding, while X_i demonstrates the allocating quota of the corresponding item; and B_i illustrates any special subsidy to the HEI, decided by the MOF and MOE in light of national policies and special requirements from the university, such as the need for funding to establish laboratories and purchase facilities, for faculty training, and for the pensions of retired personnel. It also considered the number of students and faculty. Consequently, this funding model stimulated the leaders of HEIs to expand their student enrollment and faculty recruitment. However, the subjective allocation of special subsidies cannot be ignored. These issues mentioned above gave rise to the second round of reform in state appropriation to public HEIs.

3) The Basic Expenditure plus Project Allocation Model (2002-present): This model includes three different items in calculating the state appropriation: (1) basic expenditure is a comprehensive finance allocation used to ensure and sustain the operation of a certain HEI; (2) project allocation refers to special public funding for HE development, such as Projects 211 and 985, and student scholarships; and (3) the MOE also allocates a performance expenditure meant to stimulate HEIs to improve their quality. However, no specific criteria by which to calculate the performance expenditure has yet been formulated (Gong 2011).

In light of the current appropriation model, University A is able to receive a generous cash inflow because of its relatively large number of students and elite status as a Project 211 and Project 985 university. Its funding is, curiously, not related to its enrollment or the quality of its graduates; the MOE strictly controls the quota of candidates in leading universities and provides few incentives to compel administrators to perform better as regional economic engines. As one interviewee admitted, "The MOE has its own league table, different from publicly available ones. It may consider the locality, university size, or have other political concerns."

The same source notes that focusing on regional needs may generate more donations or engender more school-enterprise cooperation, which would better conform to the *New Flagship* model, but taking such action would have little influence on national funding. This has major implications for how University A's faculty and administrators view their role and performance. Not only must University A depend almost fully on central government funding, it also suffers from a lack of stability in its academic leadership, with presidents

who are selected by party officials and who change regularly. As interviewees pointed out, the central government appoints presidents who may know little about University A and will soon be promoted to other more important positions. Indeed, becoming a president at University A, or at any other Project 985 university, is viewed by Beijing as a form of "political training" (*ao zili*) and a mere stepping-stone to other government positions. Clearly, a stable presidency held by someone with meaningful academic experience would contribute significantly to the management capacity of the university and could allow it the opportunity to improve its relationship with the provincial government and promote regional economic engagement.

Thus, despite a certain degree of liberalization in its education system, China's universities are still severely constrained by the central government in Beijing (Mok and Chan 2012). The lack of institutional autonomy and an almost total funding dependence on the national government remain major hindrances to University A's efforts to pursue greater research productivity and a more coherent role in the local economy.

University A's Dilemma

These challenges noted, those interviewed expressed their pride that, over the past decade, University A has been able to significantly improve the quality of its academic programs, students, and faculty, despite such disadvantages as its geographic location, the limits of its funding, and the political pressures with which it must contend. It succeeds in serving its community by largely enrolling students from the province, who then go on to graduate and follow diverse paths, with some finding jobs locally, while others move on to various top universities for graduate training, and yet others build productive careers in China or elsewhere.

When considering how to shift the academic culture of University A towards elements of the *New Flagship* model, its main dilemmas are related to its management capacity. Political circumscription and the lack of academic freedom, unstable academic leadership, and a funding system largely dictated by the national government, all pose roadblocks for the maturation of University A into a more productive teaching, research, and public service institution. Ironically, many of these obstacles have been recognized by the national government and discussed among university leaders and faculty. In 2013 the current Deputy Minister of Education, Hao Ping, emphasized the need for the central government to provide greater autonomy to its leading national and regional universities (2013). And many university presidents in China have reiterated this sentiment (Li 2000; Ding 2015; Li 2016; Shi 2016). Yet if they are to join the ranks of the great institutions of the world, China will have to

increasingly view its major universities less as political vehicles and more as key institutions for both national and regional economic development, and the liberalization of society.

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Appendix 5.1. The detailed information of interviewees

Interviewee A	Dean of Department of Marxism
Interviewee B	Associate Dean of Department of Marxism
Interviewee C	Secretary of Department of Marxism
Interviewee D	Secretary of Department of Social Science
Interviewee E	Associate Professor of Department of Economics
Interviewee F	Professor of Department of Economics
Interviewee G	Graduate from Department of Physics

Note

[1] We deliberately deleted the link to the official website of University A and use vague numbers sometimes instead of the precise ones to protect the interests of our interviewees.

Chapter 6
Flagship Universities in India: The Dominance of Delhi University

Miloni Gandhi (University of Southern California)

India is a country with dramatic population and economic growth and a corresponding massive expansion of its higher education system. Both public and private providers of tertiary education have grown in enrollment and programs, and will continue to grow. Already the third largest higher education system in the world in terms of enrollment, by 2030 India will be one of the most youthful nations in the world, with nearly 140 million people of college-going age (Ernst and Young 2013). Between 2000–2030, the estimate is for a 214 percent increase in enrollment within a network of colleges and universities in India's 29 states and seven union territories (Calderon 2012). In the Indian context, and even with the addition of some 20,000 new higher education institutions since 2000, the demand for higher education greatly outweighs the supply. But one of the big challenges for India is not simply the quantity of educational opportunities, universities, and colleges, but the quality of those institutions.

Among the major universities in India, Delhi University (DU) stands out as the major leading national university, with many *New Flagship* characteristics. Historically it has been the premier higher education institution in India. However, India needs more comprehensive universities with broad social missions, coherent and productive engagement with regional economies, that are producers of innovative research, and that expand their missions to provide much needed public service programs.

The following discusses India's higher education system, the unique role of Delhi University, and an exploration of whether India can quickly develop a network of universities that may perform well in global rankings framed largely around international standards of research productivity (the World Class University paradigm) and, more importantly, act as *New Flagship Universities*.

Delhi University

Higher education in India has a rich history. Some of India's earliest learning centers such as Taxila (in present-day Pakistan) and Nalanda (in present-day India) provided some of the antecedent forms of today's great universities. Under the British Raj, institutions that resemble modern universities, as we have come to think of them today, were created to be more in line with the

Western world. Specifically, three universities were set up in 1857—envisioned by the British and taught in English—the Universities of Madras, Calcutta, and Bombay.

Yet somewhere between then and now, India has effectively lost its edge in the global higher education marketplace, which seems counterintuitive, as now more than ever the country has a population that is clamoring for domestic higher education opportunities. Can India endeavor to regain some of her previous hold in this quickly evolving industry?

Historically, leading national universities in India were created to help prepare the next generation of civil servants—an idea that very much aligns with the traditional *Flagship*. This remains a significant role for Delhi University and many other top institutions in India. DU, for example, lists several notable civil servants as part of its alumni network on their website, including Jawaharlal Nehru, known as the father of India and first Prime Minister. His quote on DU's website speaks to the aspirations of Indian higher education: "A University stands for humanism. For tolerance, for reason, for the adventure of ideas, and for the search of truth. It stands for the onward march of the human race towards ever higher objectives. If the Universities discharge their duties adequately, then it is well with the Nation and the People." The challenge lies in balancing the needs of society with the edicts of the Ministry of Human Resource Development (MHRD), the executives of the university, and the faculty and researchers who do the teaching and research. More specifically, there is often a disconnect between Ministry and executive wants and needs and professorial realities.

Both the Ministry and institutional executives are often largely focused on universities meeting global standards of research production, and on global higher education rankings that they associate with World Class Universities (WCUs). However, in the case of India, the *New Flagship University* model may be a more progressive, and achievable, path that includes a consideration of the needs of India's people and economy, and that values the local culture and subcontinental needs. There are some who fear that striving for WCU status and the hope for global notoriety is sacrificing the larger purpose and mission of India's leading national universities (Mangalik 2014).

As noted, Delhi University has many of the attributes of the *New Flagship University*, even though it was not one of the original three universities created by the British. Founded in 1922, The University of Delhi is the premier university in the country. It is known for its high standards in teaching and research and attracts eminent scholars to its faculty. The University started when there were only three colleges in Delhi: St. Stephen's, established in 1881, Hindu College in 1899, and Ramjas College in 1917. These initial three

colleges later became a part of DU, and an overseeing governing body was created for the university.

Compared to its humble beginnings with only three colleges, two faculties, and 750 students, DU is unrecognizable today; with its 16 faculties, 86 academic departments, 77 colleges, and 5 other recognized institutes spread all over the city, it is now a large and complex institution. In 2016 the University enrolled 132,435 regular students, including just over 114,000 undergraduates and nearly 18,000 postgraduate students. Another 261,000 students are in non-formal education. The scale, and general quality, of this institution requires a substantial bureaucracy. In terms of prestige and enrollment demand, only the Indian Institutes of Management (IIMs) and Indian Institutes of Technology (IITs), with highly specialized degree programs in STEM fields, rival that of Delhi University. For this reason, DU is often referred to as the Oxford or Cambridge of India. But arguably, Delhi University has its own unique characteristics relevant to India's society that provide value well beyond the elite institutions in England and elsewhere.

For example, Delhi University is composed of 77 colleges located throughout the metropolis. From an administrative perspective, this decentralized organization poses significant governance and management challenges. St. Stephen's College, for instance, has an application process of its own and does not follow the overall admissions qualifications of the other campuses set by DU's central administration. DU has two main campuses: one in North Delhi and one in South Delhi, established in 1973 to help meet enrollment demand as South Delhi grew in population. There is also a West campus and now there are talks of an East campus, each having a main institute that will absorb growing enrollment demand and possibly make the challenge of navigating the busy Delhi traffic more feasible for students, faculty, and staff.

India's Complex Higher Education System

Delhi University, and other higher education institutions in India, operate within a complex environment of government agencies and institutional types. The Ministry of Human Resource Development is the nation's lead in setting policy and funding higher education, and includes the University Grants Commission (UGC). There are six major university classifications: Central Universities, State Universities, Deemed Universities, Private Universities, and Autonomous Institutes/Institutes of National Importance. Table 6.1 provides an outline of the total number of each of these institutions as determined by the Ministry. The following briefly outlines the origin and purpose of these institutions:

- Central Universities—Established by an act of Parliament, these answer to the Department of Higher Education in the MHRD via the UGC. Both undergraduates and graduates are taught here. Last count 47 in existence. Delhi University is one example.
- State Universities—Run by state government, established by local legislation. Mainly undergraduate-focused but with some graduate courses as well. Last count 256 as of September 2016.
- Deemed Universities—Have some autonomy, last count 123.
- Private Universities—Approved by the UGC, and can grant degrees but cannot have affiliated colleges. Last count 246. Flame University is one example. Private institutions were nearly non-existent in India two decades ago.
- Autonomous Institutes/Institutes of National Importance—This is where Indian Institutes of Technology and other similar schools in different subjects reside (IITs, IIMs).

Table 6.1. Number of Higher Education Institutions in India by Type, 2014

Central	42
State Public	310
Deemed	127
State Private	143
Central Open	1
State Open	13
Institution of National Importance	68
Institution under State Legislature Act	5
Others	3
Colleges	36,671

In 2016, the Delhi Territory Government alone had four Central Universities, one State University, ten Deemed Universities, and two Institutes of National Importance. The Ministry of Human Resource Development has created a list of key players in Indian higher education.

India's higher education system has been growing in enrollment, programs, and new campuses at a tremendous rate over the past two decades, and accelerating considerably over just the last few years. The All India Survey

on Higher Education (AISHE) provides detailed statistics. AISHE was established in 2010 as the national government realized the need for more comprehensive data. There is no central or formal process for reporting enrollment to the national government, and so AISHE was established by sending surveys to regional governments and higher education institutions. Not all responded. Yet the most recent AISHE report does provide evidence of significant enrollment growth, as summarized in Table 6.2.

It is likely that the number of universities, colleges, and stand-alone institutions will continue to grow, along with enrollment, including a significant rise in the number of women. Gender discrimination remains a significant barrier to socioeconomic mobility; even in the elite echelons of society where males and females are supposedly equal, elite families will still save their money for the male child to go to a more prestigious or expensive university. India's strong patriarchal society remains, and many families refuse to let their daughters go away to college within India or to travel abroad for their education. Yet India is beginning to make progress in increasing the enrollment of females.

Table 6.2. AISHE Report on Higher Education Institutions and Enrollment—2013-2015

		2012-13	**2013-14**	**2014-15**
Number of Universities		667	723	757
Number of Colleges		35,525	36,634	38,056
Number of Stand Alone Institutions		11,565	11,664	11,922
Enrollment in Higher Education:				
	Total	30,152,417	32,336,234	33,272,722
	Male	16,617,294	17,495,394	17,906,704
	Female	13,535,123	14,840,840	15,366,018

Indians thirst for higher education. Within greater Delhi, enrollment increases, and increased college-going rates among traditional aged students, are greater than in most other states. Enrollment demand is clear, but the big challenges are related to developing and hiring faculty and staff, and funding

the operating and capital costs necessary for expanding the higher education system. Increasingly, the focus is not simply on these key factors, but also on the quality of the institutions, the number of universities that are globally competitive in terms of research, and the prestige necessary to develop and retain talent in India. The relatively new sense that quality will be a key factor, and specifically that there is a need to have a set of globally competitive universities to advance India's economy and place within the world community, is now driving much of the national policymaking related to education.

Global Rankings and India's Top Universities

Few Indian higher education institutions perform well in the most cited and noted global rankings of universities, with their focus largely on citation analysis as a surrogate for knowledge production and prestige. India looks at China as an economic competitor, both as a member of the BRICS community, and as a nation that has invested in its universities to improve their global rankings. Rankings are an easily quantifiable way to try and seek some order and notoriety in an otherwise highly qualitative experience with numerous variables.

The Indian Institute of Science was the first to rank among the top 200–250 universities in the Academic Ranking of World Universities (ARWU) generated by Shanghai Jiaotong University. Delhi University, again India's premier university in large part because it is a highly selective, comprehensive institution that serves society in a myriad of ways, ranks only among the top 600 universities in the ARWU. In total, only thirty-two Indian universities rank in the top 800 of the ARWU. Overall, this is a disappointing performance for a country that was one of the earliest democracies among the developing nations, and that has a population of nearly 1 billion people. Similarly, in the *US News and World*
Report rankings, the highest ranked Indian university is again the Indian Institute of Science, placing at number 354 (tied) out of 750 ranked universities; the University of Delhi is ranked at 610. India does a little better in the QS rankings of universities, where the Indian Institute of Science placed recently at 152 out of over 700-plus institutions. Delhi University ranked in the 501-550 range, and was the highest in the QS rankings of the non-technical universities.

In part because of India's lack of presence in these and other global ranking schemes, and joining a trend toward developing national rankings by ministries, the Ministry of Human Resources Development recently established the National Institutional Ranking Framework (NIRF), which includes, besides publications, data on inclusivity regarding female and socioeconomic enrollment, graduation rates and job placement, and economic engagement

factors. Delhi University ranked sixth in the NIRF, but again as the top comprehensive university. Prior to the creation of the NIRF, the most respected internal Indian ranking system was the *India Today* (2016a; 2016b) Nielson Ranking, which ranked Delhi University's various colleges as the best in the nation in multiple fields including Commerce, Arts, Science, and Education.

Table 6.3. NIRF Ranking of Top 10 University Based Colleges in Commerce, Arts and Science

Commerce	Arts	Science
Shri Ram College of Commerce, New Delhi	Lady Shri Ram College for Women, New Delhi	St. Stephen's College, New Delhi
Lady Shri Ram College for Women, New Delhi	St. Stephen's College, New Delhi	Loyola College, Chennai
Christ University, Bangalore	Christ University, Bangalore	Christ University, Bangalore
Loyola College, Chennai	Loyola College, Chennai	Miranda House, New Delhi
Hansraj College, New Delhi	Miranda House, New Delhi	Hansraj College, New Delhi
Hindu College, New Delhi	Hansraj College, New Delhi	Fergusson College, Pune
Anil Surendra Modi School of Commerce (ASMSOC), Narsee Monjee Institute of Management Studies University, Mumbai	Madras Christian College, Chennai	Madras Christian College, Chennai
St. Joseph's College of Commerce, Bangalore	Hindu College, New Delhi	Hindu College, New Delhi
Madras Christian College, Chennai	Shri Ram College of Commerce, New Delhi	Sri Venkateswara College, New Delhi.
Symbiosis Society's College of Arts & Commerce, Pune	Fergusson College, Pune	Ramjas College, New Delhi

The NIRF reflects the concern about research productivity among India's universities and colleges, but also many of the values outlined in the *New Flagship University* model—including regional and national social and economic engagement and the responsibilities of institutions. Besides an overall ranking of an institution within India, the NIRF also ranks the various colleges of a university or institute in areas such as Commerce, the Arts, and the Sciences. In this ranking, Delhi University's various colleges rank highly among the top ten in each discipline, and one of its colleges is in the top position (see Table 6.3).

Whatever the global rankings, Delhi University remains known as one of the premier universities in Asia. It has an historical legacy of being one of the

first and foremost institutions of higher education in the modern era (excluding ancient institutions such as Taxila and Nalanda) and has a substantial and growing list of successful and notable alumni. Global rankings thus far conceived are only as good as the data behind them and, for the foreseeable future, miss the larger utility and impact of a leading national university. For example, simply being at a highly ranked institution does not mean that a student will automatically learn more than if they were to attend another institution of a much lower ranking, or become more engaged in their academic endeavors, or become more successful businesspeople and citizens. This was a discussion that I often had as a university recruiter, where it was difficult to convince students and their families, especially from India, that it was sometimes a better idea to go to an arguably equally good but less highly ranked college if it is a better fit for the student in terms of their field of interest, social needs, and a variety of other factors.

It appears that India's national and regional governments are beginning to adopt a more holistic interest in higher education, after decades of a focus primarily on schooling through the secondary level. The link of educational attainment levels and the knowledge economy, and deepening concerns over brain drain, are creating greater interest in higher education. India used to be a place where businessmen did not need to go to college to be successful, but now a tertiary degree from a prestigious institution is necessary in most circles, for both men and women; indeed, it is now even a point of consideration in marriage. In the most socioeconomically mobile circles of India, attending university is now a must, and having universities abroad on your college list is a norm more than an exception.

For these reasons, Delhi University has high enrollment demand and highly selective admissions that are similar to the IITs and IIMs. Nationally and regionally in India, there is more demand and less supply even as new, predominantly private, institutions and campuses are established. Partly in response, universities in the US and UK employ recruitment strategies to entice students from other parts of the world, most significantly from India and China. Because admissions to DU and many of the other top institutions in India are more competitive than many of the best universities in the US or UK, there is a growing market of Indians who wish to go abroad, particularly among middle and upper-caste students.

Because India still relies almost exclusively on standard examinations for determining admissions, the more holistic evaluation in the US, for example, also provides an incentive for students to leave India. This narrow definition of academic promise is causing India to lose many bright and talented students. Moving towards a more holistic admissions process is part of the *New Flagship University* model that recognizes that talent comes in many different forms.

Without changes like these in the policies and practices of India's universities, the exodus of many of the country's best minds will continue. In a tour to the US, Prime Minister Narendra Modi noted that in India, "We must reverse the 'brain drain' into 'brain gain.'" At the same time, corruption in admissions remains a significant problem: students can gain one of the coveted seats at a prestigious university by paying a bribe, even if they are not the brightest students, especially in the case of privately run institutions. Buying seats is a problem in many developing countries.

For these reasons, India is losing many talented students who are either unable to enroll in a limited number of prestigious institutions, or who are seeking a globally renowned degree and therefore go abroad for their university education. Many of these students who seek an education abroad then find it difficult to transition back to India. Low salaries in Indian higher education compared to universities in older, richer, predominantly Western nations also make returning to India much less attractive to prospective academics. Public universities, such as DU, have their salary scales pegged to those in civil service. Private universities are more lucrative than public, but still not as lucrative as working at a university abroad (Basu 2016). While education is a respectable career, it remains a low-paying form of employment. There are countless talented faculty who choose to teach abroad as they seek a better standard of living for themselves and their families.

Meenakshi Gopinath, the principal of the elite all-women's Lady Shri Ram College at Delhi University, observes that India is at a decisive moment. "A lot of practices that are the norm within universities abroad are only now coming into effect here. If we can tackle issues of curriculum redesign, student services, unfilled teacher vacancies, attrition, recruitment processes, and infrastructure, with imagination and sensitivity, we could be poised for a major takeoff" (Shah 2013). Yet in the case of India, it may be easier to build a new university with high research productivity and quality teaching than it is to fix or improve a current university. Universities in India do not yet generally have the characteristics outlined in the *New Flagship University* model, even in the case of Delhi University.

Privately run institutions are easier to establish and have some of the goals of a *Flagship University*, but they face difficulties in establishing a reputation to attract quality faculty and students. The private sector is able to circumnavigate some of the bureaucracy to develop at a faster pace, but there are questions as to whether admissions practices are equitable, and regarding the worth of these degrees in the labor market. Still, a number of new private universities have been established with *Flagship*-like missions, such as Ashoka, Amity, Flame, Symbiosis, O.P. Jindal, and D.Y. Patil. These are both a mix of profit and not-for-profit institutions. Faculty in these universities tend to fare better

financially as they are not tied to the civil servant salary scale. However, compared to their global counterparts they are still working with minimal resources.

India's finance minister, Arun Jaitley, has announced a strategy to provide greater autonomy to public universities, and to elevate some twenty universities—ten public and ten private—to be "World Class Universities." The NIRF, India's own ranking of universities noted previously, may provide the means to identify which institutions will be chosen with special funding for each—a reflection of the "excellence" programs seen in many other countries.

Delhi University and the *New Flagship University* Model

A *New Flagship University* is an institution that has certain characteristics that fit within the broad themes of teaching and learning, research and knowledge production, and public service. Of all the tertiary institutions in India, Delhi University has many of these *Flagship* characteristics. For example, DU is one of the most prestigious universities in the country, with a defined service area and highly selective admissions both for undergraduate and graduate studies. In addition to using a nationwide entry test for admission, the University also reserves a certain quota of seats for those deemed minorities either due to ethnicity or class in India, such as Kashmiris.

As one of the largest universities in India, it is likely the most comprehensive institution on the basis of subjects offered, size, and student enrollment. DU has productive undergraduate and graduate programs, and the recent reform of undergraduate degree programs from three years to four years has offered an opportunity for innovation at Delhi. In addition, there are special programs to help those seeking non-degree programs.

The University has a robust and growing research record and a high level of international engagement relative to other Indian universities. Delhi's faculty publish the most journal articles of any Indian university. DU also has a variety of options for study abroad and a significant number of foreign students, visiting faculty, and scholar programs. It is currently the premier destination for foreign faculty, students, and dignitaries.

However, examples of public service and local and regional economic engagement are not as prevalent. Instances of technology transfer are not well documented, although it is important to note the number of tech-centered degrees. Lifelong learning is also not a major focus of Delhi University. The concept of lifelong learners or non-traditional students has not yet emerged as a concept in India. Through its School of Education, DU has relations with schools and teacher training. However, the Ministry of Human Resource

Development drives curriculum design and, in some ways, constrains local initiatives by faculty and the institution.

