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The Emergence of a Field: Research and Training in Higher Education

Philip G. Altbach

While advanced study has been a central element of most civilizations, the university model universally used today emerged in Europe in the 11th century, with the establishment of universities in Bologna and Paris and then in other parts of Europe (Rashdall 1895; Haskins 1923). Academic institutions existed in much of the world prior to that time, including Confucian academies in China, Nalanda University in India, Islamic madrassas, and others. However, the modern university is a European invention, and it came to dominate the globe. Indeed, all contemporary universities stem from the European model. Philosophers, from Confucius to Aristotle and beyond, have thought about knowledge transmission and education. But few have thought systematically about higher education; and no institutions devoted to the study of higher education or educating those who are responsible for university leadership or management emerged until the 20th century. Statistics and analysis concerning higher education was largely absent until the middle of the 20th century.

It was assumed that universities