Finally, while greater institutional autonomy has been granted by the national government, it is still not at the level of management authority and capacity seen among the *Flagship Universities* in the United States. Academic freedom is also constrained in some important ways. The Ministry of Human Resource Development plays a large part in standardizing teaching and subject matter, and while there is a level of freedom of thought, the various Ministries of India can still curb certain freedoms that one would take for granted in the US. And Delhi University, like other public universities in India, remains very conservative and resistant to Ministerial reform efforts. At the same time, Ministerial edicts for reform are often not well-thought-out and fail to consult adequately with the university sector.

One important example is the decision by the Ministry in 2012 to have its universities rapidly transition from a three-year undergraduate degree to a four-year degree by 2013. The intent was to make India's universities more globally competitive and reflective of reforms in the EU. Known as the Four Year Undergraduate Plan, or FYUP, one purpose was to introduce general education into the curriculum, following the American model. Delhi University was in a position to lead this transition. However, resistance quickly formed among students, administrators, and faculty. Politics and lack of constituent buy-in led to only a partial adoption of the FYUP. This was a significant and progressive reform, but poorly executed. Had faculty been given more time to think through their syllabi, and administrators more chance to understand the logistical needs of such an undertaking (space, seats, staff, faculty), the transition may have gone forward. The result: some courses offer a fourth year option such as the Bachelor in Technology degree, and some offer a fourth year option for students who want to complete the honors course, but there is no universal FYUP at DU. Delhi University's resistance to the FYUP had a ripple effect throughout India's higher education system. Even the newer private universities, private institutions that claim to provide a Western education with Indian sensibilities, continue to provide the traditional three-year degree.

In many ways, Delhi University is much like its Asian peers that more closely resemble the Traditional *Flagship*: an elite leading national university "serving as a path for creating a nation's civic elites in the absence of other postsecondary institutions" (Hawkins 2013) leading to careers in civil service. From an outsider's view, these institutions may seem "stuck in time," in part because of India's history and culture, and in part because of the sheer size of the university. With some 400,000 undergraduates and graduates, it is a massive institution lacking the strong central academic management that could steer reforms without the input or directives of the Ministry.

Conclusion—*Flagship Universities* in India

While a growing population and growing demand for higher education offers opportunities for innovation, India's higher education sector faces a number of major challenges. Many scholars of Indian higher education are skeptical that major reforms in the policies and practices, and academic culture, of leading universities such as Delhi University are possible in the near term. But there is also new evidence that public pressure is mounting for significant changes and improvements.

Theory and rhetoric from above are of no consequence without buy-in from those that the university is trying to serve. While massification of higher education in India is on the rise, that alone will not lend itself to the development of World Class Universities, and in fact may actually lead to quite the opposite. Education that favors quantity over quality may be a quick fix to alleviate student demand for seats, but will not prepare those students for a globally competitive environment. Globalization has put a new twist on what a World Class University needs to be able to deliver. Students want to know that their degree will have value not just in their home country, but that it will be recognized globally, and that their skills will be applicable regardless of where their job takes them. It appears that both those delivering knowledge and the recipients of knowledge in India finally agree on what is needed in the university experience: an education that benefits the students as well as staff, and ultimately the country's overall economic well-being. Previously there was much discussion of moving to a new level—that of global competitiveness—but there was not an all-around push or internal motivation to achieve this. Now with signals such as the newly created NIRF, and widely publicized decrees indicating a desire to be a global powerhouse in higher education, I believe the UGC is at last ready to execute such a plan, even if it takes time to fully realize this goal. With the creation of these new institutions (either by improving existing structures or developing new ones) the *New Flagship* model may better fit India's higher education landscape, as it takes into account local needs as well as global competitiveness.

One of the topics that must be addressed as India moves forward with this goal is how, while developing globally recognized universities that fit the *New Flagship* model, will some of the underlying issues in Indian higher education such as massification, a test driven educational culture, and limited student access also be resolved? The *New World Class Flagship*—a blend of the WCU as well as the *New Flagship* model—is what I hope to see in India in the near future. This blended model could re-envision the pathways for access not only for the twenty *New World Class Flagship*s proposed by the Ministry, but also for existing higher education structures. There is a need for a significant

overhaul in the system as a whole, and perhaps this new interest in the state of higher education in India by the government *and* the people will be the answer. While there are some who fear that the new private universities in this group of 20 will, in their haste to build themselves up quickly, not be held to the same standards as public universities such as DU, there are many others who hold the view that these new institutions may invigorate Indian higher education and help to move the system toward the ideals of the *New Flagship* model.

Going forward, the distinction between teaching and research will also have to be addressed, as at present there is a clear delineation between those who teach and those who research at Indian higher education institutions. It would be ideal if faculty were given the option to be both true teaching as well as research faculty instead of having to choose one over the other. However, in its attempt to cultivate home-grown WCUs and rise through the international rankings, India has chosen to imitate the West, where research is often prioritized over teaching. But in the long term, this is not a productive strategy if one's aim is to produce a cadre of knowledgeable graduates. In a country where much of the learning is already done via rote memory at most K-12 schools that follow an Indian curriculum, simply churning out diplomas will not lead to citizens who can be agents of change in the future. College is a critical time, where students should be taught to truly learn and think on their own. But when the emphasis is placed on research and publishing rather than teaching, students are often the losers, missing the opportunity to meet the great minds of their institutions and forge relationships with mentors.

Thus while it is important to learn from those institutions that have achieved WCU status, the attempt to create a *New World Class Flagship University* should leave room for creativity in selecting the best practices from around the world as opposed to blindly following the models used by previous success stories. In a model where local relevancy is also of importance, it is necessary to remember that what worked for universities in a different country and in a different cultural context may not be what is best for India. It is also important to remember that most current WCUs developed under a Western-focused and English-biased lens; if one looks at the top 25 universities across multiple ranking systems, for instance, there are only one or two WCUs outside the Western world. Using the *New Flagship* approach, on the other hand, cultural relevancy takes on a more important role, and India's own cultural wealth can receive greater attention, by counting publication in local languages and journals, teaching in all languages of the country (or as many as possible), not expecting English to be the sole language of academia, and teaching from a standpoint of cultural sensitivity, where the unique nature of a multilingual and multicultural society is embraced as opposed to hidden. Students and faculty could receive more support in their native tongue, and have the work they do

reach out not just to the knowledge elite, but to a much wider audience in all spheres of society.

Indian higher education has historically been regionally competitive within the subcontinent, as a popular study abroad destination for students from Myanmar, Bhutan, Sri Lanka, and Bangladesh, as well as students from as far off as Mongolia, Malawi, and the Maldives. In addition, Indian universities can boast an alumni network of global leaders and national politicians, and visionaries in the arts and sciences. Nonetheless, something has been lacking thus far to make Indian universities more competitive in relation to the rest of Asia, particularly East and Southeast Asia. India's size, its governing structures, and the nature of doing business in the country have perhaps all been factors holding it back, but it is now poised to move forward by learning from the experiences of others not only in the region, but the world. If India constructs the *New World Class Flagship* model using the best practices learnt by observing current success stories, there is a glimmer of hope that it will be able to create twenty NWCFs that bypass many of the trials and tribulations of their predecessors.

For example, one clear advantage of the more recently developed universities—and quite possibly any of the future 20 WCU hopefuls—is that they will have infrastructure that is current. DU faces a challenge in obtaining all the infrastructural updates it needs to remain competitive, both in terms of the physical structure of current buildings as well as the state of technology within departments, such as the STEM majors, where it matters the most. Indeed, aside from the previously discussed issues of admission in relation to supply and demand, the often limited resources at Indian universities is something that drives some of the brightest students abroad.

What does this say about the future of higher education in India? In the words of Philip Altbach "India is a world class country without a world class university." There is finally a desire to change that—evidenced by the numerous calls for higher education advancement in the last two five-year plans—but as with most things that have the ability to impact over a billion people, achieving results quickly is difficult. The land of contradictions shows through again, and sometimes it is hard to fathom how a place that has quickly become a global cyber hub can be so slow to change in other areas. Yet, that is seemingly the case when it comes to higher education. In a country where there is a large population (68 percent of which is still rural) that struggles to even complete a basic education, it can seem like a luxury to spend pages describing the state of higher education. Now, however, with not only government backing to increase spending on education but also consumer demand, we may finally see a jump in global recognition for Indian universities. Will there be space for others aside from Delhi University? With the *New World*

Class Flagship model as a guide, we anticipate watching the answer to that question unfold in the coming years.

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Chapter 7
The *New Flagship* Model and Two Universities in Japan

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Four years after the end of World War II, Japan's education system was restructured (*Gakusei kaikaku*), giving birth to the nation's contemporary national system of universities. One goal was to have one national university in each of the nation's 47 prefectures. Prior to the war, the "old system universities" included seven Imperial Universities, most of which were founded around the turn of the 20th century. This included the University of Tokyo, Kyoto University, Tohoku University, Osaka University, Kyushu University, Hokkaido University, and Nagoya University. Each played a central role in nurturing national leaders, civil servants, and private sector leaders as Japan began a process of economic modernization. A number of private institutions also existed, founded by wealthy citizens and funded largely by endowments. But it was not until 1948 that these privately established institutions were recognized as a part of the "new system universities" by Japan's Ministry of Education.

Although the general principle of "one national university in one prefecture" granted each of these institutions (*Shinsei daigaku*) the authority and prestige to serve as local *Flagship Universities*, at the national level the Japanese government retained the historical hierarchy throughout the 1950s, with seven former Imperial Universities reigning at the top of the hierarchy, followed by the other local national, municipal (i.e., prefectural and city), as well as private universities well into the 1990s. All these colleges and universities undoubtedly produced well-educated individuals that contributed to the post-war recovery and industrial success of Japan.

But by the late part of the 20st century, as Japan faced the post-bubble economy recession, increased economic competition in Asia, and the prospect of a declining population, the nation's political leaders argued for significant reforms in Japan's public and private sectors. Many companies pursued reorganization and a review of their management practices. Under the administration of Prime Minister Junichiro Koizumi (2001–2006), government agencies faced major neo-liberal reforms. In 2003, for example, the public postal services were privatized. In 2004, Japan introduced a jury system. The loss of the pension records of 50 million individuals by the Social Insurance Agency (SIA) in 2006 produced a major scandal. This led to the disestablishment of SIA and the founding of the privatized Japan Pension

Service in 2009. As a result, employees no longer hold public service status. These and other reforms were adopted to mend corrupt moral standards and sliding efficiency within the public sector, and reflected the tailwind of the New Public Management movement, which spread throughout the world from the 1980s and had finally reached the shores of Japan (Watanabe 2012; 2015).

In this era, the status of the national universities was also altered. In 2004, national universities became "corporate" entities—what amounted to a "big bang" for Japanese higher education, symbolizing the beginning of a new era with greater autonomy that included declining government subsidies and pressure for improved performance in key indicators of productivity from the central government. For the Ministry responsible for higher education (Ministry of Education, Culture, Sports, Science and Technology [MEXT]), one major indicator is global higher education rankings, driving much of the policymaking and funding today.

In this increasingly competitive environment with limited government resources, and an increasing focus on global rankings, the mission of the leading national universities has become blurred and their guiding vision distorted. This chapter provides a discussion on how Japanese higher education has been shaped by the demands of MEXT (*Monbu kagaku-shō*), particularly after the central government reform in 2001, and how the *New Flagship University* model might help re-shape the priorities and academic culture of Japan's leading national universities.

The Old System and Global Initiatives

Japan's "old system universities" (*Kyūsei daigaku*) were established as a formal system by Imperial University Ordinance (*Teikoku daigaku-rei*) of 1886. By 1947, there existed seven Imperial Universities (as noted, Tokyo, Kyoto, Tohoku, Kyushu, Hokkaido, Osaka, Nagoya), as well as a growing number of local public and private institutions, many of which have come to be well-known universities today both domestically and internationally. Shortly after World War II, the number of national universities had grown to 68 and to 100 by 2003. Yet the reality of too many universities in the midst of a declining population and budgetary challenges for the national government, led MEXT to promote mission differentiation and consolidation of national universities so that the total number of national universities declined to 86 by 2016.

Even as new institutions were added in to the national university system in the 1940s and later, the former Imperial Universities continued to gain the largest public subsidies. The basic operating expense subsidies (*Uneihi kōfukin*) granted to each national university by the central government continues to give preference to these leading national universities. Table 7.1 lists the top 10

national universities in decreasing order of the amount of public subsidies provided by the MEXT, with the total and average subsidies for the former Imperial Universities as well as the totals and averages for the next tier (11–30) universities and all the national universities as of 2015.

The former Imperial Universities and the top 10 universities receive 33.4 and 42.1 percent of the overall operating expense subsidies awarded by the MEXT respectively. But wide differentials exist even among the top tier of the former Imperial Universities, ranging from 80,338 million (= US $765.1 million) for the University of Tokyo and 31,311 million (= US $298.2 million) for Nagoya University.[1] The differentials are partly due to the differences in the size of the institutions in the total enrollment, the number of full-time faculty and staff, and thus the associated differences in the scale of operations. However, non-trivial subsidy differentials are also observed in Table 7.1 between the universities with similar scales of operations, e.g., between University of Tsukuba (40,377 million) and Hiroshima University (24,737 million). In fact, these subsidy differentials mirror (other than the obvious operating scale differences) the status quo of their positioning in the world university rankings as well as the prospect to be ranked in the top 100 over the next decade (i.e., the University of Tokyo ranked 43rd in the THE World University Rankings 2016 while Nagoya University ranked in the range of 301-305th, and Tsukuba ranked 401–500th versus Hiroshima at 501–600th). The public funding system for national universities is designed to reinforce the historical hierarchy of the higher education institutions, particularly with regard to the global rankings perspective recently. While some of these *Flagship* institutions may have the potential and the initiative to become more globally recognized and competitive, the central government's practice of funding inequality puts them at a disadvantage and limits their opportunities to achieve these goals.

This system of funding and favoritism toward the Imperial universities has not yielded a sense that, with the exception of perhaps the University of Tokyo, Japan has a strong network of globally competitive and internationally recognized universities—seemingly an imperative in Japan's transition to the knowledge economy. Global rankings, and the weak performance of Japan's universities, has been part of a growing awareness, and anxiety, regarding a perceived need to improve the research productivity and prestige of the national universities. China's 985 and 211 projects, South Korea's BK (Brain Korea) 21, and other similar state initiatives launched during the 1990s and 2000s, and their focus on improving the global rankings of their national universities, also influence policymaking in Japan. To promote economic growth, attract foreign students, and increase Japan's influence in Asia, the Ministry increasingly focused on the internationalization of Japanese higher

education and excellence initiatives that focus resources on the abovementioned select group of universities.

The 1983 "Plan to Accept 100,000 International Students" was the first major step towards internationalization of Japan's universities, actively engaging to take a leading role in Asian higher education. At the time, the actual number of international students in the country was only 10,428. The plan was a component of the Japanese government's larger Official Development Assistance (ODA) program (Kohsaka 2015; Ota 2015) intended to "actively support economic and social infrastructure development, human resource development, and institution building," and consequently contribute "to the economic and social development of developing countries especially in East Asia" (Ministry of Foreign Affairs 2003). The plan at the same time was an imperative undertaking for Japan, in order to mitigate emerging friction issues with other nations over the trade of manufactured products in the 1970s and the early 1980s (Chirikov et al. 2016). Expanding the number of international students, and adopting policies to attract them to Japan, formed an important part of the ODA's implementation plan.

It took Japan ten years to achieve the international recruitment goals of the 1983 plan. By 2008 MEXT announced a succeeding "Plan to Accept 300,000 International Students" with a long-term goal of enrolling 300,000 international students by 2020. In contrast to earlier goals, the new plan was clearly intended to take in the benefits of a rapidly growing Asian economy to boost the domestic economy.

With the rise of excellence programs in other parts of the world, including Germany and China, the national government established the "Global 30" project (2009–2013) in an effort to redouble the effort to recruit and enroll international students and to encourage greater international engagement by Japanese universities, which had a reputation, like Japanese society in general, of being nationalistic. The legacy of Japan's colonial aspirations in Asia up until the end of World War II may also have continued to pose an obstacle for recruitment of talented international students. Global 30 had a budget of 14,200 million or about US $135 million.

This was then followed by the "Go Global Japan (GGJ)" project launched in 2012 and focused on dispatching outbound Japanese students to study abroad with the aim of overcoming "a tendency among Japan's youngster generations to be 'inward looking' and to foster people with wide global perspectives who can tackle challenges and excel within the international arena, ultimately improving Japan's global competitiveness."[3] At the same time, the "Re-Inventing Japan" project was also launched by MEXT in 2011 to promote building and strengthening international networks among universities in various regions of the globe, "by giving financial support to efforts for the

formation of collaborative programs with universities in such countries as Asia and the US, that conduct study abroad programs for Japanese students and undertakes the strategic acceptance of foreign students."

Table 7.1. 2015 Operating expense budgets of national universities in Japan

	Institution name	Founded	Operating expenses subsidies (× \1,000)	Graduate enrollment / Total enrollment	Full-time faculty
1	University of Tokyo †	1886	80,338,237	13,417 / 27,377	3,894
2	Kyoto University †	1897	53,090,284	9,150 / 22,566	3,472
3	Tohoku University †	1907	45,588,753	5,833 / 16,959	3,183
4	Osaka University †	1931	44,308,884	7,886 / 23,421	3,194
5	Kyushu University †	1911	41,150,472	6,903 / 18,747	2,469
6	University of Tsukuba	1973	40,377,103	6,681 / 16,476	1,945
7	Hokkaido University †	1918	36,976,310	5,941 / 17,367	2,428
8	Nagoya University †	1939	31,310,752	5,979 / 15,872	2,323
9	Hiroshima University	1949	24,737,487	4,301 / 15,294	1,787
10	Tokyo Institute of Tech.	1949	21,232,050	5,079 / 9,813	1,081
Total of former Imperial Universities		-	332,763.69	55,109 / 142,309	20,963
Total of top 10 universities		-	419,110,332	71,170 / 183,892	25,776
Total of 11-30 universities		-	277,905,803	36,795 / 191,441	19,994
Total of 86 universities		-	995,071,581	149,219 / 594,887	64,684
Average of former Imperial Universities		-	47,537,670.30	7,872.7 / 20,329.9	2,994.70
Average of top 10 universities		-	41,911,033.20	7,117.0 / 18,389.2	2,577.60
Average of 11-30 universities		-	13,895,290.20	1,839.8 / 9,572.1	999.7
Average of 86 universities		-	11,570,599.80	1,735.1 / 6,917.3	752.1

Source: Operating expenses subsidies (In Japanese)
† Indicates the former Imperial Universities.

Finally, the avalanche of government initiatives to steer Japanese universities culminated in the "Japan Revitalization Strategy," released by the Cabinet of Prime Minister Shinzo Abe in 2013 that included a "Top Global University" program—more commonly known as the "Super Global University" (SGU). This included a process for universities to apply for the SGU status, funding, and to outline their own programs and goals. Thirteen "Type A (Top Type)" universities were selected in 2014 to help push these universities into the top 100 in one or more recognized world university rankings or, in the case of

Tokyo (ranked 20th in the Academic Ranking of World Universities in 2016), Kyoto (ranked 32), Nagoya (ranked 72), and Osaka (ranked 96), higher in the rankings. Another class of universities were selected as "Type B (Leading Global Type)" SGU's and included 24 universities with the goal of furthering the process of global engagement and establishing good practices for other domestic colleges and universities. With the overall budget of approximately US $700 million over a span of 10 years, these 37 selected SGU institutions have until 2023 to achieve their program goals and boost their international rankings when the subsidy program ends.

Each succeeding excellence initiative further differentiated a select group of national universities, assigning them special responsibilities in the process of internationalization, and demanding that these universities become more productive in their teaching and research activities and rankings. At the same time, MEXT also attempted to have its leading national universities identify their specific role and mission, and to provide additional subsidies for this cause—a clear goal of other excellence initiatives found in other countries. Nonetheless, the same favoritism towards the former Imperial Universities by MEXT continued with regard to the selection and funding processes.

National University Missions Redefined

Differentiation was first clearly articulated in the 2002 report by the Central Council for Education (*Chūō kyōiku shingi-kai*). The Council suggested that national universities should capitalize on their individual characteristics and strengths developed. The report also encouraged incentive-based funding schemes by the MEXT and self-reflection by universities regarding their national role (see for example, Abe and Watanabe 2012a; 2012b; 2015 for related analysis). The granting of greater autonomy to universities, changing their status as "corporate" entities (also an international trend in Asia) was to help in this process of greater institutional management capacity linked with accountability measures.

Yet the articulation of the concept of greater differentiation among the various national universities did not become a clear policy goal until eleven years later when MEXT released in 2013 National University Reform Plan (*Kokuritsu daigaku kaikaku plan*). This plan also encouraged the building of "a structure in which each university makes optimum use of its strengths and characteristics and encourages independent and autonomous improvement and development" (MEXT 2013). Each national university in consultation with the MEXT, was to re-examine its mission and programs based on detailed evidence of indicators of performance in research, teaching, industry-university collaborations, and how best to reorganize governance and management as corporate entities.[4] A cumbersome process ensued, of redefining mission of every institution. The reward was a clearer understanding of a relatively new collective system of national university corporations, with financial incentives and the development of the first strategic plans by universities. The mission redefinition led to a new typology of national universities, assigning each institution a separate *Flagship* role at local, national, and international levels.

Today each national university is entitled to select one of three categories (Table 7.2) to be evaluated against for annual assessment by the MEXT to determine the amount of the basic operating expense subsidies. In 2016 approximately 10,000 million was "pooled" by MEXT through reduction of the national universities annual budget by cutting the basic operating expense subsidies by about 1 percent imposed to each institution. The pooled fund was then reallocated based on the assessment result.

The first category (to "develop educational and research bases at an international level") includes 16 universities, with all seven former Imperial Universities, as well as other large-scale comprehensive research universities, such as: Chiba, Hiroshima, Kanazawa, Kobe, Okayama, Tsukuba, except for three highly specialized institutions: Hitotsubashi (specializing in social sciences), Tokyo Institute of Technology, Tokyo University of Agriculture and Technology.

The second category (to develop "national educational and research bases") includes 15 universities, most of which are located in the Tokyo Metropolitan Area with technical and professional fields of study, including Tokyo Medical and Dental University, Tokyo University of Foreign Studies, Tokyo University of the Arts, Tokyo University of Marine Science and Technology. The third category (to establish "core bases for regional invigoration") includes the remaining 55 institutions, most established in accordance with the "one national university in one prefecture" principle of 1949. As such, the three tiers of institutions characterized by the primary functional goals constitute a collective (and structurally divided) system of the

Japanese national universities today, leaving each institution with freedom to become a *Flagship University* with its own unique endeavors and areas.

The following provides two case studies on how Japanese universities are moving toward the model of national *New Flagship Universities*, with detailed thematic examples related to strategies for internationalization and professional development (Douglass 2016). Both universities have historically rooted characteristics, e.g., peace education for Hiroshima University and fiber technology for Shinshu University. Hiroshima was successfully selected for the SGU (Type A) program and chose Category 1, which forces it to compete with the former Imperial Universities by implementing well-rounded but aggressive strategies. Shinshu chose Category 3 to be a local *Flagship University*, but at the same time to be globally competitive in the specified fields, which originated from their strong involvement with regional industries.

Table 7.2. Three categories of national university missions

Category	Expected roles
Category 1: "Developing educational and research bases at an international level"	• Develop international-level educational and research bases in which excellent educators compete and foster human resources • Create innovation through implementation of cutting-edge research developed within universities
Category 2: "National educational and research bases"	• Create domestic top research bases through the creation of interdisciplinary programs and inter-university collaborations • Create educational bases open to the international community • Foster technicians and managers who will play a leadership role in Asia
Category 3: "Core bases for regional invigoration"	• Create human resource development bases corresponding to the needs of regional communities • Establish a community revitalization organization which serves as the community's think-tank to solve various issues

Source: National University Reform Plan (Summary), MEXT (2013).

Hiroshima University

Hiroshima University (HU) was founded on May 31, 1949 in midst of the recovery from World War II by the merging two predecessor institutions:

Hiroshima University of Literature and Science and Hiroshima Higher Normal School. Hiroshima presently enrolls approximately 15,000 students, of which 11,000 are undergraduate and 4,000 graduate students, with 1,800 full-time faculty members and 1,500 administrative and support staff. As a comprehensive research university located in the Prefecture of Hiroshima with three campuses, HU today houses eleven undergraduate schools as well as eleven graduate and professional schools.

The spirit of the university is embedded in its crest, which represents new life with a "phoenix leaf," originally designed by an engineering student and chosen as the official university crest in 1956. The phoenix, a sacred immortal bird in Egyptian mythology that, after living for 500 years, sets itself on fire within its nest and rises renewed from the ashes, is a symbol of HU which was reborn out of the ashes of Hiroshima City, transitioning from its predecessor Hiroshima University of Literature and Science established in 1929, after it was laid to ruin by the atomic bomb.

Nurturing Respect for World Peace Through Teaching and Research

Based on the university's founding principle "a single unified university, free and pursuing peace," Hiroshima University takes a firm stand on its five guiding principles, one of which states "the pursuit of peace to develop intellectual attitudes which always seek peaceful solutions to the problems affecting society and the world at large." The University today fulfills its leading role as the only national university in the country with the mission to uphold World Peace clearly spelled out in a statutory form and relinquishes any self-defense or military related research as well as the relevant grants supporting such activities.

First and foremost, as a university strongly committed to maintaining World Peace, every undergraduate student of HU begins their first year by meeting the "Peace" requirement by taking and passing the related coursework satisfactorily. The University's Research Institute for Radiation Biology and Medicine continues to analyze the follow-up data of more than 28 thousand *Hibaku-sha* (victims of the atomic bombing) today. Capitalizing on our expertise on radiation research, strong commitment by HU appeared in the recovery scenes of the Great East Japan earthquake of 2011, sending more than 1,300 medical staff and specialists to the affected areas for patient treatment and radiation examination.

The usage of radiation in industry, medicine, and energy has clearly brought about significant benefits to humankind. However, as experienced in the radiation disasters of Hiroshima, Nagasaki, and Fukushima, improper usage of the radiation can also result in significant damage to people and the

environment, and often the complete destruction of societies. In recognition of the magnitude of this globally shared issue, HU with firm determination launched a new doctoral program in 2011, in collaboration with Fukushima University and Fukushima Medical University, to nurture highly trained individuals who will make solid judgments to take the best possible actions in response to the radiation disasters and direct the recovery process with a swift and accurate radiation response philosophy and solutions.

Building Resilience to Natural and Man-Made Disasters[5]

During the last century, the demand for nuclear energy grew rapidly as an energy source and will perhaps remain on the same trajectory, particularly among developing countries owing to their dramatic economic growth, as well as a means for global warming prevention. Radiation is also being widely used in the medical field and industry, and those utilizations are continuously increasing at an accelerating rate, especially in medical services due to dramatic advances of radiation treatment for cancer and the diagnosis methods such as Positron Emission Tomography-Computed Tomography (PET/CT) scanning. There is no doubt that radiation-related devices will continue to bring significant benefits to mankind in the years to come as a green innovation technology without emitting carbon dioxide.

Meanwhile, the experiences of nuclear meltdown accidents in Three Mile Island in Pennsylvania, Chernobyl in the then Ukrainian SSR, and the recent Fukushima nuclear reactors prove the difficulty of managing and controlling nuclear energy and radiation. The human race has constantly been exposed to the threat of nuclear accidents and nuclear terrorism. Establishing solid safety systems for nuclear energy and radiation is the bound duty of our human race inasmuch as we have discovered and developed this form of energy.

Hiroshima University was directly engaged in reconstruction support activities of the Fukushima nuclear accident and learned firsthand that nuclear disaster can inflict enormous damage on our society and environment. Not only can it cause health damage and devastate human nature, but it also induces harmful rumors and discrimination against the affected areas as well as people residing in those areas, leading to the collapse of local communities by evacuation. The environment is contaminated, and the local agriculture and businesses are also affected severely. Challenges to use radiation safety and to overcome nuclear disasters are critical issues that the human race is commonly facing today.

Since the Fukushima nuclear accident, HU has dispatched more than 1,300 medical staff and conducted reconstruction support activities for safety, security, and health management of the people affected by the accident. The

confusion after the accident highlighted the need for leadership to manage the response to the emergency. There was a need for multidisciplinary knowledge on radiation and environmental sciences, along with a perspective on social issues that touch on the fields of economics, education, psychology, public administration, and sociology. As a result, HU established the world's only doctoral education program, "Phoenix Leader Education Program (Hiroshima Initiatives) for Renaissance from Radiation Disaster" and started developing talent in this area. The program aims to foster three types of highly specialized leaders, who: (1) protect life from radiation disasters; (2) create sustainable society by protecting the environment from radiation; and (3) protect people and society from such human-generated disasters, including maligning rumors and discrimination. The program established an international network to cooperate with major institutions including Fukushima Medical University, which is conducting the health management surveys of Fukushima residents. Close cooperation with international organizations such as International Atomic Energy Agency (IAEA), International Commission on Radiological Protection (ICRP), and the World Health Organization (WHO), is also being promoted.

Hiroshima University has continuously fought to solve the problems faced by society over several decades, comprehensively developing the sciences to utilize radiation safety and to overcome nuclear disasters when the existing systems become compromised or malfunction. The university's commitment exemplified in this simple case demonstrates a value that is invisible in the global university rankings view. However, HU's accountability as a university is not to the global university rankings or world class university framework, but to the unique and important mission upon which the institution was originally founded nearly 70 years ago as the *Flagship University* in this very area.

Shinshu University

Shinshu University, founded in 1949 by consolidating seven preceding local colleges, is the only national university in Nagano Prefecture, which is Japan's fourth largest prefecture in size. The Prefecture of Nagano is located in the central Japan, surrounded by 3,000-meter tall mountains, and approximately 20 percent of the area is designated as national parks. It is a popular destination for tourists to enjoy hiking, skiing, hot springs, and other outdoor recreation, and is famous for its fresh fruits and vegetables. Making use of its rich natural resources, as well as cultural and historical characteristics, Nagano has gained industrial strengths in electronics, information technology, machinery, food products, and tourism (JETRO 2016). Behind its successes in a wide range of industrial activities lie innovative contributions of the local colleges in the region, including the predecessors of Shinshu University. In fact,

Shinshu University was ranked first in Japan for its contribution to the local communities for four consecutive years, according to national survey conducted by the Nikkei Research Institute of Industry and Regional Economy (Nikkei 2015).

As of May 2015, there are eight faculties and seven graduate schools with 10,970 (9,202 undergraduate and 1,768 graduate) students and 1,063 faculty members at the university.[2] Its four campuses are nearly 100 kilometers apart from each other, and therefore linking the campuses physically, as well as culturally and structurally, has been an organizational challenge since the establishment of the university. Each of the seven predecessors (Matsumoto Higher School, Matsumoto Technical School of Medicine, Ueda College of Sericulture, Nagano Higher Technical School, Nagano Prefectural College of Agriculture, Nagano Normal School, and Nagano Prefectural Training Center for Young Men's School Teachers) was locally rooted with a specific mission such as teacher training, medical training, and advancement of agriculture and forestry industries. Each became the predecessor component of the faculty of Shinshu University--for example Nagano Prefectural College of Agriculture becoming the Faculty of Agriculture in 1949. As a result, Shinshu University naturally inherited the ties with the local communities and has produced students contributing in distinctive research fields such as textile science, while other regionally located national universities (*Chihō kokuritsu daigaku*) focused on catching up with the former Imperial Universities and eventually lost their distinct characteristics as local *Flagship Universities*. Shinshu University chose Category 3 to establish "core bases for regional invigoration" as the framework to promote its reform.

Shinshu University identifies three G's (Green, Global, Gentle) and L's (Local, Literacy, Linkage) as their values to become the most attractive university to study, and the university's three-year strategic plans have been designed to reflect these values. The university expresses its commitment to fully utilize the natural environment to provide an ideal learning and research settings (Green, Gentle, Literacy) and to contribute to global and local communities through networks of collaboration (Global, Local, Linkage).

Building on years of regionally engaged education and collaborative research activities, the university established the Global Aqua Innovation Center for Improving Living Standards and Water-sustainability, jointly with Hitachi infrastructure Systems Company, Toray Industries, Inc., Showa Denko K.K., the National Institute for Materials Science, and Nagano Prefecture. The center became one of the MEXTs 12 "Centers of Innovation—Science and Technology based Radical Innovation and Entrepreneurship Program (COI STREAM)" in 2013. The Global Aqua Innovation Center makes effective use of the university's unique strengths in carbon and fiber materials research and

development. Similarly, the university now has five interdisciplinary research centers named "Interdisciplinary Cluster for Cutting Edge Research (ICCER)," which brings together the research fields the university is noted for; Institute of Carbon Science and Technology (ICST), Center for Energy and Environmental Science (X-Breed), Institute for Fiber Engineering (IFES), Institute of Mountain Science (IMS), and Institute for Biomedical Sciences (IBS). Since its establishment in March 2014, the ICCER aims to continuously promote educational research, international cooperation, and industry-university collaboration. Hereafter, we closely look at the case of the Faculty of Textile Science and Technology, the only faculty with this specialization in Japan, which contributed to the establishment of the Global Aqua Innovation Center and ICST and IFES.

Building on Strengths: Faculty of Textile Science and Technology

The Faculty of Textile Science and Technology (FTST) is the only place in Japan to specialize in textile science and technology. During the early 20th century before the Great Depression of 1929, the sericulture industry produced the largest trade surplus in foreign exports, and Nagano, or Shinshu province in its original name, was the industrial center back then (Takizawa 1978). Ueda College of Sericulture, the first higher education institution to focus on sericulture in Japan, was established in 1910 in Shinshu to study about pebrine, a parasitic disease affecting silkworms, develop prevention methods, and later to modernize the industry. As a result, the college carried out advanced research in genetic engineering and biology, and developed application methods of the relevant scientific knowledge to industrial work. Thus, Ueda College as the predecessor of FTST played a critical role in advancing regional and national economy in this specific field through research and development. As the sericulture industry declined in the late 20th century, the number of applicants to FTST naturally decreased as well. In response to the transforming industry, the faculty reorganized its departments and strove to find a new way to frame the knowledge body of textile science (as shown in Table 7.3).

After the 1973 oil crisis, founded on their accumulated technologies the textile industries shifted to invest in advancing such fields as electronics, mechanics, new fiber, and biotechnology. The Institute of High Polymer Research was then established in 1978, which became a trigger for a paradigm shift in the research field of textile science and technology and helped FTST to seize the opportunity to find innovative use of their expertise and reframe their knowledge structure based on the long-acquired strengths.

Their research outcomes have contributed to the creation of frontier fibers that are used in a variety of fields including aircraft, automobiles, medicine,

energy, environment, civil engineering, and construction. The Faculty of Textile Science and Technology itself has academic exchange agreements with 52 leading overseas universities, 8 research institutes, and 4 private enterprises in the field, which affirms its recognition globally. In order to further advance research and education and to promote international and industrial collaboration, the Institute for Fiber Engineering was established in 2014 and has become the hub of interdisciplinary research in biological fibers and fibers for medical use through medical-engineering collaboration, and development of medical robots and control technologies.

Table 7.3. Transition of divisions at FTST between 1949 and 1988

Year	Division
1949	Sericulture, Silk Reeling, Spinning and Weaving, Textile Chemistry
1961	Textile Agriculture, Spinning and Weaving Engineering, Textile Engineering Chemistry
1963	Textile Machinery (added)
1964	Graduate School of Study of Textile (established)
1966	Spinning and Weaving Engineering to be reorganized to Textile Engineering
1978	Institute of High Polymer Research (added)
1988	Life Science, Material Science, System and Machinery
2016	Textiles and Kansei Engineering, Machinery and Robotics, Chemistry and Materials, Applied Biology

Source: Created by the authors based on the 1994 internal evaluation report of Shinshu University.

Determination as a Local Flagship University

The case of Shinshu University was introduced as an example of the university that carries features of the *New Flagship University* model; that is, strong commitment to the local and national economic development through regionally originated research engagements, continuous efforts to provide quality education both at undergraduate and graduate levels, and showing the spirit of tackling global issues by using locally developed knowledge. It shows how locally rooted research and education activities informed the core values of the university and supported the transformation and innovation of an institution, the research fields and education in response to the government's policies. In other words, it is the reflection of many years of academic endeavor

to work with issues arising from the local society and industries. This kind of institutional history and culture may empower the university's decision making in the era of reform.

Global Rankings versus *Flagships*

In Japan, the rising importance of global university rankings and the rhetoric of having a group of World Class University has been closely tied with the desire to attract international students and helping to sustain the nation's system of higher education institutions in the midst of a declining domestic population, structural weaknesses in the national economy, and a sense of declining competitiveness within Asia. The realities of a declining 18-year-old bracket population and rapidly aging society are key variables for understanding domestic policy. Global rankings remain an international and widely recognized benchmark that are perceived as important for attracting talent to Japan, and as an indicator of the economic impact of Japan's leading universities, or lack thereof.

The steering efforts of the central government has pushed universities to improve their rankings, often without an understanding of their larger current and potential role regionally and nationally. Having at least ten Japanese universities in the top 100 universities in one or more global rankings now appears as one of the most important goals of MEXT and the national government—a goal reiterated by national governments throughout Asia. In recent years, the allocation scheme of the central government, which used to award each national university with basic operating expense subsidies more or less to support their distinct roles embedded in their versatile founding missions as local national universities, has shifted to that of large-scale competitive grants, favoring particularly the top tier institutions with the potential to join the ranks of the world's most famed institutions. One result is that the stratified national university system that predates the reforms over the past several decades has simply been reinforced.

But this adherence to ranking and the World Class University paradigm, and financial incentives, has not prevented some Japanese universities from seeking their own individual missions tied to their history and regional roles. The Super Global University program and other government initiatives recognize the value of aspects of the *New Flagship University* model. The two Japanese cases portrayed in this chapter represent important examples of mission nuance and regional engagement. Both have nurtured programs grounded on their founding purpose and commitment, which cannot be adequately captured by ranking indicators.

In typically a highly decentralized academic culture and faculties, Shinshu University with the locally rooted history of seven predecessors has successfully identified its strengths and transitioned to a locally committed but globally engaged *Flagship University*. In 2016 Hiroshima University established a single university-wide faculty unit (*Gakujutsuin*), which every academic staff member belongs to, regardless of the currently affiliated department or school. The unified academic unit will enable the university to flexibly allocate the necessary resources to the objectives and missions the institution was founded upon. The *New Flagship University* model helps these universities shape a clear vision to accelerate momentum and pursue their goals without the influence of global accolade rankings. The *New Flagship University*, in turn, provides a model and opportunity to re-evaluate the evolving role of Japan's leading national universities.

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Notes

[1] Calculated based on the currency exchange rate of $1.00 = \105.00.

[2] An excerpt from the official website of the Japan Society for the Promotion of Science. Available online at: https://www.jsps.go.jp/english/eggj/index .html.

[3] An excerpt from the "Re-inventing Japan" website of the MEXT. Available online at:
http://www.mext.go.jp/en/policy/education/highered/title02/detail02/sdetail 02/13 73893.htm.

[4] The redefined mission of each national university is overtly posted on the official website of the MEXT. Available online at: http://www.mext.go.jp/a_menu/koutou/ houjin /1341970.htm) today as a contract to be pursued by each institution.

[5] The authors are indebted to Professor Kenji Kamiya, Vice President for Reconstruction Support and Radiation Medicine of Hiroshima University, for the content of this section.

[6] Shinshu University had an annual budget of \13,578.8 million (= US$129.3 million) granted by the MEXT in the form of the basic operating expense subsidies in 2015, placing the university 19th in terms of the size of the government subsidies granted.

Chapter 8
A *Flagship University* and Regional Economic Engagement: The Case of Zhejiang University

Mosi Weng and Jia Zhang (Zhejiang University)

China has implemented succeeding waves of nationwide educational initiatives meant to catapult its universities to World Class University (WCU) status. This has included "Project 211," "Project 985," and most recently the "Double First-rate Strategy." As a result of these initiatives, selected Chinese universities have not only improved their standing in various global ranking, but they have also become more vigorous forces in local and national development. The success of China's higher education reforms has influenced higher education programs in other countries, including the BK21 Project in Korea and the Excellence initiatives in Germany.

But when considering the future of the Chinese university and its role in regional and national development, it is necessary to look past rankings and toward a more holistic view of the university's place in society. The *New Flagship University* (NFU) model provides a window in which to evaluate and guide an institution's progress toward the broader goals of national and regional service and societal relevancy. While this model does not disregard research productivity, it encompasses and encourages a wider array of characteristics and practices.

In this chapter, we present Zhejiang University (ZJU) as a case study of how one of China's top universities pursues aspects of the *New Flagship University* model. ZJU is overtly strengthen its ties to the regional and provincial community. This includes strategic efforts to attract talent and provide an education that helps meet local labor needs and start new businesses, technology transfer and cooperative extension program, nurturing and supporting other local higher education institutions, and pursuing international engagement that supports ZJU's mission—not simply as an end to itself. Finally, we consider the paths ZJU can take to further pursue the goals of the NFU model. In many ways, Zhejiang University is taking a leading role in China in its conscious pursuit of regional economic engagement.

Zhejiang University in the Context of National Initiatives

Zhejiang University is one of China's top institutions of higher learning. It is a participant in Project 211 and Project 985, and now plays a key role in Double First-rate Strategy initiative (or DFR Strategy). How ZJU has parleyed this

substantial national support into not only higher rankings, but also into more robust contributions to its regional community?

In 1995, the Ministry of Education initiated Project 211, with the aim of elevating approximately 100 Chinese institutions to World Class status through targeted efforts to improve key disciplines and raise research standards. Zhejiang University was one of 116 participant institutions nationwide, and the only one in Zhejiang Province. Similarly, in 1998 ZJU was chosen to participate in Project 985, which was also focused on securing world class status for certain Chinese universities. This time the project concentrated on only 39 institutions, which symbolize the apex of Chinese higher education, and ZJU's inclusion is emblematic of its importance to regional and national higher education strategies.

By 2015, the China State Council had developed a new framework for promoting WCU status among its institutions of higher education. The DFR Strategy shares with Projects 211 and 985 the goals of developing World Class universities within China, but unlike its predecessors, the DFR Strategy is not restricted to particular predetermined institutions. Instead, it is open to any university that qualifies on the basis of strength in certain disciplines. Furthermore, it employs a multi-pronged approach to building excellence across a variety of standards, including: (1) improving the quality of faculty; (2) cultivating local talent; (3) improving research capability; (4) improving the leadership of the university more toward international norms; (5) improving internal governance structures; (6) building mechanisms for greater community participation; (7) improving ties with industry; and (8) promoting international cooperation with comparable academic institutions (China State Council 2015). In its broader focus and emphasis on contributing to regional and national socioeconomic development, the DFR Strategy resembles certain aspects of the *New Flagship University* model.

Viewed through the lens of both the DFR Strategy and the NFU model, Zhejiang University has made strategic efforts in the realm of public service and regional economic engagement. As Douglass (2016) observes, a broader commitment to not just the educational, but the social needs of a region are the characteristics of a *New Flagship University*, including regional economic engagement.

Labor Needs and Talent Cultivation

A central objective of the *New Flagship University* is to produce graduates who will go on to participate in either further higher education or the social and economic development of the region and nation. First-degree students should emerge from a university with high order skills that are suited to the local labor

market, while graduate programs should be designed to nurture future academics and researchers as well as professionals with a varied array of skill sets (Douglass 2016).

ZJU serves as a magnet for students hailing from all parts of China, as well as a net producer of talent for Zhejiang Province. At the undergraduate level, the student body is divided almost equally between those who were born in the province and those who come from outside; and of those undergraduates who go directly to work, a majority of that cohort choose to stay in Zhejiang. Thus, while ZJU is providing a considerable number of higher education opportunities for local high school students, it is also attracting and training large numbers of outside talent for local industry.

Table 8.1. Birthplaces and working places of bachelor degree graduates

	Zhejiangnese graduates	Non-Zhejiangnese graduates	Total	Graduates who enter workplaces	Graduates working in Zhejiang
2011	2621 (51.92%)	2427 (48.08%)	5048	2042 (40.45%)	1282 (62.78%)
2012	2468 (48.59%)	2611 (51.41%)	5079	1989 (39.16%)	1230 (61.84%)
2013	2559 (50.30%)	2528 (49.70%)	5087	1930 (37.94%)	1230 (63.73%)
2014	2554 (48.10%)	2756 (51.90%)	5310	2077 (39.11%)	1360 (65.48%)
2015	2474 (47.50%)	2734 (52.20%)	5208	1954 (37.52%)	1262 (64.59%)

As Table 8.1 shows, the majority of ZJU undergraduates do not go directly into the workforce, but instead choose to pursue graduate level degrees. At the master's and PhD levels at ZJU, similar patterns prevail in terms of the proportion of Zhejiang natives versus students from elsewhere, and also in terms of the proportion of graduate level students who choose to stay in the province after they receive degrees (see Table 8.2). If anything, at the graduate level, ZJU is able to attract even higher proportions of outside talent to the province, and many of those students choose to stay on in Zhejiang.

Finally, at the post-doctoral level, fully 69 percent of post-doctorates choose to stay in Zhejiang Province, where they either continue their work at ZJU, join other HEIs in the province, or are recruited into local enterprises (see Table 8.3). ZJU has been highly successful in fulfilling its mission to: (1) provide higher education opportunities to Zhejiang residents; (2) attract talent from

outside Zhejiang to the province; and (3) train and retain those who will go on to become academics, researchers, and vital participants in the local economy.

Table 8.2. Birthplaces and working places of master degree graduates

	Zhejiangnese graduates	Non-Zhejiangnese graduates	Total	Graduates who enter workplaces	Graduates working in Zhejiang
2011	1637 (40.68%)	2387 (59.32%)	4024	3407 (84.67%)	1803 (52.92%)
2012	1457 (33.56%)	2885 (66.44%)	4342	3762 (86.64%)	1931 (51.33%)
2013	1460 (34.65%)	2753 (65.35%)	4213	3684 (87.44%)	1859 (50.46%)
2014	1418 (32.95%)	2886 (67.05%)	4304	3534 (82.11%)	1914 (54.16%)
2015	1486 (34.20%)	2859 (65.80%)	4345	3720 (85.62%)	1983 (53.31%)

Beyond the production of talent for the region, a *Flagship University* should also strive to provide opportunities for "engaged scholarship," in which students are exposed to forms of learning that go beyond pure academic pursuits and are instead collaborative, participatory, interdisciplinary, and involve partnerships between and among students and faculty (Douglass 2016).

At ZJU, the university has sought to provide students with opportunities for experiential education outside the classroom, largely through its innovative entrepreneurship programs. ZJU's emphasis on entrepreneurship has become a major factor in its engagement with the region and contributes greatly to the social and economic life of Zhejiang Province.

From coursework through the actual establishment of start-up businesses, students are able to engage in practical learning and training that prepares them to not only enter the economic life of the region, but also facilitates exchange between the academy and industry. ZJU has developed a curriculum that offers more than 30 courses and a minor in entrepreneurship (Mei and Xu 2009), and is the first HEI in Asia to offer a PhD in entrepreneurship education. Furthermore, the university promotes a culture of entrepreneurship through various extracurricular activities and programs. Each year, for instance, ZJU holds a College Students Business Plan Competition, which has attracted over 8,200 participants since its inception, and students themselves have established more than 30 student-entrepreneur organizations.

Table 8.3. Birthplaces and working places of PhD degree graduates

	Zhejiangnese graduates	Non-Zhejiangnese graduates	Total	Graduates who enter workplaces	Graduates working in Zhejiang
2011	538 (42.00%)	743 (58.00%)	1281	762 (59.48%)	379 (49.74%)
2012	561 (41.74%)	783 (58.26%)	1344	803 (59.75%)	427 (53.18%)
2013	516 (36.86%)	884 (63.14%)	1400	966 (69.00%)	507 (52.48%)
2014	518 (37.59%)	860 (62.41%)	1378	955 (69.30%)	498 (52.15%)
2015	508 (34.87%)	949 (65.13%)	1457	1066 (73.16%)	563 (52.81%)

Turning to the University's engagement with local business and industry, ZJU has implemented the Entrepreneur Mentor Program, in which students are paired with outside investors, entrepreneurs, and industry experts; in 2015 over 1,000 students and 200 businesspeople participated in this program. In addition, ZJU provides platforms through which students and faculty can collaborate to establish their own businesses, which create jobs for the region and invigorate the local economy. For instance, the University has established science-specific centers to foster high-tech enterprises, while a small-business incubation center facilitates collaboration with local districts to promote the growth of small and micro-businesses in the community. Meanwhile, the Zhejiang University Science Park has facilitated the founding of over 400 student businesses since its establishment in 2001, and those student enterprises have created hundreds of jobs for local economies.

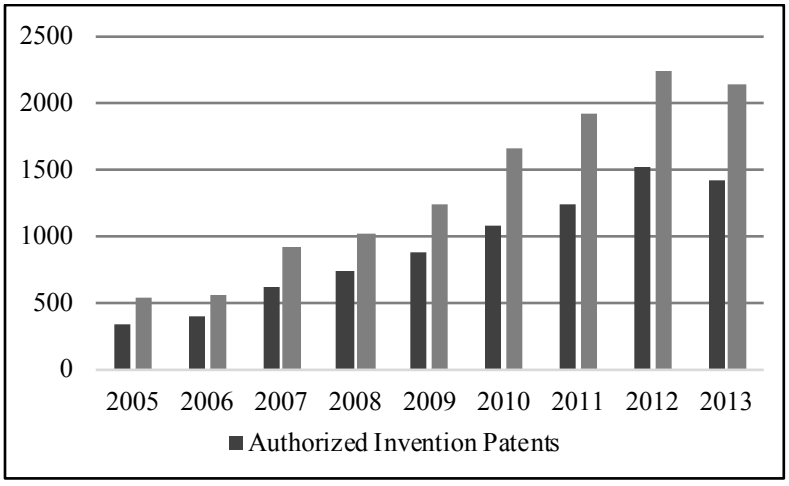
Technology Transfer

Technology transfer in the context of the *Flagship University* is not simply a matter of patenting, licensing, and enforcing patents and licenses, though to be sure these are crucial components of the process. Effective technology transfer must also have strong organizational support and most importantly should facilitate the flow of ideas and personnel between the academy and industry (Douglass 2016).

Over the last 20 years, ZJU has become a hub of scientific and technological innovation within the Chinese higher educational landscape. This is particularly clear when one looks at the volume of patentable innovation that has come out of the University in recent years. ZJU has consistently ranked first

in the number of patents issued to Chinese colleges and universities, and these numbers have been steadily rising. As Figure 8.1 (ZJU 2015) shows the volume of authorized invention patents and authorized three types patens (including invention patents, utility model patents, and design patents) keep growing in the last decade. The volume reaches a relatively steady status after 2012, remaining patents productivity and efficiency at a high level. Among these patents, there is a majority transferred in Zhejiang Province, contribute directly to technological advancement, industry upgrading and local development.

Figure 8.1. Authorized patents of Zhejiang University from 2005 to 2013



Such achievements would not be possible without substantial organizational support, and in this regard ZJU has also been a leader. The University has received significant funding to run various national science and technology projects, and to establish "collaborative innovation centers." Like the University of California's Institutes for Science and Innovation, ZJU's innovation centers—focused on areas such as clean power, infectious disease control, and nanotechnology—are meant to employ an interdisciplinary approach to bridge the gap between academic research and industry at both the provincial and national levels. Bringing the focus back to technology transfer within Zhejiang Province itself, the University has also established a centralized "technology transfer center," the purpose of which is to provide technical advisory services, science and technology training, technology platform construction, project design, and science and technology incubator services. Headquartered in Hangzhou, ZJU's technology transfer center has set

up branch offices in 32 counties and 11 cities throughout Zhejiang Province in order to more effectively serve the province as a whole and to mediate between the worlds of university research and regional business applications.

Cooperative Extension Education

Douglass (2016) observes that a "critical component in the strategy to extend university based research-based knowledge is to offer non-formal educational programs and services in the field (some defined service area) . . . that relate to key economic development activities." Among the *Flagship Universities* in the United States, many of which have their origins as land grant colleges, this has been an important piece of their public service mission, and the focus of such extension efforts was often on agricultural science.

Similarly, Zhejiang Province has historically been one of the most productive agricultural regions in China, and retains that distinction today. Recognizing the importance of agriculture to the provincial economy, ZJU has concentrated its extension efforts on agricultural science and innovation and has sought to disseminate that knowledge throughout the region. Since 2010 Zhejiang University has dispatched multiple teams of faculty to serve as provincial liaisons to less-developed and rural areas, where they share and disseminate knowledge and new practices around the three issues of "agriculture, countryside, and farmers." Further, the University also established the Agricultural Technology Extension Center in 2010; this Center works with local agricultural science and technology extension centers throughout the province to demonstrate and promote new crop varieties and farming technologies, and to train thousands of farmers and technicians.

Relations with Other Post-secondary HEIs

The *New Flagship University* model also envisions coordination and support, both formal and informal, between the NFU itself and other HEIs in its region (Douglass 2016). Among other things, this can take the form of curriculum coordination and development, sharing faculty and staff, or establishing transfer paths between vocational or polytechnic schools to the *Flagship* campus. As the only *Flagship University* in Zhejiang Province, ZJU has made significant efforts to spread its educational capital throughout the region via the establishment of independent satellite campuses and collaboration with other institutions.

For instance, ZJU helped to establish two independent but affiliated colleges: City College and Ningbo Institute of Technology. City College was

founded in 1997 through the collaborative efforts of ZJU, the Hangzhou city government, and the Zhejiang Administrative Bureau of Post and Telecommunication, while Ningbo Institute of Technology was established jointly by ZJU and the Ningbo city government in 2001. Zhejiang University has supported the development of these two smaller institutions by sharing substantial resources, particularly in the form of teaching and administrative support. ZJU faculty are allowed to teach at both colleges, and administrators from ZJU are often invited to serve as department heads at City College and Ningbo Institute of Technology.

ZJU has established a transfer mechanism between itself and the two colleges, in which the top one percent of students at City College and Ningbo can matriculate to ZJU in their second year. The support that ZJU provides, combined with the possibility of transfer opportunities, has helped both City College and Ningbo develop and attract students. This, in turn, has furthered ZJU's larger contributions to the socioeconomic development of the region, through the promotion of higher education massification and the development of a skilled labor force for the province. Table 8.4 shows the number of students who are recruited from within Zhejiang Province, and demonstrates that these two affiliated colleges provide higher education opportunities for thousands of provincial residents who may not otherwise have had access to them.

Furthermore, it is the mission of both colleges to develop skilled graduates that meet the needs of the local labor market. Since their establishment, the two independent colleges have produced a cumulative total of over 50,000 graduates, most of whom remained in Zhejiang province, and this has been a major contributor to regional socioeconomic development (ZJU 2015).

ZJU also helped to establish Ocean College in collaboration with the Zhoushan city government. The greater Zhoushan area is unique in that it is an archipelago of islands located off the coast of Zhejiang Province, and Ocean College is a specialized campus that focuses on subjects and disciplines related to the marine sciences. An important component of the Ocean College mission is to promote the development of a marine-centered economy for the area. Zhejiang Province is developing both a "Marine New District" and a "Marine Economy Demonstration Area" in Zhoushan, and Ocean College's focus on marine science, fisheries management, naval architecture, and ocean engineering all contribute to the growth of the local economy. By supporting a campus that caters to the specialized socioeconomic needs of a unique geographical area such as Zhoushan, ZJU is also fulfilling its mandate to produce graduates skilled in the particular requirements of the region.

Finally, ZJU has sought to further share its educational resources by supporting the development of provincial colleges and universities in local

districts; among these are institutions such as Hangzhou Normal University, Zhejiang College of Science & Technology, Zhejiang University of Finance and Economics, and Huzhou University. For instance, ZJU makes its Teaching Resource Management Center accessible to these local colleges in order to promote their faculty's professional development. Moreover, ZJU has signed formal agreements with Hangzhou Normal University, Zhejiang College of Science & Technology, and Zhejiang Chinese Medical University to develop student exchange programs. From 2010 to 2014, ZJU recruited a total of 245 exchange students from these three institutions, as shown in Table 8.4. Last, ZJU has also signed agreements with Zhejiang University of Technology and Hangzhou Normal University to bolster their development in terms of student support, teacher training and scientific research.

Table 8.4. Number of Exchange Students from Other Universities and Colleges in Zhejiang Province from 2010 to 2014

University/ college	Hangzhou Normal University	Zhejiang College of Science & Technology	Zhejiang Chinese Medical University	Total
No.	145	10	90	245

In the case of Hangzhou Normal University (HNU), ZJU has devoted particular effort to assisting HNU in a number of areas; the close relationship between these institutions is significant because HNU has a particular emphasis on teacher training, and the support of teacher training is one of the key goals of a *Flagship University* (Douglass 2016). ZJU has, among other things, accepted hundreds of exchange students from HNU, provided teacher training resources, taken on visiting scholars, and provided guidance on staff management and university governance issues. Furthermore, faculty from the two universities have collaborated on multiple research projects implicating Hangzhou's socioeconomic development. Combined, ZJU's formal and informal affiliations and agreements with HNU and other regional HEIs constitute a sizable contribution in resources and knowledge to the higher education landscape of Zhejiang province and represent ZJU's commitment to this aspect of the NFU model.

International Engagement

The final aspect of the NFU model that we will examine with respect to ZJU is that of international engagement. A hallmark of the *Flagship University*, international engagement can take various forms depending on the goals and needs of the institution, but should always complement and not distract from the mission of the university (Douglass 2016). As one of China's top universities, ZJU already enrolls thousands of international students each year, but in 2013 the University launched an ambitious new campus meant to facilitate greater international engagement at the level of institutional exchange. ZJU's International Campus was established in collaboration with Haining city, and its goal is to "explore new models of higher education that combine the best practices of the east and west," and thus "cultivate talents with innovative minds and international vision" (International Campus 2016).

More concretely, the International Campus is meant to found joint institutes with other leading universities around the world for the purpose of facilitating student exchange, technology transfer, and scientific collaboration. All of this is aimed at furthering the goals of greater internationalization and promoting the economic and social development of the surrounding districts in Zhejiang. To date, the International Campus has formally established joint institutes with the University of Edinburgh, the University of Illinois at Urbana-Champaign, and has further plans to work with Imperial College London and the University of Pennsylvania's Wharton School.

Zhejiang University and the NFU Model: Looking Forward

ZJU has made significant efforts to promote regional socioeconomic development by pursuing various strategies that are not only guided by China Ministry of Education policies (Project 211, Project 985, and the DFR Strategy), but that also reflect key characteristics of the *New Flagship University*: talent cultivation, technology transfer, extension education, collaboration with other tertiary institutions, and international engagement. In the future, there are several areas in which ZJU can bring an even sharper focus to local and regional needs.

First, while ZJU has done much to attract talented students to the province, it would do well to pay closer attention to the labor and business needs of local districts to shape its education and research priorities.

Second, in its collaborations with other HEIs in the province, ZJU has done a great deal to provide curricular, administrative, and instructional support to its sister institutions. But it could do more to study and understand the

particular regional development role of each of institution to generate tailored collaborations between university research and local industry.

Third, ZJU has a duty to strengthen its partnership with the region of which it is a part. Though the priority of study and research at an institution of its stature is often, and justifiably, placed on the cutting edge of science and scholarship, ZJU should also retain a research focus on upgrading provincial industries and supporting the regional agricultural economy that has historically been the province's mainstay. In this way, ZJU can fulfill its promise as not only to perform well in global rankings focused on a narrow bank of research productivity, but also as a more ambitious and aspirational *New Flagship University*, coherently engaged with the society and the region of which it is a part.

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Chapter 9
Curricular Innovation: The Case of the National University of Singapore

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The National University of Singapore, like Singapore itself, has experienced incredibly rapid growth in its physical infrastructure and international stature over the past two decades. The young city-state of Singapore just celebrated its 50th anniversary as a nation and in this short time has built a society that provides the 3rd highest per capita income in the world,[1] and has built a vibrant and diversified economy that includes leading industries in the financial sector, high-tech manufacturing and design, biomedical research and petrochemicals, along with a large component of activity in shipping and resource management.

The latest economic data from Singapore also highlights the importance of knowledge industries, since 70 percent of the GDP comes from service industries, and only 25 percent from manufacturing and construction.[2] These industries have propelled a very rapid growth in Singapore's economy and purchasing power that outpaces nearly all of the competing countries over the past five decades. One example of this rapid growth is Singapore's Real GDP per person, which has risen by over 15-fold in the last 50 years.[3]

In its economic and social advancement, the National University of Singapore (NUS) has played a vital role by continuously seeking innovation in its teaching, research, and public service activities. NUS has played the role of the *New Flagship University* within a national culture that places high value not just on increased educational attainment rates, but increasingly on the identification and nurturing of creative people in a manner that is unique within Asia.

This chapter discusses the strategic efforts to develop talent in Singapore and NUS's key role, followed by a chronicling of NUS's recent and current pursuit of curricular innovations. (The Yale-NUS College is described and discussed in a separate chapter.) Discussed in this chapter is the development of a Core science curriculum in the 1990s, the concept of NUS overseas colleges, a multidisciplinary scholars program, a music conservatory, a learning-living community initiative, and innovations in medical education and engineering. Each of these programs is coupled with a larger strategic effort at NUS to increase student engagement and interaction between NUS throughout Asia and beyond—a necessity for all nations, but crucial for a small Island country like Singapore. In this endeavor, like other *New Flagship Universities*,

NUS has creatively developed partnership with other leading universities throughout the world. The innovations of NUS typically also fit within a pattern of initiating a new program within the university on a small scale, carefully monitoring the progress, and if successful—scaling for implementation across the entire university.

The Value of a Talent Pool

The continued growth of Singapore's economy and its future prosperity depend heavily on its educational strategy and Singapore has long recognized the strategic role that a highly educated workforce plays in Singapore's planning. "We have embarked on a new phase in education in recent years" stated Singaporean Minister of Education Tharman Shanmugaratnam in an important 2005 speech. He described a greater focus "on quality and choice in learning," in both Singapore's schools and universities and "a shift from learning content to developing a habit of inquiry." The Minister elaborated, "we are renewing our emphasis on an all-round education, so that we can help our young develop the strength of character that will help them ride out difficulties and live life to the fullest. And we are injecting fluidity throughout the system—recognizing more talents besides academic achievements, providing more flexibility in the school curriculum and streaming system, and introducing new pathways" to enable Singapore's future through developing "a mountain range of different talents."[4]

The flexibility and diversity within the Singaporean secondary school system has enabled Singapore to consistently attain top rankings in Program for International Student Assessment (PISA) achievement tests, with Singapore finishing in the top three in all categories for several of the last years. In 2009, "Singapore students ranked 5th in reading, 2nd in Mathematics, and 4th in Science, and had the 2nd highest proportion (12.3 percent) of students who are top performers in all three domains," according to the Singapore Ministry of Education.[5] By 2015, Singapore led the OECD global education ranking, and increased its standing within the PISA achievement tests to finish 2nd and 3rd in all categories.[6]

In his book, *Surpassing Shanghai*, Marc Tucker compared the leading educational systems in the world based on PISA testing and described details of their how their educational systems worked. China, Finland, Singapore, Japan, Canada all are profiled in Tucker's study, as they consistently out-perform the US in reading and writing tests. "Singapore has perhaps a uniquely integrated system of planning," explains Tucker. "The Economic Development Board plays a central role and coordinates with the Ministry of Manpower. The Ministry of Manpower works with specific industry groups to identify critical manpower

needs and project demands for future skills within a work skills framework. These are then fed back both into pre-employment training and continuing education and training. In other countries," Tucker notes, "labor and education markets make these adjustments slowly over time, but the Singaporean government believes its manpower planning approach helps students move faster into growing sectors, reduces oversupply in areas of declining demand more quickly, and targets public funds more efficiently for postsecondary education."[7]

The integration between education and industry has enabled the small country of Singapore, with a population of 5.3 million (with an additional 1 million foreign workers), to leap into the top ranks in a number of emerging technical industries. Starting in the 1970s with shipping, chemicals, and high-tech manufacturing, and continuing today in electronics design, biotechnology, financial services, and materials science, the Singaporean economy has flexibly developed expertise in areas where there are emerging demands. Singapore's economy has rocketed to new heights in the past decade and is now at $292 billion in GDP (2015), which exceeds its neighbor, Malaysia (a country of over 29 million, nearly six times larger in population and over 450 times more land area), and is at parity with Hong Kong (a close rival in economic performance with the benefit of full economic integration with China).

Singapore's higher education sector plays a role in its economic growth, and has been similarly growing in influence and prestige. Singapore's *Flagship University*, NUS, is now in the top ranks of world universities, with several Centers of Excellence that are leaders in niche areas of science and technology such as Cancer Science, Quantum Technologies, Mechano-biology, and Environmental and Life Science Engineering. While no single university ranking is definitive, all of the rankings have placed NUS highly, with rapid rises in the past few years. The Times Higher Education (THE) Rankings for 2011, for example, placed NUS as 34th in the world, with especially high scores for "international outlook," that arises from over 70 joint concurrent and double degree programs with prestigious universities around the world. In the same year, the QS rankings placed NUS at 25th in the world. By 2016 NUS rose to 24th in the THE rankings, and to 12th in the world in the QS rankings. NUS also is consistently ranked as the best university in Asia within both THE and QS rankings.

NUS is the oldest institution of higher learning in Singapore, founded in 1905, but only recently (in 2005) was NUS granted the status of an autonomous educational institution. Beginning in the early 2000s, NUS President Shih Choon Fong played a key role in bringing about this transformation, with a complete reform of the university governance by 2006, along with the development of new procedures for hiring, promoting, and the granting of tenure to faculty.

Prior to these reforms, NUS and the other Singaporean tertiary institutions (NTU and SMU) were administered through the Ministry of Education, and its professors were civil servants. With autonomy, NUS could provide a more traditional form of faculty governance, develop a tenure and promotion policy, and perhaps most importantly, have a free hand in innovating in undergraduate education and incentivizing excellence in research and teaching. Along with these structural reforms in governance, the NUS campus received ever-increasing funding, and its operating budget, facilities, and salaries rose remarkably in the past 15 years. For example, in 2004, the NUS operating budget was SGD $1.16 billion, and salaries comprised SGD $548 million. By 2009, these figures were SGD $1.35 billion and SGD $732 million, respectively, and the budgets continued to rise to SGD $2.36 billion and over SGD $1.0 billion by 2015.[8] After adjusting for inflation (which accounts for a 35-40 percent rise in prices between 2004 and 2015), this represents a real growth in the NUS operating budget and salaries of approximately 50 percent. This increasing investment in NUS and its infrastructure produced significant increases in research productivity and teaching quality, which enabled NUS to rise in international rankings. The growth of NUS also included significant increases in the size and quality of the faculty. In 2003, NUS had 1,622 faculty, with only 12 percent at the Assistant rank, and 87 percent at the Associate and Full Professor ranks. The number of faculty increased steadily from 2003 to 2009, from strategic hires of a mix of mostly junior faculty and internationally known senior researchers. By 2006 NUS had 1,820 faculty, which increased to 2,207 by 2009, leveling to 2,374 faculty by 2014.

The hiring of high quality faculty after 2005 was facilitated by the new faculty governance procedures at NUS, which enabled NUS to be autonomous and separate from the Ministry of Education's civil service procedures in hiring and incentivizing faculty excellence. Along with the growth in numbers of faculty came a rise in the number of named professorships, which by 2015 included 94 named professorships made possible by benefactors, with 11 being created in 2015 alone. NUS also targeted key areas of research through its Centers of Excellence, which in 2008 included the Center for Quantum Technologies and the Cancer Science Institute of Singapore, both supported by large grants of over SGD $150 million over ten years. By 2014 NUS added additional Centers of Excellence that included a Mechanobiology Institute and the Singapore Center on Environmental Life Sciences Engineering.

International partnerships also played a key role in the NUS growth and rise in global rankings, where NUS typically is ranked near the top in the THE "International Outlook" category, finishing 12th in the world in 2016. NUS now includes membership in eight different international consortia, such as the IARU, U21, the Association of Pacific Rim Universities, and the Ecolas group of

universities. These affiliations provide for a wide array of exchanges between faculty and students, dozens of joint degree programs, and hundreds of international research collaborations.

The evolution and growing prestige of NUS is not fully captured by rising global university rankings that are based on measured forms of research productivity, however. NUS also aspires to the realization of the *New Flagship University ideal*, which includes being globally competitive in citation indexes and other ranking metrics, while being attentive to the broader mission to serve Singapore and the region outside its Island borders. NUS takes an active role in nurturing education throughout Singapore, while fulfilling its public service roles and playing a vital role in developing economic activity within Singapore. A key element in the success of NUS is also in its strategic innovation in undergraduate education.

Innovation in Undergraduate Education at NUS

Along with rising financial support, an expanding faculty, increasing research impact, and an expansive global outlook, NUS has continuously been improving the quality of its teaching and undergraduate education. NUS has strategically built this capacity through introducing small pilot programs which were then scaled to impact ever larger numbers of students. Examples include a systematic introduction and scaling of new interdisciplinary curricula, development of multiple residential living learning communities, inventing new formats for engineering education, and offering a wide range of global and international programs, which are described below in separate sections

Early Experiments—Special Program in Science, Core curriculum. In the late 1990s and early 2000s the NUS President Shih tried to foster interdisciplinary thinking in many ways, including teas organized by the President between faculties such as math and history, and other programs to increase interaction between faculties. One of the earliest curricular experiments in this area was the Special Programme in Science (SPS) that began in 1996. SPS is a two-year interdisciplinary science curriculum designed to foster research skills in undergraduates in their first years at university. The program serves 80 students over two years, and involves four faculty who offer a mix of courses across physics, math, life sciences, and chemistry with a special emphasis on communication and programming skills. As described by SPS Director Dr. Adrian Lee, the program is research oriented, and focuses on the skills practiced during research with a seamless integration of mathematics and communication skills in the curriculum. Dr. Lee summarizes:

> We have what we call four thematic modules and two research modules . . . We give them training during research, in writing a research proposal, and in communicating ideas. Computer programming underpins all of the modules. So they get trained in using mathematics to do programming. And there are laboratory exercises and mini projects that have been integrated to the thematic modules where they have to apply their knowledge of mathematics.[9]

Dr. Lee also summarized how the SPS emphasizes the of role student mentors, who are able to supervise first and second year students in a group research project. The current cohort in SPS benefits from the participation of over 30 of these more advanced students, who also can help the younger students in their coursework. The SPS program is located in a dedicated space, which includes flexibly configured seminar/lecture rooms, a small library and computer lab, and a wet lab and a dry lab. The labs include instrumentation for cellular biology, as well as scanning tunneling microscopy, and spectrometers for physical science. The students in their classes are able to explore more advanced topics than in a typical introductory science curriculum, such as quantum mechanics, cosmology, relativity, and using video to track cells to study their development. As an example of the integration within the SPS program, students use video to record cell development, but also write computer programs to track the cells—hence integrating the computing skills into the life science thematic module. The students have laboratory experiments in the wet and dry lab, and recently a field lab experience in the earth science module was added, where students visit the NUS Marine Reserve to study the distribution of fauna on the beach at low tide and design their own field research studies.

The key piece within SPS is the "discovery science module" in which students propose a research project for the second year of the program. The students propose their own research projects, and each year about a dozen such projects are selected, and developed by small groups of 2-3 students, who are supervised by a wide range of faculty across NUS in multiple departments. These faculty mentors are also involved in the assessment, which includes a written report, a poster presentation and a group oral presentation of the results. The combination of written and oral communication is an integral part of the program, and is designed to train students in the advanced communication skills needed in research science.

Another early NUS innovation from this period, intended to bring students into new interdisciplinary modes of inquiry, was the NUS Core Curriculum, which was implemented in 1998. The NUS Core Curriculum was modeled after the Core Curriculum at US institutions such as Harvard University. The development of the Core Curriculum included several visits from US academics during the 1990s and 2000s to provide input into the design of the curriculum,

such as the visit by Harvard's Henry Rosovsky in 2001. The Core Curriculum at NUS was well ahead of its time, especially for universities in Asia and even for those within the UK, which tended to focus exclusively on specialized courses within faculties. Efforts to incorporate cross disciplinary and multidisciplinary knowledge, the essential concept of General Education programs, is of growing interest throughout Asia, and is a common feature of the *New Flagship* model.

At NUS, undergraduate students explore disciplinary practices and thinking in the humanities, social sciences, and engineering sciences as well as engage in discussions about the social, cultural, scientific, and historical topics. A 2001 NUS report describes the motivation of the NUS undergraduate program, which includes "recognizing the need to equip students with vital skills in an ever-changing global economy." To broaden the undergraduate education, NUS developed General Education Modules (GEMs). A 2001 NUS report explains that "GEMs expose our students to bodies of knowledge and modes of inquiry in disciplines other than those offered in their own faculty. These modules will empower our students with the breadth of knowledge as well as critical and creative thinking skills for independent life-long learning and inquiry."[10] Within the NUS Core Curriculum are learning goals that include the developing the following knowledge areas and skills:

1. Human Cultures
2. Asking Questions
3. Quantitative Reasoning
4. Singapore Studies
5. Thinking and Expression.

This NUS Core Curriculum has been under continuous revision and improvement since its inception in 1998. The most recent addition in 2015-2016 included adding a unified Quantitative Reasoning course which is taken by all of the 26,000 NUS undergraduates.[11]

International Education Innovations at NUS—Student Exchange Program, NUS Overseas Colleges

A key factor in the rise of NUS is its growing international focus, and new forms of international and global education have been steadily developed at NUS between 1999 and 2016. The NUS Student Exchange Program was developed to enable student exchanges between NUS and leading international universities. By 2001, NUS had already signed memorandum of understandings (MOUs) with several dozen universities across the world, and had hosted over 350 international students and sent 289 NUS students abroad. Diversifying the

NUS student body was a major goal of the initiative. "We started signing MOUs with partner universities and the numbers just started growing and growing," explains Professor Tan Tai Yong, who served as the NUS Dean of Campus Life. Professor Tan explained how NUS had "an ambitious target—one in four—who would have the opportunity during their stay in NUS to go for a one full term exchange.[12]

The NUS Overseas Colleges, founded in 2001, provided another focused program for the foreign exchange by building on research connections at NUS and providing students with extended periods abroad where they can combine a work internship with academic study at partner institutions. The partners for this program were chosen carefully to enable students to gain experience in world capitals for entrepreneurship. By 2002, NUS had established NUS College in Silicon Valley, and NUS College in Philadelphia's "Bio Valley" (NCBV) in collaboration with the University of Pennsylvania. By 2004, the program added its first NUS Overseas College in Europe, the Stockholm School of Entrepreneurship (SSES), in collaboration with the Swedish Royal Institute of Technology.

By 2008, NUS added two additional Overseas Colleges in Shanghai and Bangalore. The program expanded to include Beijing's Tsinghua University by 2009, Tel Aviv's Interdisciplinary Center by 2011, New York's NYU School of Engineering by 2014, the Technical University of Munich and the Ecole Polytechnique Federale de Lausanne in 2016. Professor Tan described how students in the program spend a full year at "dynamic entrepreneurial hubs around the world" and take classes while also interacting with startups and venture capitalists. Tan explained:

> The idea was that three quarters of the time will be spent in a startup as an intern. There they get to know how startups happen and then they get connections, knowledge, and networks. And the other part of the time will be spent doing courses in the university in the vicinity. So if you went to Silicon Valley then we had a link with Stanford and you did some courses in Stanford; if you went to Shanghai there would be courses at Fudan University.[13]

Funding sources for the NUS Overseas Colleges included a mix of donations from individuals and matching funds from the Singaporean government. The program was initiated with a donation of SGD $200,000 from former NUS President, Shih Choon Fong, who started the National Overseas College Odyssey Fund in May 2009. Over 147 donors (most of them alumni of the program) quickly added over SGD $265,000 to the fund, and these donations were matched by government funds.[14] By 2015, the Overseas Colleges program deployed 240 students overseas each year in their eight campuses, and became one of the signature programs at NUS, attracting both Singaporean and

international students for the unique mix of coursework and real-world experience in entrepreneurship.

The University Scholars Program

One of the most ambitious undergraduate education initiatives at NUS was the University Scholars Program (USP), initiated in 2002. The USP was intended to help NUS to become more innovative, to be recognized as a world hub for quality undergraduate higher education, and to break down some of the disciplinary "silos" within the institution. The USP program also was an experimental effort to test how liberal arts and interdisciplinary studies could be introduced at NUS.

Beginning with 20 students, the USP offered unique interdisciplinary courses in the first years, and then integrated these students into their original faculties for years three and four. USP was intended "to nurture a pool of brilliant students by developing their potential for leadership and intellectual excellence," according to an early report on the program. The report continues with an overview of the USP program:

> A merger of the Talent Development and Core Curriculum Programs, the Scholars Program brings together the best and brightest students from different faculties into a learning environment that catalyzes their intellectual passion and stretches them to their utmost.[15]

Students in the USP program participate in special seminars as well as in the NUS General Education program described earlier.[16] Within the USP courses were a number of service-learning and experiential courses, such as a 2003 course in Mo Mot Village, Vietnam, where students engaged in "building a kindergarten while simultaneously documenting Moung Culture and village life."[17] The USP also pioneered new co-curricular ventures, such as the hosting of the Model ASEAN Conference in 2007. The USP also developed very interesting new pedagogical approaches, such as a combined course with Yale University on "Religions in the Contemporary World" which linked students at Yale and NUS and featured conversations with Tony Blair and Yale students and faculty. By 2011, the USP had been allocated a dormitory within the new University Town, and has grown to enroll over 200 students, as it continues to refine its ties between curriculum and co-curriculum within its residential education program.

The YST Conservatory of Music

In 2003, NUS initiated a partnership with the Johns Hopkins University Peabody Conservatory to create the Singapore Conservatory of Music. This process helped NUS gain experience in developing on-campus programs in partnerships with overseas universities and set the stage for the later partnership with Yale University. As described in the 2003 NUS Annual Report,

> Converging with Singapore's positioning to become an Asian renaissance city, NUS signed an agreement with the Peabody Institute, Johns Hopkins University, to establish the Singapore Conservatory of Music. The new faculty will offer a four-year honor's degree in music, modeled on Peabody's program. The Conservatory will welcome its first cohort in academic year 2003.[18]

By 2008 the Conservatory was named the Yong Siew Toh Conservatory of Music, and NUS renewed its agreement with Johns Hopkins to continue the program, which was rising in prestige. In that same year, two of the YST Conservatory students won international competitions in the United States, and YST continued to grow in reach for its incoming students. By 2011-2012, the YST Conservatory launched a joint Bachelor of Music degree, and also began experimenting with novel virtual conference technologies to enable multi-site discussions on Music education. Notable experiments include the October 2011 event entitled "Music Anywhere, Anytime: The International Symposium on Synchronous Distance Learning," which linked the YST with the Manhattan School of Music in New York, the Peabody Institute in Baltimore and the Royal College of Music in London. The YST continued to experiment with multi-site discussions and concerts such as a 2012 event entitled, "The International Space Time Concerto Competition" that linked musicians in Australia, Austria, China, and Singapore in a simultaneous ensemble performance from multiple continents.

Duke-NUS Medical School

Building on the successful venture with Johns Hopkins, NUS launched an ambitious new venture with Duke University—the Duke-NUS Medical School. The origins of the Duke-NUS school began in 2000, when Singapore launched a Biomedical Sciences Initiative to make Singapore the biomedical hub of Asia, and to catalyze both research and medical industry in the country. The initiative allocated more than SGD $3 billion over five years for developing capabilities in Singapore in genomics, bioinformatics, bioengineering, nanotechnology, molecular and cell biology, and cancer therapies. Singapore

also began to think carefully about the future of its medical education and in 2001, a Medical Education Review Panel recommended "that Singapore establish a graduate medical school (Duke-NUS) to produce the highly trained medical leaders needed to support the Biomedical Sciences Initiative."[19] This plan complement the NUS medical school as it would give a "graduate-entry" medical education, unlike NUS which has an undergraduate medical education program typical of British universities.

In April 2005, Duke and NUS signed a formal agreement to develop this new medical school. After several years of planning, the Duke-NUS Graduate Medical School opened its doors in 2008 to the inaugural class, which consisted of 26 students from seven countries. The campus was located at the site of Singapore General Hospital, and was built to include state of the art classrooms and laboratories. Since Duke University was involved, the campus also features stone imported from North Carolina and a basketball court in the center of the outdoor courtyard. The new campus was officially opened in 2009 by Singaporean Prime Minister Lee Hsien Loong. The first graduating class completed their studies in 2011, and were awarded a joint MD degree from both NUS and Duke University.

The Duke-NUS campus included special research units such as a Centre of Quantitative Biology and Medicine, established in 2009, and Emerging Infectious Diseases research laboratories, spurred by the rise of global viruses such as the MERS and SARS epidemics. The Duke-NUS program also included diverse degree programs, such as a PhD in Integrated Biology and Medicine, a Master of Science in Nursing (Research), a PhD in nursing, and a PhD program in Cancer Biology, offered by the Cancer Science Institute of Singapore.[20]

Duke-NUS also innovated in pedagogical approaches and developed its own format of Team-based medical education known as Team-LEAD, and acronym for "Learn, Engage, Apply, and Develop." As described in the 2013 NUS annual report:

> TeamLEAD creates a more effective learning environment suited to the way healthcare providers work today, namely in collaborative teams to create the best outcomes. The classroom is "flipped" because there are no in-class didactic lectures. Instead, students prepare beforehand for in-class activities that focus on understanding, applying principles, problem solving, and strengthening creative thinking skills. TeamLEAD's signature education program was featured by the Association of American Medical Colleges as a case study. In addition, more than 170 delegations from 28 countries have come to learn about the TeamLEAD program and pedagogical approach.[21]

The Team-LEAD approach has been refined over the years and now Duke-NUS serves as a hub of medical education, biomedical research, and

pedagogical innovation, as teams of educators from around the world travel to Singapore to attend workshops in the Team-LEAD pedagogy.

Engineering Education Innovations—ESP, DCP, GEP

One of the strongest and highest demand programs at NUS is engineering, which has followed a similarly ambitious trajectory as initiatives were launched, validated and then scaled up within the engineering school. One of the first of the new NUS engineering programs was the Engineering Science Program (ESP). Established in 2006, ESP was designed to bring out potential synergies between science and engineering, and to educate "a new breed of engineer-scientists."[22] As described by the ESP program itself, in its Vision and Mission statement, "The mission of ESP is to fulfill Singapore's need for a new class of engineer-scientist who are better prepared to solve complex engineering problems, develop innovative designs, value-add technology developments, integrate systems, and work at the interfaces of disciplines."[23]

The ESP program began in 2006 and the inaugural batch included 40 students taught by a small group of junior faculty. The ESP program in 2016 includes 14 faculty with special tenured appointments as "ESP Associates," several adjunct faculty, over ten staff, and a dozen advisors from industry and international partners. Since 2016 there have been 213 graduates and the ESP program currently enrolls 129 students. Graduates from the ESP program go to a wide range of PhD programs, and often specialize in emerging interdisciplinary engineering fields like nanotechnology, photonics, and "technopreneurship."

Soon after the ESP was founded, NUS began two additional programs—the Design-Centric Program (DCP) and the Global Engineering Program (GEP) in 2009. The Design-Centric Program brought "Design Thinking" to Singapore well before more famous centers such as Stanford's d-school were established. The idea of the DCP was to create "engineers of the future" who could solve complex challenges such as aerospace technologies, medical engineering, future transportation systems, and urban design.

The DCP program was established to be an intellectual incubator for creative people to work on open-ended and large-scale problems such as global warming, preventing the spread of infectious diseases, and developing long-term solutions to problems such as pollution, energy, and water, through an application of design thinking. The DCP was also intended to encourage entrepreneurship in its graduates by giving students a broader scope to realize and capture value from their ideas. The DCP web site describes the program's goals:

> Through the design process, students learn to create solutions from multi-disciplinary perspectives. They are encouraged to challenge current assumptions of how people interact with products and to critically evaluate the ability of current products and services to serve the needs of people. Students adopt a user-centred approach to understand, visualise and describe users in the context of how people live, work, and play. iDCP will take students further by allowing them to explore and plan business start-ups.[24]

The DCP program currently enrolls nearly 400 students, in a four-year program that ranges between 73 and 124 students in a cohort. The first cohort to graduate was the class of 2013 and future batches of students are hoped to help solve some of the world's most urgent problems.

The Global Engineering Program (GEP) began in 2009 along with the DCP program to develop a global perspective in engineering. The program blends a 3-year engineering education at NUS with enrollment at top-ranked engineering schools overseas. The GEP is an accelerated honours program and is completed in three years, with a year at a partner university such as Caltech, Oxford, Cambridge, Imperial College, London, or Harvard providing a postgraduate degree in the fourth year. The program is intended for future leaders in engineering, and selects less than 50 of the top NUS engineering students (within the top 1-3 percent) for this intense and accelerated program.[25]

University Town and Living Learning Communities at NUS

The success of the many curricular innovations in the 1990s and 2000s encouraged NUS to begin building infrastructure to facilitate the integration of curricular innovation and undergraduate coursework with residential education. In 2008 NUS began development of University Town, a new campus that includes four residential living-learning communities and other common educational facilities. University Town's residential colleges each enroll 600 students, who take customized courses based in their residential education setting.

University Town includes a residential home for the University Scholars Program, which was located at Cinnamon College in 2011. A gift from Alice and Peter Tan allowed Angsana College to be renamed the College of Alice and Peter Tan (CAPT) in 2013. The CAPT is dedicated to citizenship and community engagement, and sponsors student service projects overseas and in the community. A third residential college, Tembusu College, was developed with a focus on Science, Technology, and Society. Tembusu College hosts the Tembusu Forum, hosted by the Tembusu Rector and former diplomat, Professor Tommy Koh. The Tembusu Forum discusses current events with a mix

of distinguished visitors and lively discussions with students. The fourth residential college, known just as RC4, was initially the home to Yale-NUS College during 2013-2015 and was then converted into a residential living learning community with an emphasis on systems thinking. As Taiyong Tan, one of the planners of University Town recollects:

> So the physical infrastructure was built. And we said, let's build residential colleges where living and learning can happen. And then we designed the curriculum. The curriculum would be multi-disciplinary, with emphasis on developing communication skills. Classes would be mixed—we didn't want each college to represent a certain field. We didn't want a sports college, an arts college, or a music college. We wanted a good mix in line with the interdisciplinary vision.[26]

Each of the four University Town Residential Colleges is staffed by a Rector and a Master, along with a set of affiliated faculty, many of whom live within the College. The Masters' meet monthly in a Council of Masters, and coordinate in planning events, such as Master's Teas, intramural competitive sports and debates. Within the Residential Colleges, students take five courses in their first two years that apply towards university-wide graduation requirements, and in some cases students can remain within the College for their third and fourth years of study.

The Future of Undergraduate Education

NUS has continued to strive for greater innovation in its undergraduate education programs. Some of the most recent new additions include the Ridge View Residential College (RVRC) and a program in Global Studies, both opened in 2014. NUS has also established a new Center for Future-Ready Graduates and a "Roots and Wings" program to support students in their academic work and in their transition into the working world after University. The "Roots and Wings" program is also intended to build "soft skills" and provide a mechanism for better mentoring of the students as they navigate through the dazzling array of programs, curricula, colleges, and offerings at NUS. No doubt the coming decades will see even more programs and innovations at NUS, as Singapore and NUS together help develop students to face the challenges of an increasingly complex world.

The combination of the innovative undergraduate programs at NUS has provided an inspiring example of the *Flagship University* within Asia that is responsive to the need for socioeconomic mobility and economic development within Singapore, while continuously improving undergraduate education. NUS illustrates how the core missions of teaching and research can be enhanced by

synergies between innovative curriculum, high-impact research, and enhanced international programs. The NUS example shows that by strategically emphasizing and scaling up innovations in pedagogy and curriculum, NUS has advanced both the traditional goals of a *Flagship University* (international rankings and publications) and many of the more expansive and holistic ideals of the *New Flagship University*. The best practices from these undergraduate programs can also improve NUS graduate programs, and promote increase linkages and collaboration with regional universities within Asia.

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Notes

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Chapter 10
The Founding of Yale-NUS College in Singapore

Bryan Edward Penprase (Yale-NUS College)

The Yale-NUS College is a case study in the convergence of an internationalizing strategy from a major US University (Yale), and a recognized need for a new form of undergraduate education from the partner host country (Singapore) within the context of a rising *Flagship National University* (National University of Singapore or NUS). The first liberal arts college in Singapore, Yale-NUS College represents a continuation of NUS's efforts to more broadly educate students (as described in the previous chapter) and to provide alternative paths for their development as citizens and participants in the nation's, and more generally the region's, economy and social development. The path toward creating the College reflects creative adoption of models for undergraduate education found in other leading universities.

The founding of Yale-NUS College also provides an example of a strategic approach to innovation and international engagement that aligns with the *New Flagship University* model, not captured in global rankings and debates on the path for being a World Class Universities. One key element of the *New Flagship* Model is to "explore pathways for universities to re-shape their missions and academic cultures" and the founding of a liberal arts undergraduate college, with a distinct academic culture from NUS and from Yale is a bold step toward this aim.[1] One of the main visions for Yale-NUS College, as expressed within its mission statement, is to "to redefine liberal arts and science education for a complex, interconnected world."[2] This redefinition also is expected to help reframe and shape the education within its parent institutions, NUS and Yale, and was one of the major outcomes anticipated from the founding of Yale-NUS College.

Established in 2011, the Yale-NUS College is designed to meet the overlap of strategic needs of both Yale and NUS. A true partnership of these two universities provides the potential for a long-term stability that other "branch campus" initiatives may find harder to achieve. The tireless efforts of many leaders made the founding of Yale-NUS possible, and key figures from Singapore included NUS President Shih Choon Fong and NUS President Tan Chorh Chuan, MOE Minister Tharman Shanmugaratnam, and NUS Vice President Lily Kong. From Yale University the key founders included Richard Levin, Yale's President, Charles Bailyn, the inaugural Dean of Yale-NUS College, and Pericles Lewis, the first Yale-NUS College President, along with a group of inaugural faculty.

A Path for a New International College

Like many initiatives in Singapore, the roots of the Yale-NUS College and liberal arts arose from a concerted strategy that involved leaders at the highest levels of government. A government report from the Committee on the Expansion of the University Sector in 2008 outlined the need for a liberal arts college in Singapore. Within the report is the finding that:

> The Committee has identified liberal arts education as a valuable addition to our university landscape. We believe that liberal arts education serves to develop independent thinkers, effective communicators, and potential leaders for the future." Looking toward the model of education at leading colleges and universities found in the United States and elsewhere, the national government identified liberal arts education as, "broad-based, multi-disciplinary learning, high-quality teaching and intensive interaction among students and with faculty members." Reflecting the values of NUS's existing and developing General Education program, the report argued for an even greater expansion of liberal arts education to, "help us offer an intellectually invigorating environment and an additional avenue to develop independent and critical thinkers who can go on to become leaders in the economic, social, and political fields."[3]

The President of Singapore, Tony Tan, also came out strongly for liberal arts in several speeches. In 2010, while Executive Director of the Singapore Investment Corporation, he noted that the British-based educational system dominant in Singapore had "served Singapore and Singaporeans well" but that the American liberal arts may be why the United States economy is "more dynamic and entrepreneurial" when compared to European ones, and that the American system "fosters a readier acceptance of change and a greater willingness to take risks."[4]

In the United States, Yale's President Richard Levin was also working towards a vision of an international campus. Levin had a vision for Yale's "Fourth Century" as a time when Yale would expand internationally, to become a truly global university. In 1996, in a speech entitled "Preparing for Yale's Fourth Century," Levin noted that becoming global was the necessary next step for Yale in its mission to advance undergraduate education, and educate the next generation of leaders:

> Yale is one of the very few universities in the world with the tangible assets, human resources, and internal culture to make possible simultaneous dedication to the preservation, transmission, and advancement of knowledge." Yale is among the best private research universities in the world dedicated not only to research, but also to undergraduate education and the education of future leaders of society. "We must recognize that the leaders of the 21st century, in virtually every calling

> and profession, will operate in a global environment. To prepare our students for leadership, our curriculum needs to focus increasingly on international concerns; our student populations must have strong international representation, and our students should have ample opportunities for study abroad." Levin, and others at Yale, sought new ways to make the international "in the composition of its faculty and student body as well as in the objects of its study.[5]

In 2001, as part of the celebrations for its 300th birthday, Yale launched its "4th Century Initiative" based on Yale's natural progression toward internationalization. By 2001, the World Fellows Program had already been created to bring students from across the globe to New Haven to study international issues. A Progress Report on Internationalization of Yale from 2005–2008 reported the rapid expansion of international programs for undergraduates, with the largest growth coming from a combination of new international summer internships (in 28 countries) and summer study at campuses from the International Alliance of Research Universities (IARU), a consortium of leading world universities that includes Yale, Oxford, Cambridge, NUS, ETH Zurich, Peking University, UC Berkeley, University of Copenhagen, University of Tokyo, and the Australian National University.[6]

During this period, Yale created many new student exchanges, sent increasing numbers of students abroad, expanded international student enrollments in Yale College, and strategically hired faculty with expertise in international fields. Additional international programs expanded rapidly from 2005–2008, such as training classes for senior government officials in China and India, and extensive research collaborations with China (such as biology research at a Peking-Yale joint center, and nanotechnology at Yale-Beida center), and a proposed Yale Institute of the Arts in Abu Dhabi. The Yale International Framework of 2009 listed some initiatives with Singapore (virtual classrooms, a jointly taught summer course at NUS with Yale and NUS faculty and students, and projects on tropical forestry in Singapore), but the liberal arts college in Singapore was not yet part of Yale's extensive international strategy.[7]

Meanwhile, the National University of Singapore had been developing its own vision for a liberal arts college, years before approaching Yale with the idea. The NUS President from 2000–2008, Shih Choon Fong, was an enthusiastic backer of the liberal arts, and sought partners for a stand-alone liberal arts college that could be based in Singapore. Among the potential partners for this college approached were the Claremont Colleges, who were invited into negotiations for a partnership to create a sixth Claremont College in Singapore. The Claremont College presidents, delegations from Singapore, and committees of faculty from both Claremont and NUS discussed the ideas at length in 2008 and 2009. These discussions produced the document entitled "Claremont in Singapore" that described the new college.

After hosting a delegation of Presidents from the various Claremont Colleges in 2008, President Fong was excited about the opportunity for a new liberal arts college to develop a "learning and living environment that seeks to catalyze a transformational experience for students." At that March 2008 dinner, President Shih said to the group of assembled leaders from the Claremont Colleges and NUS: "My colleagues and I are fortunate that through this academic outreach, we have enjoyed the opportunity to learn more about the Claremont Colleges and your diverse accomplishments, particularly in the liberal arts, science, business, and the arts. Both the Claremont Colleges and the Singapore's universities," he noted, "seek to prepare our students for the global economy, equipping them with a competitive edge in our culturally complex world."[8]

President Fong left NUS a few months later, however, to become the founding Vice Chancellor of King Abdullah University of Science and Technology (KAUST). Fortunately, the next NUS President, Tan Chorh Chuan, was also a champion for the cause of the liberal arts college, and moved forward into more serious discussions with the Claremont Colleges to work out the finances and governance of the new college. The Pomona College President, David Oxtoby, convened a small group of faculty in May of 2008 in Claremont to discuss the benefits of the new Singapore College. Many of the faculty were excited about the prospect of building an entirely new college, creating new courses and sending faculty abroad, which could be transformative to the campus culture in Claremont. Supporters among the faculty were excited about the potential for a Singapore College to increase student diversity, and to expand internationalization and cross-disciplinary work. A separate committee of faculty from all five Claremont colleges called the "Ad Hoc Faculty Committee on Academic Freedom Issues Related to Claremont-NUS" discussed guidelines for what the Claremont faculty thought would be necessary to form the basis of any negotiations for forming the new Singapore College.

The committee concluded that establishing a liberal arts college in Singapore is a "commendable ambition," but expressed some concerns about freedom of speech within Singapore. While many of the Claremont College Presidents and faculty were enthusiastic about the project, the economic downturn in 2008, and a realization that the scale of the proposed project may have been too large for the Claremont Colleges, ended the Claremont-NUS College discussions.

The National University of Singapore continued to pursue the idea with a new partner—Yale University. The larger scale of Yale, its research-oriented mission, and the personal chemistry between NUS President Tan and Yale's President, Richard Levin, made the partnership with NUS a much better fit. Despite the fact that neither Yale nor NUS were liberal arts colleges, the

institutional cultures of the two universities and their joint membership in the prestigious International Association of Research Universities (IARU) made forging a cooperative agreement easier. Yale's status as one of the premier liberal arts universities in the world, with Yale College, its "crown jewel" of residential undergraduate communities, made the project a natural outgrowth of Yale's commitment to undergraduates and its international strategies. Yale was founded as a liberal arts college, and stayed Yale College for more than half of its history before becoming Yale University in the late 19th century.

Richard Levin and Tan Chorh Chuan immediately recognized the compatibility of a new global college in Singapore with both of their visions, and quickly agreed to proceed with serious discussions on the idea. A common notion is that this idea was hatched over a cup of tea at the 2009 World Economic Forum in Davos, Switzerland, but both leaders from Yale and NUS had been working for many years on parts of the same problem, which was solved perfectly with the new Yale-NUS College. Yale and NUS had already been collaborating on a number of initiatives through their IARU consortium of leading world universities, including jointly taught courses and research projects in Singapore. Yale had a deep interest in expanding international programs, training global leaders, and liberal arts education for undergraduates, while NUS was eager to create new forms of residential liberal arts for its undergraduates, and was also rapidly growing in both international stature, and partnerships with US institutions.

Richard Levin soon afterwards began discussions about the new Singapore College with Yale faculty, based on a 2010 "prospectus" or letter that was written by Levin and Yale's Provost, Peter Salovey. This prospectus included an outline of the governance and financing of the new Singapore College and was presented to the Yale faculty for review and discussion in September 2010. Levin and Salovey also described the demand for higher education, and Yale's status as one of the world's leading universities as two factors for founding Yale-NUS College, along with "a growing imperative for leading universities to invest abroad." They wrote that, "we do believe it is inevitable that the world's leading universities by the middle of this century will have international campuses." The Alumni magazine also stated that "US and European universities have hundreds of partnerships and joint ventures in Asia and the Middle East, and the demand for higher education in both regions is growing tremendously."[9]

Three distinct elements make the Yale-NUS College unique and distinctly different from other "satellite campuses" like NYU Abu Dhabi, or partnerships offering joint degrees like the Duke-NUS medical center. First, it is a true partnership between two "great world" universities; second, it includes a

financial model placing all the costs on NUS; and third, it confers a separate degree that comes from Yale-NUS College, and not Yale or NUS.

As was later stated in the promotional materials for the new Yale-NUS College, the combination of Yale and NUS, in a truly collaborative partnership, promised to fulfill the equation "1+1=3," a slogan used to denote the possibility of the Yale-NUS college being more than the sum of its parts. As Richard Levin put it in an interview with the Yale Daily News, "The liberal arts model is not the norm in most of the rest of the world, but there's an increasing feeling in Asia that it's giving the United States an edge in educating creative leaders. This college in Singapore could provide a way to influence all of Asia."[10]

In March of 2011 a budget was established for the new project that met the approval of the Yale administration. Financial aid would also be offered to international students in the new College, giving a subsidy that made the costs of Yale-NUS significantly less than comparable private liberal arts colleges in the US (the Singaporean tuition for 2014 was SGD $15,000, with international students paying SGD $30,000, corresponding to about US $12,000 and US $24,000). The site for the college, a 10.5 acre lot adjacent to the NUS campus within "University Town," would be developed fully with a Pelli-Clark-Pelli-designed campus to house the College's 1,000 students in three separate residential colleges, and would include all types of instructional space, laboratories, studios for music and art, and classrooms.

The Leadership of a Dean

The initial plan was to hire a group of 30-35 "founding faculty members" in 2012. Charles Bailyn, the Bartlett Giamatti Professor of Astronomy and Physics at Yale, chaired a committee on faculty development for the new College and led the initial searches, as well as coordinated the development of the new College's curriculum. "We all had way too much fun," explains Bailyn. "We kept going out to dinner and had all these bright ideas. We had to stop ourselves from getting carried away and coming up with the reading lists for the courses, which will be the faculty's job, after all."[11]

Bailyn was named the inaugural Dean of Yale-NUS College, based on his work at Yale, which included serving on the Committee on Yale College Education, the Yale College Teaching and Learning Committee, and the Yale Center for Media Initiatives. A popular and charismatic astronomy teacher, Bailyn was one of the first professors at Yale to record his course in the Open Yale online education site, exposing him to new modes of teaching and demonstrating a willingness to experiment.

Bailyn began a series of "open house" events in Singapore in January of 2012 to attract student interest and explain to parents in Singapore what the

new college would mean, and to promote the more general concept of liberal arts education. He gave sample lectures on astronomy, while Jeremiah Quinlan, Admissions Officer, spent more than 11 weeks in Singapore establishing a Yale-NUS Admissions and Financial aid office. The early events were also intended to enable Singaporean male students to apply early before their two-year military service terms began. Students from throughout Asia attended the events, and Bailyn and Quinian worked tirelessly promoting the new liberal arts concept to multiple groups of prospective students and parents. Some were skeptical about the new approach and curriculum, and all were curious about what this new Yale-NUS College would mean for Singapore. The skepticism was dispelled by presenting more details of a liberal arts and sciences education, which included an emphasis on creativity and quality of expression, combined with rigorous scientific and mathematics training (often not part of the conception of "Liberal Arts" within Asia).

Degrees from Yale-NUS College were to be awarded separately from Yale, but new connections with Yale University enabled students to receive joint degrees such as a program that awards a bachelor's degree from Yale-NUS College and a master's degree from Yale University in Environmental Studies. Yale-NUS also developed joint degree programs with NUS, such as a joint bachelor's in law from NUS. John Wargo, chair of Yale College's environmental studies program, commented,

> Yale-NUS College hopefully will provide a gateway for Yale faculty and students at all levels of training to develop research, field, and teaching opportunities. The cultural and ecological diversity of the region is enormous. In many ways it is the ideal location to study a suite of the most pressing environmental issues of our time.[12]

An additional joint degree program in Public Health was created in 2015 to enable students to receive a bachelor's degree from Yale-NUS and an MPH degree from Yale, by completing a third-year semester at Yale University, and a fifth year at the School of Public Health.[13] Yale-NUS also has created a concurrent five-year degree program with the Lee Kuan Yew School of Public Policy, that allows students to receive a Master's in Public Policy from the LKY school with their Yale-NUS College bachelor's degree. Yale-NUS also made special arrangements with the Yale University School of Management to admit some of the Yale-NUS graduates into their MBA program.[14]

Bailyn found high interest in faculty positions at the new College, with over 1,500 faculty applying for the 36 "founding faculty" jobs. In this first round of hiring, Bailyn was looking for "faculty who will play an active role in developing and teaching the common curriculum courses," and "people with experience or potential in developing new undergraduate curricula and pedagogical

techniques, and people with strong interdisciplinary interests." [15] Faculty applied from institutions across the world, and represented a wide mix of academic cultures that includes a majority of US academic institutions, but also notable institutions in Europe, the UK, and Australia. Among the applicants were several former Yale faculty members, who became part of the "founding faculty" along with a mix of senior professors from Vassar College, Pomona College, and NUS. The large majority of these founding faculty were junior faculty, inverting the demographics in most US institutions, which tend to have more senior and tenured faculty than Yale-NUS College. The new College, with its new faculty, was poised to develop its curriculum and together create a new academic culture of liberal arts in Singapore.

Bailyn and the Yale-NUS committee found a brilliant solution to the problem of selecting the 36 founding faculty with so many high-quality applicants. Faculty who were considering applying to the Yale-NUS College as well as dozens of Yale-NUS faculty job applicants were invited to a series of workshops at Yale. During the workshops, the candidates were given more information about the new College, asked to work in small groups to discuss the new Common Curriculum, and given a chance to meet high Yale officials such as Richard Levin and Linda Lorimer, to hear directly from them about the new College. This "cluster hiring" process began in August of 2011, and included over eight separate workshops with groups of 30–40 faculty attending from across the US and beyond. The cost for the workshops were budgeted and planned for via the funding agreement with NUS and Singapore's Ministry of Education. The workshops also served as group interviews, since the faculty could be observed working with others, helping design courses, and discussing teaching, giving a good sense of their potential for the challenging work of designing a new core curriculum in Singapore.

During the 2012-2013 academic year, President Tan Chorh Chuan commented in an interview on how the Yale-NUS College fits within Singapore's and NUS's priorities. President Tan explained how the Yale-NUS program can help create "differentiated pathways" for higher education, and how Yale-NUS responds to the need for NUS to explore longer-term projects instead of those that are in the "here and now." The Yale-NUS College arises from a strategic positioning of Singapore in "10-15 years' time" and perhaps well beyond that. During the 2013 interview, President Tan's list of top priorities included developing online education, the "nexus between education and employment" as well as a re-focus on education and teaching. The Yale-NUS College was hoped to be a catalyst to move all of these areas forward.

President Tan described how the combination of co-curriculum and curriculum at places like Yale-NUS also will enable a deeper form of education where value assumptions can be discussed and tested. His goal with Yale-NUS

is "not to replicate the liberal arts model, but to enhance the value proposition" of its education. The Yale-NUS College as such is a "cross-cultural, and cross-institution collaboration."[16] With the new Yale-NUS College both NUS and Yale are taking a risk, but a risk that could bring long-term benefits to both institutions.

Establishing a College Curriculum

From the early workshops and intense discussions among the founding NUS and Yale faculty, visiting consultants, and newly hired Yale-NUS faculty came the basic outlines of the new Yale-NUS Curriculum, of which an interdisciplinary common curriculum was the centerpiece. This common curriculum was ambitious in its scope and complexity, requiring teams of faculty to offer nine interdisciplinary course sequences in Humanities, Social Sciences, and Natural Sciences with titles that included "Comparative Social Institutions," "Philosophy and Political Thought," "Scientific Inquiry," "Integrated Science," "Quantitative Reasoning," "Foundations of Science," "Current Issues," "Historical Immersion," and "Literature and Humanities." More than a survey course in a single subject, each of these courses was intended to provide a synthesis of Eastern and Western literature, philosophy, political theory, and culture, as well as an in-depth immersion into the processes of scientific inquiry that unified the disparate disciplines with themes that emphasized deeper modes of thought common to science and long-term implications of science research for the sustainability of our society and the environment.

The new college required *all* of the students to take all of these courses together (amounting to all but one of their courses in the first year, and a total of 12 of 32 courses for the undergraduate program). The hope was that by sharing the experience of this common curriculum, a deeper shared understanding would emerge from both faculty and students, enabling Yale-NUS College to build on the interdisciplinary perspective in more advanced courses, and to give students a breadth of shared intellectual experience unmatched in any other liberal arts college.

The unique courses and approach at Yale-NUS College advanced many of the top priorities at NUS as discussed earlier. The innovative curriculum at Yale-NUS was also intended to impact the home Yale campus in New Haven through a "feedback loop" in which initiatives started in Singapore could be adopted at Yale. As Charles Bailyn described it, "The way the feedback loop would work is we will invent some new things, try them out. Just the process of thinking them through will give people ideas." The flow of Yale faculty teaching for a semester or a year at Yale-NUS would also potentially bring back courses and teaching methods to New Haven. Anthony Kronman described the project in glowing

terms: "It's an opportunity to think about all of this without the baggage and prejudices that hamper curricular reform and liberal education in the United States. We can draw on a relatively blank sheet the outlines of a program that would be Western, Asian, completely free and fresh."[17]

By May of 2012, Yale-NUS College had appointed its inaugural President, Pericles Lewis. Pericles himself had long been part of the Yale-NUS College as the chair of the Yale-NUS Humanities Search Committee. His administrative work included being Director of Graduate Students and Director of Undergraduate Students in Comparative Literature and the Literature major at Yale. His undergraduate degree came from McGill University, and his PhD was from Stanford. His deep roots in the humanities were a great compliment to Bailyn's science background. Pericles Lewis had already been working on the Yale-NUS humanities curriculum since 2010 and was actively involved in hiring humanities faculty in 2011, co-chairing the humanities personnel committee with Tan Tai Yong and serving on a steering committee co-chaired by Bailyn and Lily Kong which finalized the outline for the curriculum and approved the initial hires.

Soon after the initial workshops concluded, Lewis, Bailyn, Vice President Choy Heng Lai and their committees hired a group of over 30 faculty, who convened at Yale's New Haven campus in July 2012. After the heady introductory remarks and the sign-in ceremony, the group of these faculty huddled inside various rooms inside the Victorian Betts House for the two-week curriculum design meeting. After the workshop in New Haven came a second two-week workshop in Singapore. In these workshops, the major themes of all the courses were selected, and the different working groups had credible basic outlines of all the first year courses for the common curriculum, as well as general themes and principles for the second year courses of the common curriculum.

Various Yale and NUS faculty participated in many of the discussions, and workshops and talks from Yale faculty and visitors helped the group of inaugural faculty learn more about teaching writing, rhetoric, Eastern philosophy, active learning pedagogy, and other topics. The intensity of the Summer 2012 workshops enabled the faculty to bond and in many ways was both a "boot camp" for the new Yale-NUS College, and a second education in how to think broadly about how to teach, and about the unifying principles between the disciplines that underlie human inquiry.

During the 2012-2013 academic year, the inaugural faculty were based at Yale University, and met in groups to design the curriculum. An Inaugural Curriculum Committee consisted of Bryan Garsten, a Yale Professor of Political Theory, Dean Bailyn, the Division Chairs from Yale-NUS College (Rajeev Patke from Humanities, Jane Jacobs from Social Science, and Hway Chuan from

Natural Science), and Bryan Penprase, an American Council on Education (ACE) Fellow. The first curriculum committee meetings were part of the Summer 2012 workshops in New Haven and Singapore, and were intended to help the "facilitators" of common curriculum courses report back to their committees on how the courses were going and to coordinate the work of the several working groups.

The curriculum committee was charged with writing a report about the rationale behind the new Yale-NUS College, and to place the new Singapore College in a context of liberal education and its growing relevance and importance within Asia. The final document, entitled "Yale-NUS College—A New Community of Learning," was finished in April 2013.[18] The principal author was Bryan Garsten, and in the forward to the document, he and Charles Bailyn noted that the document arose from a multi-year process including deliberations from panels of Yale, NUS, and liberal arts professors, from workshops with the inaugural faculty, and from the work of the committee. This document had to summarize those many discussions that arose from years of hard work from literally hundreds of professors. The central question to be answered: "What must a young person learn in order to lead a responsible life in this century?" The report build upon notions deep in the history of higher education, such as the Yale curriculum report of 1828, with its metaphor of building the "discipline and furniture of the mind."

Some of the themes addressed include the rise of online learning, the historical context of liberal arts education (with its disproportionate production of political, business, and science leaders), the growing interest of liberal arts in Asia (with new liberal arts institutions in India, Japan, Korea, and other countries), the role of the campus and discussion in education (including architecture to facilitate chance interactions), and the rationale for a broad and deep common curriculum that blends Eastern and Western works and integrates science and quantitative work in the study of all the students. The unique common curriculum, the limited number of course choices in the early years, and the role of new teaching methodologies were also explored in the document.

While many aspects of the Singapore college were new and innovative, the core approach to the Yale-NUS College, like its mission statement, is rooted in simplicity—"a focus on articulate communication," "open, informed, and reflective discourse," and "conversation" between individuals is the primary element of the Singapore College, as has been in the best Colleges since ancient times. As the report put it:

> Among the goals of a college curriculum is to help students make sense of that experience together, through a set of conversations about some of the most fundamental questions and problems of human existence. The curriculum should

> facilitate conversation, as would the campus design, with its carefully engineered common spaces. Fundamental questions would be posed within team-taught common courses that transcended East and West and blended individual academic disciplines in new and innovative ways.[19]

The College and NUS

Since its opening in Fall of 2013, Yale-NUS College has steadily grown as it has accepted its first batches of students, opened the new campus officially during October of 2015, and celebrated its first graduation in May of 2017. The Yale-NUS College is just one of many steps that continues to advance the reputation of NUS, and provides new opportunities for connections within NUS and toward other top international universities such as Yale. New research projects at Yale-NUS are pushing boundaries of NUS research and adding great benefit to NUS in a variety of niche and interdisciplinary areas.

An emphasis on experiential learning has provided Yale-NUS students with numerous opportunities for exploration in Southeast Asia, as well as for creating NGOs and new companies. Many of the elements within the Yale-NUS curriculum have already had impacts at NUS, and as Yale-NUS achieves steady state the cross connections between Yale-NUS College and University Town Residential Colleges will only grow. New initiatives at Yale-NUS also include a Teaching and Learning Center, which is conducting educational research and offering faculty development and teaching workshops for both Yale-NUS and NUS faculty.

Pericles Lewis, the inaugural President of Yale-NUS College, summed up the role of Yale-NUS College as follows:

> Yale-NUS has created a distinctive curriculum based on conversations between Asia and the West and innovative co-curricular programming. We have attracted excellent students from around the world and dedicated faculty who combine strong research profiles with deep engagement with undergraduates. The College has been a centerpiece of Yale's internationalization and has allowed NUS to develop a *Flagship* model for liberal education in Asia. The equal partnership between the two founding institutions has been fundamental to the school's success. In addition to educating leaders in all walks of life from Singapore and around the world, we hope the college will be a beacon for international liberal education in the years to come. [20]

Since founding Yale-NUS College, NUS, Yale and Yale-NUS have begun to create new synergies in both research and teaching. The new campus of Yale-NUS provided a top-quality residential liberal arts education, which complements the other residential colleges within the NUS University Town.

Faculty from both NUS and Yale-NUS have begun new collaborations in their research, jointly organized and sponsored conferences in science and educational innovation, and the Yale-NUS College has hosted dozens of Yale faculty in Singapore as visiting professors where they have been able to teach courses ranging in length from two weeks to a full semesters. New jointly taught courses between Yale and Yale-NUS, and the shared insights from the Yale-NUS and University town residential campuses are now providing direct benefits for both Yale and NUS as they refine their undergraduate education.

The Yale-NUS College serves as a laboratory for interdisciplinary undergraduate education, providing results that will help inform the larger *Flagship Universities* as they embody one of the core principles of the model—increased relevance in their educational mission, and a continuous process of improvement. This model of the *New Flagship* provides top ranking for universities which is "not built around a narrow band of quantitative measures of research productivity or reputational surveys" but rather on "national and international relevance" with "internal organizational cultures and practices focused on self-improvement."[21]

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Notes

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Chapter 11
A Hybrid *Flagship* Mission: The Case of the University of Hawai‘i

Deane Neubauer, Joanne Taira, and
Donald Young (University of Hawai‘i)

The University of Hawai‘i is a multi-campus university system that includes seven community colleges with two year programs, two baccalaureate institutions with limited graduate programs universities located on four of the Hawaiian Islands, and a research-intensive institution that plays the essential roles of the *New Flagship University*: the University of Hawai‘i at Mānoa (UHM).[1] In the United States, most states have multi-campus public higher education systems, sometimes with several governing boards, as in California, for one or more network of campuses. In Hawai‘i, its public system is headed by a single Board of Regents, appointed by the governor with the approval of the state senate, which in turn appoints a system president. The president, in turn, is responsible for the creation and maintenance of a system-level staff and appoints chancellors for each campus, with the approval of the board of regents. Hawai’i’s system is unique in that it extends across an archipelago of eight inhabited islands that constitute the state and creates, unparalleled issues of integration and dissemination of activities and functions.

Within this coherent system, the Mānoa campus is a prime example of the *New Flagship University* model within the Pacific Rim and with a long tradition of public service and economic engagement, and as a unique and important scholarly bridge with faculty and researchers in Asian universities. Among the *New Flagship* characteristics of UHM (Douglass 2016):

- *Generally Comprehensive and Research Intensive Institutions* that are focused on being regionally and nationally relevant;
- *Highly Selective in Admissions Yet Also Broadly Accessible* so as to be representative of the socioeconomic and racial/ethnic demography of a country, while being open to international talent;
- *Broadly Engaged in Regional/National Economic Development and Public Service* in some form across all the disciplines;
- *Intent on Educating and Providing Talented Leaders,* generally for the regional and national societies they serve, but also to enhance engagement with the larger and increasingly international world*;*

- *Sufficiently Autonomous* and *Sufficiently Publicly Financed* so that institutions are leaders of knowledge generation and thought, not followers;
- Focused on an *Internal Culture of Evidence-Based Management*, the constant search for *Institutional Self-Improvement*—quality assurance that, ultimately, cannot be achieved by Ministerial policies and directives alone (Douglass 2016, 7).

Yet these and certain key *New Flagship* characteristics, policies, and practices, are not the sole responsibility of the Mānoa campus. They are often integrated, and shared, responsibilities within the larger network of campuses. Many of the *Flagship* activities are performed by UHM, but in ways that are inseparable from other elements of the system, both in intention and through impact. This symbiotic model may provide a path or way of thinking as other regions develop and shape their own network of institutions. As identified in the *New Flagship* model, leading national universities must attempt to define their role in national or regional systems of higher education and work with and influence other tertiary institutions in ways that best serve their societal needs. The following provides a brief history on how the University of Hawai‘i system evolved, specific examples of programmatic efforts by UHM that often are linked with other institutions in the Hawai’i system, and strategic efforts to further the Mānoa campus’ *Flagship* role.

A Brief History of the University of Hawai‘i

The forerunner to the University of Hawai‘i was the College of Agriculture and Mechanic Arts in Honolulu, established under terms of the US Land Grant legislation in 1907. It began with ten students and 13 faculty members. In 1912, the first class graduated and the campus moved to the Mānoa valley; by 1920 the College of Arts and Sciences was added. In 1931, the University absorbed the Territorial Normal and Training School creating Teachers College, which by 1959 became today’s College of Education. In 1935, the University established an Oriental Institute, a forerunner of the federally sponsored East-West Center formally established in 1962 and reflecting the Asia-Pacific focus, which remains a central mission of the university. The East-West Center would become an independent entity in the mid-1970s, but continued to recruit and provide support for significant numbers of Asia-Pacific students as they progressed through UHM, most of them for post-graduate degrees.

The beginning of a statewide system of higher education campuses took place in the late 1940s with the establishment of the College of Agriculture as a branch campus of the University of Hawai‘i. By the 1960s with the

establishment of the two community colleges: Kapi'olani and Honolulu on Oahu and Kaua'i and Maui. Leeward Community College (Oahu) was established in 1968, followed by Hawai'i Community College (in Hilo) in 1969 and Windward Community College and the University of Hawai'i West Oahu in 1970.

The university also established a number of graduate and professional schools: the School of Travel Industry Management (1966), the John A. Burns School of Medicine (1967), the beginning of what would become a world-renown Astronomy program with a major telescope on Mauna Kea volcano (1968), and the creation of the William S. Richardson School of Law (early 1970s). In the 1980s a School of Architecture was added at Mānoa along with a School of Ocean and Earth Sciences and Technology.

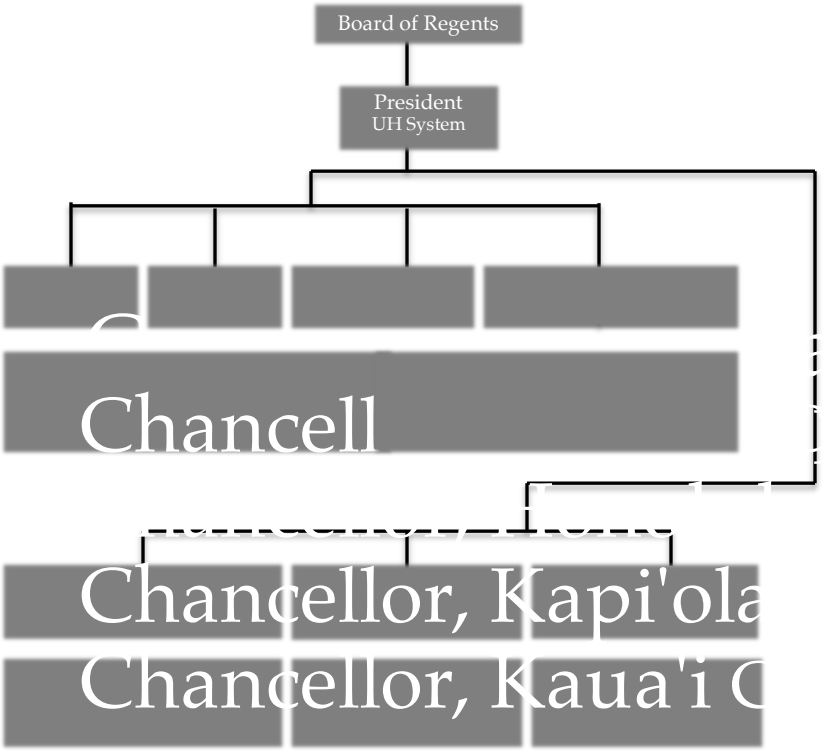
During the early 2000s further differentiation continued to occur within the UH system, as for example, Maui Community College opened the Moloka'i Education Center to provide local-based education on that island, Honolulu Community College became the site of one of six US-based Cisco Training Academies, and Maui became the site of a supercomputing center for the Air Force Research Library (University of Hawai'i 2016). Such activities, "reaching out" as it were, from the local academic structural base of the extensive campuses of the UH system were rendered possible in large part through the oversight provided by the integrated system model.

In the 1990s, UH pioneered an outreach model bearing the name University Centers that are located within communities that otherwise lack direct access to higher education offered elsewhere at the University of Hawai'i. Three University Centers were established by the UH Board of Regents in West Hawai'i, Maui, and Kaua'i to provide programs focusing on professional education and workforce needs of the communities they serve. Degrees and credentials at the University Centers are awarded by accredited UH institutions whose faculty deliver courses via distance technology, travel to the University Center, or a combination of methods. Multiple UH entities collaborate to provide this statewide service: UH campuses at Mānoa, Hilo, West O'ahu, and some of the community colleges confer with the University Centers to evaluate academic and student needs and select programs; each Center is administratively assigned to a community college for financial, administrative, facilities, and technical support; and the UH system provides oversight and coordination. The University Centers create a distinctive framework for a system-wide effort that makes it possible for place-bound students to remain on their home islands while pursuing education offered by accredited two- and four-year campuses.

Today, as noted previously, the system has a single governing board for the various public colleges and university campuses, with a president, three

chancellors, and a vice-president for the community college network (see Figure 11.1). The two bachelor granting campuses, with a few selected graduate programs up to the master's level, are the University of Hawai'i at Hilo on the island of Hawai'i and the University of Hawai'i at West O'ahu located in the western region of the island of O'ahu. The seven existing community colleges are: Kapi'olani Community College (KCC), Honolulu Community College (HCC), Leeward Community College (LCC), and Windward Community College (WCC), located on Oahu; UH Maui College with a limited 4-year curriculum, located on Maui; Kaua'i Community College located on Kaua'i; and Hawai'i Community College, located in Hilo. A new campus, Palamanui, a branch of Hawai'i Community College on the Kona Coast of the island of Hawai'i, opened its doors to students in fall 2015.

Figure 11.1. Organization of the University of Hawai'i System



Source: University of Hawai'i system office, 2016.

The University of Hawai'i System as a *Flagship* Hybrid

In part because Hawai'i did not become a state until 1959, the University of Hawai'i system grew and matured in a relatively short period of time, adding community colleges beginning in the 1960s. The founding Mānoa campus began as a regional, agriculture, and engineering-oriented university during Hawai'i's late territorial (and plantation) period into a major state university through the years of early statehood. In the first full decade of statehood, for example, the budget of the College of Arts and Sciences at Mānoa grew slightly in excess of a thousand percent as many departments expanded their number of faculty and students and added graduate programs (Neubauer 1998).

This period of institutional enrollment and functional growth roughly paralleled the development of other state higher education systems after World War II, moving from the *elite* phase into the first stages of *massification* a process of increased access and educational attainment rates, and consolidation of state higher education systems (Trow 2005; Douglass 2007). What characterized the University of Hawai'i during this period was not simply the growth of departments, programs, schools, budgets, and physical plant, but its relatively integrated growth across the archipelago. Specifically, the Mānoa *Flagship* campus also needed to cultivate and support the state's growing network of institutions reflective of Hawai'i's geography, a task that could not be accomplished by a single institution or campus. The community colleges, for example, developed an idiosyncratic mission as two-year campuses yet with extension programs often thought as the purview of *Flagship Universities* on the islands that experienced significant growth and urban sophistication among its population.

The Maui campus opened the Moloka'i Education Center to provide local-based education on that island; the Honolulu Community College became the site of one of six US-based Cisco Training Academies, and Maui became the site of a supercomputing center for the Air Force Research Library (University of Hawai'i 2016). Such activities, "reaching out" as it were, from the local academic structural base of the extensive campuses of the UH system were rendered possible in large part through the oversight provided by the integrated system model.

At the same time, UH Mānoa still played a central role as the state's *Flagship University*, developing and growing its teaching, research, and public service mission and expertise need to help support Hawai'i's economy and socioeconomic needs. The School of Travel Industry Management, for example, developed a distinct identity and programs that supported the maturation of the Hawai'i tourist industry—the state's largest single economic sector. Faculty also developed geographic-based expertise in tropical agriculture to help the

once vibrant but declining pineapple and sugar industries make a transition into modalities of research, while also providing graduate education in agriculture salient to the emerging economies of Southeast and South Asia.

Beginning in the 1960s and early 1970s, ocean geologists and seismologists conducted significant work that contributed to a fuller understanding of plate tectonics and earthquakes that focused on sea-related consequences such as tsunamis in the Pacific. The School of Ocean and Earth Science and Technology also made discoveries that expanded the understanding of the El Nino/La Nina weather phenomena by plotting the Pacific Ocean with a network of temperature gauges. The School also developed a wide-range of multi-national research ventures with scientists from throughout the world.

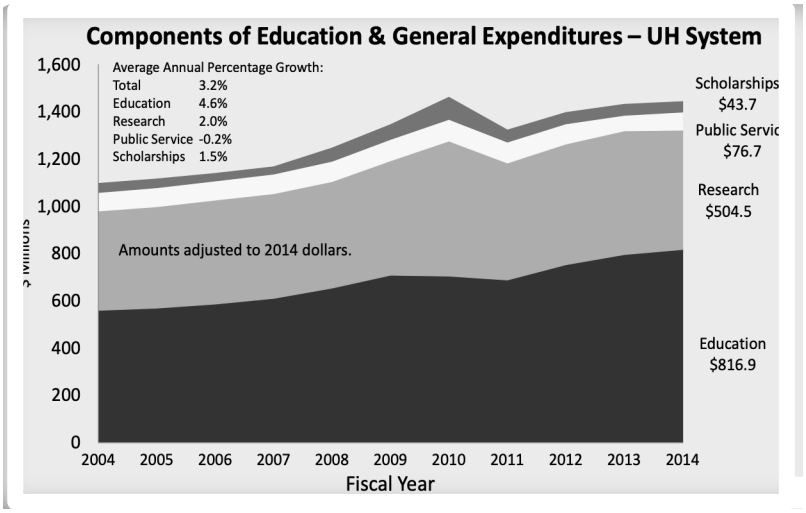
International engagement is an important component the *Flagship* role of the Mānoa campus. As noted previously, the East-West Center (EWC) became administratively separated in the mid-1970s. However, throughout its long and mutually supportive association with the EWC, the faculty and administrative staff has served as the de facto educational arm of much of the Center's engagement with the Asia Pacific by providing faculty research and teaching expertise. This collaboration has influenced policy and educated a significant number of academic and political leaders in the Pacific region. The social, economic, political, and scientific development in the Asia Pacific region owes much to the contributions of a generation of leaders who are the joint alumni of the East-West Center and University of Hawai'i.

From the 1970s and into the new century the Curriculum Research & Development Group (CRDG) of the College of Education developed new models for teaching mathematics and science that gained adoptions in as diverse settings as Russia, Japan, Korea, and Singapore, while at the Richardson School of Law, many basic aspects of the Law of the Sea Treaty were worked out, and at the John A. Burns School of Medicine, the unique phenomenon of "green mice" was one of the more notorious outcomes of a world-class genetics research program.

Figure 11.2 provides an indicator of the growth in activities of the university as a system since 2004 in a state with modest population growth paralleled with similar levels of state government investment. Of particular note are the significant extent of research funding (the vast proportion of which is drawn from external grants) and the degree to which public service activities are funded. In 2010, the University of Hawai'i system would rank in the top 25 of US universities in the procurement of federal research funding, in part because of its wide range of Asian-specific and related research programs. At the same time, the University of Hawai'i continues in the main to follow the cost and expenditure curve characteristic of US universities in general and public universities in particular, a trend which has led numerous commentators

on higher education to question the extent to which such growth may be sustainable over time (see for example Latif 2011). It is worth noting that with respect to patterns typical of mainland US institutions, Hawai'i tends to be "out of phase" with aspects of the overall US economy, in part because it is impacted so strongly by tourism (its basic industry) emanating from outside the country. This has led historically to a "lag" in economic overall affects. In the 1990s for example, as the US mainland economy experienced the "Clinton prosperity," Hawai'i experienced a recession, actually producing negative growth in fiscal year 1996. These effects can be viewed in Figure 11.2.

Figure 11.2. Components of Education & General Expenditure



Source: University of Hawai'i system office, 2016.
Note: Total education and general expenditures have increased an average of 3.2% annually while education and related expenditures have increased 4.6% annually.

Governance issues have proved to be a repeated source of tension within the university, especially over the past four decades. In the 1980s and early 1990s as the state struggled to deal with the impacts of what would become the great Japanese recession of the late 1980s, a variety of issues arose between the several campuses about their perceived and actual engagements with the Board of Regents, with the major research campus, Mānoa arguing that despite their primary budget claims and the complex variety of activities on the campus, the board tended in itsdecisions to undervalue the relative importance of the campus. The then-sitting president, Fujio Matsuda,

developed a process that led in 1986 to a restructuring of the university administration that made the university president the chief executive of both the ten-campus system and the Mānoa campus. This arrangement lasted up to 1999 at which time a complex set of issues led the board to once again establish a separate administrative system for the Mānoa campus, with the explicit intention of encouraging that campus to more fully engage in activities that would mark it as a leader in research and service both within Hawai‘i and across the Pacific region. This path of administrative adjustment, however, has not been without incident or contention, however, and the presumed benefits to be gained by this step have been contested. At the time of this writing, the Mānoa campus has experienced an extended process of seeking to hire a permanent chancellor, having lasted much of calendar 2016. In February 2017, the system president who has been acting as the interim chancellor of that campus for five months in the face of a vacancy has announced that (a) he will conclude the current search to fill the vacancy, (b) continue to serve both as system president and as the interim chancellor for Mānoa for two years. The extended duration of that process, he has argued, will allow for a complex review of the functions and activities to be remanded to that office *and* to make explicit norms of performance review.

These activities provide characteristic evidence of the varied complexities of developing and managing a *Flagship University* structure within the unique archipelago environment of Hawai‘i.

University of Hawai‘i—A *Flagship University* Agenda

The following provides a sample of the recent new initiatives based at the University of Hawai’i’s Mānoa campus reflecting a reiterative process in developing and growing its role as a *New Flagship University*. The *New Flagship* model is in part based on the concept of increase the social and economic impact of universities, and on supporting an institutional culture that is always attempting to improve its performance and role in the society it is intended to serve. The following includes programs that reflect that value, including efforts to support the activities of the other campuses in the system, outreach programs to local schools, civic engagement and service learning programs, and initiative to improve the competitiveness of faculty in seeking national research grants.

The Hawai‘i P–20 Initiative

A prime example of the University serving the community is the Hawai‘i P-20 initiative. P-20 is the code for lifelong learning. The “P” refers to provisions for

early learning; the "20" refers to the years of schooling thereafter through the graduate level and beyond. In 2002, the leaders of three agencies—the University of Hawai'i, the Hawai'i Department of Education, and the Good Beginnings Alliance (GBA) representing pre-school providers—forged a commitment to providing educational opportunities for all residents that maximize their potential and prepare them for full participation in a democratic society. Up to that point, each agency had evolved its own requirements, standards, assessments, and outcomes without much interaction with other parts of the education systems. What these leaders committed to was the creation of a seamless system to boost achievement by getting all children off to a good start, raising academic standards, conducting relevant assessments, and by smoothing students' transitions from each learning level to the next (Chun et al. 2002).

The P-20 staff are now part of the University system Academic Vice President's office with dedicated positions to work with preschools, K–12 education, community colleges, four-year campuses, and graduate education to improve communication, align curricula, establish standards, measure student outcomes, and ensure smooth transitions for students from one system to another. The current goal of Hawai'i P-20 is for 55 percent of Hawai'i's working age adults to have a two- or four- year college degree by the year 2025. Hawai'i P-20 seeks to achieve this by having all children reading at grade level by third grade, strengthening the rigor of the high school curriculum, increasing student access and success in college, and facilitating program and policy development based upon research and data.

The initiative, now known as Hawai'i P–20 Partnerships for Education, is guided by a P–20 Council composed of approximately 20 individuals representing the Governor, State Legislature, labor unions, parent organizations, independent schools and colleges, the military, community leaders, and local foundations. The Council is co-chaired by the University President, the State Department of Education Superintendent, and the Executive Director of the Executive Office on Early Learning. The Council's role is to provide the high-level leadership, resources, and commitment to keep the initiative on track and focused on its common goals.

The P–20 initiative is a successful example of the leadership of the *Flagship University* in education developments that result in improving P–20 education and the community at large, resulting in a better educated citizenry and programs at the University.

EPSCoR: Experimental Program to Stimulate Competitive Research

EPSCoR Hawai'i provides an example of how the University collaborates across the multi-campus, multi-level system to engage in research. EPSCoR is a federally-funded program through the National Science Foundation that establishes partnerships with government, higher education, and industry to effect lasting improvements in a state's or region's research infrastructure, R&D capacity, and hence, its national R&D competitiveness. The recently completed Investing in Multidisciplinary University Activities Award (IMUA) EPSCoR initiative included researchers, students, and educators at UHM and UH Hilo, as well as other researchers and informal education providers statewide.

IMUA's focus was to collaboratively expand and sustain the state's competitiveness in new areas of environmental science and technology research and education, while improving relationships among researchers and the local community. For example, one of IMUA's programs sought to understand and predict how invasive species, anthropogenic activities, and climate change impact the biodiversity, ecosystem function, and current or potential human use of endemic and other species used by early Hawaiian society that helped define its place in the natural landscape (see EPSCoR website at: http://www.hawaii. edu/epscor/).

In 2016, the National Science Foundation awarded a new EPSCoR Hawai'i grant for a five-year, US $20 million, groundbreaking study of water sustainability issues. The program, called 'Ike Wai (knowledge ('ike) of water (wai)) assembles UH, state and federal agencies, and community partners to address critical gaps in the understanding of Hawai'i's water supply that limit decision making, planning and crisis responses. The project spans geophysics, microbiology, cyber infrastructure, data modeling, indigenous knowledge, and economic forecasting, and partners university scientists with state and federal agencies and community groups to create a data driven, sustainable water future for the state of Hawai'i and its Pacific neighbors. Novel degree programs at UH Hilo and new training programs at UHM will produce a new generation of big-data scientists and data analytics professionals who will also be familiar with traditional understandings and values based in Hawaiian water management practices (see the EPSCoR website at: http://www.hawaii .edu/epscor/).

SENCER: Science Education for New Civic Engagements and Responsibility

Another example of the University of Hawai'i's role in the local community and within the context of larger global issues is illustrated by its engagement in

science education. In 2015, the state of Hawai‘i was recognized nationally as the first model state for Science Education for New Civic Engagements and Responsibilities (SENCER) initiative. Hawai‘i’s statewide team builds on the work of faculty from four University of Hawai‘i campuses (the Universities at Mānoa and Hilo, as well as Kapi‘olani and Windward Community Colleges) and two initiatives that incorporate Native Hawaiian indigenous knowledge, service learning, and community-based research.

SENCER was initiated in 2001 under the US National Science Foundation (NSF) to improve science, technology, engineering, and mathematics (STEM) undergraduate education and to connect it to pressing civic problems. It is rooted in part in the tradition of “extension” services at the university level (a common feature of land grant universities) or education applied to practical questions in the real world. The approach establishes the connection between STEM education and local issues, and leads to building understanding of national and global challenges.

A common theme in SENCER projects at UH is sustainability, a focus that engages social and indigenous sciences with natural sciences. Students and faculty across several UH institutions are involved in civic engagement projects. One project works with two community groups to act as citizen scientists in assisting with invasive algae removal as part of Kapi‘olani Community College’s ecology and environmental laboratory. Another group engaged in developing sustainability policies for the University of Hawai‘i system. A third service-learning project contributed to restoring, maintaining, and documenting knowledge about food sustainability and the applications of traditional Hawaiian use of land and water in today’s world.

Service Learning

At the University of Hawai‘i, service learning programs are offered at individual campuses with shared elements across UH campuses. The Program for Civic Engagement at the UH Mānoa College of Social Sciences coordinates a number of service learning projects with research opportunities for students and faculty both at Mānoa and other higher education institutions. One example of a UH service learning program centers on the Pālolo Valley residential neighborhood in the Honolulu metropolitan area with a public elementary school and a middle school. The schools enroll a number of students from families living in the valley’s public housing project who are eligible for school meals at free or reduced pricing and subsidized by the US government. Many are immigrants to Hawai‘i and need supplemental instruction in school as English language learners.

The Pālolo Pipeline Program is a loose partnership of area service clubs, churches, and other local associations with a commitment to supporting Pālolo students in their progress from preschool to college. In addition to UH Mānoa, Kapi'olani Community College, and Chaminade University of Honolulu, a private Marianist institution, are located in close proximity to the Pālolo community and contribute to the Pālolo Pipeline Program.

University students have tutored elementary school students in English as a Second Language, worked with a tenants' association to pilot a preschool/daycare project, and taught a college level course onsite in the Pālolo community. UHM and KCC campuses have their own faculty advisors and service learning websites, but link with the community through the Pālolo Pipeline Program, and give university students opportunities to integrate academic and personal development with hands-on activities that address community needs. Through service learning programs, the academic institution, and the community establish continuing ties toward collaboration in civic responsibility (see Service Learning and Civic Engagement website at: http://servicelearning .socialsciences.hawaii.edu/pipeline.html).

The Curriculum Research & Development Group

As the *Flagship* campus of the University grew it also absorbed previously existing units. One example is the College of Education, which has its roots in the Territorial Normal and Training School originally part of the Territorial Department of Public Instruction, the forerunner of the Hawai'i State Department of Education. The Territorial Normal and Training School, along with its buildings, faculty, and grades K–8 students was transferred to the University in 1931 creating Teachers College, the fourth College of the University of Hawai'i. In 1959 Teachers College was renamed the College of Education (COE) and a reorganization in 1966 established the Hawai'i Curriculum Center (HCC), as a joint venture of the University and the State Department of Education to influence change in curricula, instruction, assessment, and school systems by creating programs and practices that result in improved student learning in grades K–12. HCC became the Curriculum Research & Development Group (CRDG), an organized research unit in the College of Education, in 1969 and continues to this day as the only K–12 curriculum development unit in Hawai'i.

CRDG assembles teams of academic scholars, teachers, design specialists, evaluators, and others to create instructional programs and professional development services that improve learning, teaching, and assessment. CRDG's work is focused on five interrelated fields of educational endeavor, each of which addresses a central issue facing K–12 education:

- Science, Technology, Engineering, and Mathematics (STEM) Education
- Hawai'i, Asia, and the Pacific
- Serving Diverse Learners
- Educational Technology Development
- Designing Educational Systems.

The purpose is to design, develop, evaluate/test, disseminate programs and strategies that assist schools in improving student outcomes. The underlying premise is that for teachers to change how they teach and assess, they need curricula designed for those purposes and professional development to assist in changing practices.

Another unconventional feature is the University Laboratory School (ULS), a K–12 school also with roots in the Territorial Normal and Training School. Since 1966, ULS has served as a real-world laboratory in which CRDG faculty and ULS teachers jointly work to design and deliver the best possible education for its 450 students. The student population is randomly selected from among applicants to represent a broad cross section reflecting distribution in the state's population by gender, academic achievement, family income, and ethnicity, creating a diversity of students within the laboratory setting. All students take a challenging comprehensive curriculum that includes English, mathematics, science, social studies, art, music, performing arts, and foreign languages in non-segregated classes and graduate ready for college, work, and responsible citizenship.

The result of this unusual arrangement of University researchers working within an operational school as the laboratory of study has been the production and dissemination of highly effective, cutting-edge programs in elementary and secondary science, mathematics, English language arts, social studies, Japanese language and culture, and more. The resulting new models for K–12 education have been widely disseminated in Hawai'i, the US Mainland, and other countries (see Curriculum Research & Development Group website at: http:// manoa.hawaii.edu/crdg/about/).

President's Emerging Leaders Program

The University's commitment to serving its own internal community in Hawai'i is illustrated by the University of Hawai'i President's Emerging Leaders Program (PELP). Launched in 2007 under the leadership of the University's 13th president, PELP is a year-long program of professional development and continuing education for potential leaders of higher education in the state, selected from faculty and staff of the University. Emerging leaders are provided opportunities to learn from seasoned University leaders about work in the

academy, the changing environment of higher education locally and nationally, and acquire leadership skills. In addition, by focusing on the University as a statewide public system of postsecondary education, the program aligns the work of the system with the higher education needs of the entire state of Hawai'i while it recognizes the distinctive mission of each of the University's campuses.

PELP affirms one of the goals of the University to recognize and invest in the institution's most valuable asset, its people. From its inception, the program has included Native Hawaiians, women, and other groups underrepresented in UH leadership. The program is open to both faculty and staff from all ten campuses, the UH system office and various centers. To date participants have come from academic and student affairs as well as administrative units, and have included research and instructional faculty, advisors, and budget, legal, information technology, and staff from a multitude of disciplines. The statewide approach creates a network of emerging leaders throughout local campuses and communities as it strengthens the University system institutionally.

The Matsunaga Institute for Peace and Conflict Resolution

The Matsunaga Institute for Peace and Conflict Resolution was established as the University of Hawai'i Institute for Peace in 1986, changing its name to honor a long-serving US senator after his death in 1990 and merging with the University of Hawai'i Program on Conflict Resolution in 1996. Operating out of the Mānoa campus, the program offers degree programs at the undergraduate level and makes contributions to the fields of early identification, research, prevention, mediation, facilitation, training services, and peaceful resolution of conflicts. Such activities take core faculty and a very sizeable number of adjunct faculty into conflict situations throughout the islands and into the Pacific region.

A key portion of the Institute's work is conducted through its practicum program that places students within community organizations both to learn important features of the local context and to extend their training and knowledge to practitioners in such organizations. A representative sample in a recent year included practica in numerous organizations, such as the Mediation Center of the Pacific; the Alzheimer's Association of Hawai'i; the East-West Center; the Legal Aid Society of Hawai'i; the Pacific Justice and Reconciliation Center; the Youth Volunteer Corps of America; the Pacific and Asian Affairs Council; and the Waikiki Aquarium. The Institute also maintains a range of electronic resources that can guide those seeking alternative dispute resolution

to useful contacts (see University of Hawai'i Institute for Peace website at: http://www.peaceinstitute.hawaii.edu/about /history.html).

Thinking of the Future

The University of Hawai‘i system, and the *Flagship* campus in Mānoa, has all the classic features of the *New Flagship* model only partially explored in this chapter. Perhaps most importantly, the *Flagship* campus and the system as a whole, has an academic culture and management capacity to innovate and expand its role in society, shaped by the challenges of operating within the constraints of an archipelago distant from the continental US. It has developed as a community-focused institution and one, which in many respects has inherited increased social responsibilities by the mere fact of its prevalence in a society in which private higher education institutions are few in number and operate with far more limited missions and resources. In this regard, the University displays many features shared by other major public universities: namely, a large and continued dependence on state funding (although this has declined in recent years along with other US state universities), a focused and overall successful engagement in the pursuit of external funding primarily for research, a dedication to regional service *and* international engagement.

Flagship Universities must continue to innovate. For this reason, the University of Hawai‘i system launched a comprehensive strategic planning effort, the “University of Hawai‘i Strategic Directions Plan: 2015-2021.” This effort is in part about the process of shared governance and collaboration with stakeholders and has focused on greater engagement with the universities’ many interested communities (which differ by ethnic identities—noting that Hawai‘i has no single dominant ethnic group, and by island location and particularities). Goals of the plan include tying graduation outcomes to explicit economic needs of the community (for which a new on-line tool has been developed), and bringing into play novel tools for assessing overall and specific community needs. These activities have involved extensive discussions (often contentious) extending over a multi-year period with groups across the many island communities.

The resulting documents, which it must be noted stand in a tradition in which previous strategic planning endeavors have not necessarily been distinguished in terms of their accomplishments, have been framed by a new spirit of optimism inasmuch as they have been accompanied by the creation of detailed metrics to measure accomplishment as well as the provision of the required administrative means to conduct such measures. For the first time in its history, this element of what can be viewed as *Flagship* leadership appears to be conjoined to both an expression of political will within the whole range of

the university from its governing board to its designated implementers at the individual campus level. Should these endeavors succeed, they will place the university on a firm pathway toward engaging its role as a *Flagship* engaging the university across the full range of those activities identified by Douglass as elemental to both the historical *Flagship* entity, but also those in their emergent forms (University of Hawai'i 2015).

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Note

[1] The two essentially BA campuses are the University of Hawai'i at Hilo on the island of Hawai'i and the University of Hawai'i at West O'ahu located in the western region of the island of O'ahu. The seven existing community colleges are: Kapi'olani Community College (KCC), Honolulu Community College (HCC), Leeward Community College (LCC) and Windward Community College (WCC), located on Oahu; UH Maui College with a limited 4-year curriculum, located on Maui; Kaua'i Community College located on Kaua'i; and Hawai'i Community College, located in Hilo. A new campus, Palamanui, a branch of Hawai'i Community College on the Kona Coast of the island of Hawai'i, opened its doors to students in fall 2015.

Chapter 12
Epilogue: A Summary Reflection on the *New Flagship University*

Charles Morrison (East-West Center)

The chapters in this volume provide a fascinating picture of the experimentation in and dynamism of the world of higher education in the Asia-Pacific region. This dynamism is driven both by customer demand and by national policy direction. Perhaps in no other region today is education more prized for individual betterment, resulting in a "massification" of Asian universities as well as huge outflows of Asian students to take advantage of educational opportunities in North America, Europe, and Oceania. Asian governments have also recognized the critical importance of education in the economic growth process. Higher education institutions (HEI) contribute to all factors of production, but especially to the quality of human resources, productivity, innovation, and entrepreneurship. As Asian countries move beyond the phases of demographic dividends and "catch up" development, human resources, and innovation become even more essential to continuing economic momentum and avoiding the "middle income trap." Moreover, the lessons of earlier development in the West affirm the essential developmental role of HEIs.

In this context, Asian governments have become preoccupied over the past quarter century with improving the quality of domestic HEIs as part and parcel of their economic catch-up processes. As new or emerging advanced countries, they believe they must have premier or "world class" universities (WCUs), following the examples of the United States or United Kingdom. Aside from the economic imperatives, there is a prestige factor as well as a strong incentive to keep highly talented students at home. Moreover, as changing demographics are beginning to cause declining enrollments, there is also a desire across Asia to increasingly appeal to international students to support existing institutions.

Lacking a clear definition of what being a "world class university" actually entails and facing inflated self-definitions, the relatively new methodologies for ranking universities on a global basis have provided an approximation of current WCU status and progress of Asian HEIs. In most cases at the end of 20th century, they ranked far below western counterparts. Governmental authorities and the elite Asian institutions themselves have been engaged in a

race to catch up. As these papers demonstrate, huge amounts of money have been poured into higher education in Japan, South Korea, Singapore, and China—and now even India—to create world class universities that would be visible in the rankings.

John Douglass is at the forefront in positing the *New Flagship University* (NFU) as an alternative aspirational model, not necessarily in competition with the WCU, but as a complementary strategic approach to strengthening a country's entire higher educational system through strategic investments in the key institutions. It is his conceptual framework that forms the bases of analysis for this volume. The inspiration for the NFU comes from the systems adopted by many United States, some more consciously than others. Only one of these (Hawai'i) is described in detail in this volume (Neubauer, Taira, and Young). But Douglass uses the term "new" because the American *Flagship* model obviously would have to be adapted to local conditions and because there have been drastic changes affecting higher education in the United States since the origins of the model. Douglass is not offering his profile of a NFU so much as policy prescription than as an ideal-type to be adapted to meet local conditions and politics, including current WCU commitments.

To the non-specialist, "world-class," "flagship," or, for that matter, "elite" institutions may sound like distinctions without differences. Indeed, as frequently noted here, many WCUs have *Flagship* characteristics, for example, the case of Zhejiang University (Zhang and Weng) or the National University of Singapore (Penprase) and the best American "flagships" in the bigger, wealthier states (e.g., California, Texas, Pennsylvania, Michigan) are highly-ranked WCUs. Some ministries, particularly Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT), appear to be to some extent simultaneously following both models, providing the largest subsidies to elite WCUs that it hopes will rise in the international rankings, but also rewarding institutions that would be regional *Flagships* (Watanabe and Sato offer the interesting case of Shinshu University).

Numerous issues have been cited in these papers with the dominant WCU model. First, in contrast to the NFU model, the WCU, in application at least, focuses on the individual institutional ranking and generally ignores broader community stewardship and socio-economic impacts. This latter is an explicit feature of the *New Flagship* model. The "flagship," in its classical naval sense, is the vessel, usually the most capable, that is used by the commanding admiral to guide and give strategic direction to the entire fleet. In other words, the attention is not limited just to the individual institution, but applied also to its capstone roles and responsibilities in a system of institutions.

A second issue lies in the conflation of the WCU model with the measurement of WCU status in the contemporary international rankings. As

pointed out by several authors, especially Douglass and Ericson, the rankings tend to focus on past reputation or on quantitative metrics that can be measured across institutions on a global basis. Both favor established institutions, Anglo-Saxon cultural characteristics, and English language publications in STEM fields. As Douglass notes, since institutions are basically ranked in bell curve fashion, most institutions ranked low or not at all would find it unrealistic to rise significantly or even be shown in the world rankings. Ericson argues that the rankings fail to provide a true measure of educational quality as well as community service, and even in the case of research, the focus on funding may undermine the broader public goods benefits of academic inquiry. Even if the ranking may serve as important benchmarks, however unattainable, they tilt a country's universities toward the measurable indicators to the exclusion of others that may be less quantifiable but essential in meeting the most urgent human resource needs of a country or region.

A third problem is the distributional effect that the focus on WCU is having for national HEI systems, tending to accentuate resource disparities between the selected elite institutions designated for WCU status and the rest. As ministries of education have sought to promote at least some globally competitive institutions, they have naturally directed their resources to those most likely to succeed. This is the case in virtually all the Asian countries reviewed here. Mok and Han note the growing disparity between HEIs in the eastern part of China as compared its inland western reaches. Even the WCU-designated "University A" in the Northeast finds itself geographically disadvantaged, and unlike Zhejiang University, with virtually no funding from the provincial government.

In Korea, explain Kim and Yoem, the WCU focus has accentuated a natural tendency of parents and students toward the institutions in the capital city area, where half the country's population and most corporate headquarters and job opportunities are. While programs such as BK21 and World Class University have helped develop a stronger research culture, it has also tended to homogenize the educational system toward the outcomes favored by global rankings and away from original and geographically focused missions of the provincial universities. The NFU model, in contrast, like a fleet, assumes differentiated and specialized missions by individual units. But because a research-intensive *Flagship* will be more expensive than teaching oriented community colleges in the same system, institutional inequities are not erased in the NFU model; the ideal is that the resources lavished on the *Flagship* support the entire system and its social eco-system.

Douglass makes a very powerful case for the *New Flagship* Model, especially in its attention to distinctive HEI missions set in the context of

national or regional educational needs. He and other authors point out that one can argue that existing WCU institutions frequently already incorporate many characteristics of a NFU. However, this does not mean that the NFU model as such is being applied in higher education strategies in the region. Traditions and much contemporary practice present a contrary picture.

Traditions, explored most thoroughly by Hawkins, do not provide much encouragement. He and others note that there were traditional national elite institutes, such as the Universities of Tokyo, Peking University, Seoul National University, and Delhi University, created to provide the human resources required in their countries or colonies for the elite public service, but without the broad educational and economic mandates of what Douglass calls the *Traditional Flagships* in the United States. According to Hawkins, even as the systems expanded, the traditional institutions seemed "stuck in time," instead of being integrally related to the rest of the public university system. Now as national *Flagships* or champions in a globalized world, they are individually caught up in the race for WCU prizes, but have not necessarily established deep linkages with other public institutions in their own countries.

Contemporary practice still involves a high degree of central regulation compared to the autonomy and freedom implicit in the NFU model. Throughout Northeast Asia, the public university systems, despite some increased autonomy and even corporatization (often driven by a desire to reduce dependence on the public treasuries), remain heavily subsidized and regulated by national authorities. This is fundamentally different from the American model where Federal authority is almost non-existent and the public university systems were created and initially largely funded by the states. State-selected boards drawn from prominent members of the community also dominated their governance. The obligation of these public universities, therefore, was focused on developing the human resources needed at the state level and carrying out state-level mandates. Of the Asian countries covered in this volume, only in India is there is a federal system somewhat comparable to the American one, and a large category of state-developed universities. But unlike the United States, India also has premier national universities beholden to Delhi.

Douglass describes as a characteristic of the NFU model an academic culture focused on internal expectation, policies, and practices that along with superior management capacity, truly marks the best, more productive universities of the world. As many have noted, this is a significant challenge in Asia where there is a strong tendency toward waiting for ministerial direction rather than focusing on internal academic culture. This may reflect the traditional civil service orientation of the elite universities or the short tenures and lack of autonomous authority by presidents and senior management.

As noted by almost all the authors, the WCU model dominates in Asia. This may well be associated with status aspirations to build domestic institutions fully comparable to the Western ones, as well as more practical considerations, such as the Japanese and Korean incentives to encourage a larger share of the smaller and smaller cohorts of local students to stay home and attract foreign students. There is increasing awareness, however, of the weaknesses of the WCU model (Douglass), or at least in using current international rankings to measure WCU status.

The overall national goals may evolve, as it apparently has in the Japanese case, toward recognition of local or regional *Flagships* while still privileging the WCU model. This could involve a redefinition by national authorities of what "world class" actually means, using a broader, more qualitative, more service oriented definitions than those now prevailing. Or the ranking systems themselves may evolve to compensate for current cultural and specialty biases and to take better account of local and regional service or even systems as a whole, as Douglass notes in the case of Universitas21. In theory, there is no need that "world class" refers only to research-intensive institutions or exclude community development roles.

Erikson suggests that there may be a "cresting" of globalization, or at least of its contemporary phase. The inequities associated with it have resulted in a political backlash in North America and Europe. In Asia, there is less opposition toward globalization as a concept as it has been associated with a time of high economic growth with relatively broad based benefits. Still some have gained proportionately much more than others, and the inequities continue to grow (Mok and Han). As a result, virtually all the nations of the region have signed on, in rhetoric at least, to concepts of balanced and inclusive economic growth.

The emphasis on inclusiveness could lead to a new emphasis on the "flagship" characteristics of the elite institutions, that is, their broader socio-economic role, although not necessarily using this term. Throughout these chapters, we have seen that the elite institutions, while prospering under the World Class label, are also emphasizing their service to partner or feeder schools. Those cited in these changes include Zhejiang University in China, Hiroshima University and Shinshi University in Japan, Delhi University, National University of Singapore, and minority-oriented Thai Nguyen University in Vietnam, and there are many, many others. The question is how focused and strategic these efforts are as opposed to individual initiatives. Funding is the key variable. Zhejiang's regional role, for example, is boosted by the fact that Zhejiang province provides about 50 percent of the budget (Ericson).

If there are problems with the WCU model, it can also be said that the *Traditional Flagship* model is under stress in the country of its origin. The American states that inspired the NFU model have been struggling for some

time to maintain the funding base of those more selective, graduate education focused, research-intensive institutions that became known as the *Flagships* in the face of criticisms of elitism and high costs. Over time, the stakeholder support base for the public universities has eroded, and even the concept of higher education and advanced research as public goods has lost ground to market-priced commodity approaches. State government support, once providing the majority of funding for most research public universities, is now typically less than 20 percent. Rising tuition costs have eroded the competitiveness of the public vis-à-vis comparable private universities and the access of students with lesser means to quality education. Less populous states are under increasing pressure to rationalize and pare back higher education systems that were built and expanded at a time of rapidly rising enrollments.

As Douglass and Hawkins note at the outset of this volume, national higher education systems in Asia are "rapidly changing" and alive with possibilities. In the longer term, Asian HEIs may migrate toward a model or models of their own. Two important factors will influence their future—technological change and the rise of Asia. Research and education will be transformed by such forces as more human-like artificial intelligence and interactive virtual means of providing education. Predictions that brick and mortar universities may no longer be needed began decades ago when radio and television were the potential disruptors and were most recently hyped by the spread of Mass Open On-line Courses (MOOCs).

In the past, such predictions have fizzled as new technologies more have been integrated into and supplemented traditional educational practices rather than disrupted them. For the near term, one should not expect the end of bricks and mortar universities, but as technologies more nearly replicate or effectively transmit human skills, it will be increasingly possible to efficiently deliver more education opportunities over great distances even in multiple languages and perhaps with some sensitivity to distinctive indigenous cultural environments, as in the case of other industries. This will place a premium on institutional networks, so that educational "alliances" of the future perhaps may look akin to contemporary airline alliances with individual identities within a common logo and set of educational and research standards. Such alliances will be multinational and multicultural in character and should permit greater specialization, toward locality as well as discipline, rather than pursue the comprehensiveness sought by both by WCU and NFU models. The NUS-Yale model (Penprase) may be a prototype of such an alliance, not being a branch campus, like INSEAD in Singapore, but a joint venture of two WCUs. Despite having had a difficult birth and early controversy, it appears to have overcome much of the initial resistance and added value, and it will probably evolve in ways that make it seem like a natural and valued part of both institutions.

While dynamic technologies provide one set of influences operating on the HEIs of the future, cultural traditions and culturally based practices are another. Asian education ministry fascination with the WCU model represents a continuation of a long practice of adopting models developed in the west. It is telling that one of the major rankings is a Chinese one, and that this one has had significant influence in shifting the focus toward quantifiable measures (including peer reviewed articles in English). The NFU model is more in line with the Asian university tradition of public service (Hawkins) and is a more flexible, open framework "that others might expand on and indigenize" (Douglass). In endorsing it for this reason, Gandhi notes, however, there remains a strong bias toward imitation. Despite the development of a national Indian ranking system, neither India, nor Asia in general, has yet developed its own model. A relative latecomer in the WCU game, India proposes to create 20 WCU institutions, but public expectations may demand "an education that benefits students as well as staff, and ultimately the country's overall economic well-being" (Ghandi).

Nonetheless, it is almost inevitable that Asia will exercise its distinctive mark on the future of HEIs as did the United States during the period of its own rise. The base of wealth, population (more than the rest of the world combined), massification, the number of institutions increasing in quality, the massive public and private investments in HEI, and the enormous pressure to deliver higher quality outcomes are likely drivers of a more truly hybrid model owing much more to Asian traditions or innovations. Bureaucracies in ministries and the academy are generally very conservative, but these essays also demonstrate a degree of change that may gather momentum. The sources of change could come from the political leadership above, or from the increasingly autonomous and empowered private HEIs in many Asian countries, or from demands and experimentation from below. Hopefully the essays in this and future volumes will monitor and prepare the world for an era of networked, "fusion" HEIs with significant quality features of an Asian version of the *New Flagship University*.

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This book explores the history of leading national universities in Asia and contemplates their capacity for innovation by focusing on the *New Flagship University* model. This model, presented more fully in *The Flagship University Model Changing the Paradigm from Global Ranking to National Relevancy* (2016), envisions the university as an institution that not only meets the standards of excellence focused on research productivity and rankings, but one that is creatively responsive to the larger social needs of their specific national or regional environment and people. Chapters discuss the mission, policies, and practices of the holistic and aspirational *New Flagship University* model and explore the contemporary academic cultures and innovations of leading national universities in China, Singapore, South Korea, Japan, India, and elsewhere. Each is pursing aspects of the Flagship model on their own terms. Academic leaders and ministries in Asia are beginning to understand that the bell-curve approach of rankings and the myopic notion of a "World Class University" no longer provides an adequate strategy to guide policy, funding, and practice. This book furthers discussions within universities about their larger purpose and the internal academic culture that will bolster their drive to become among the best and most influential universities in the world.

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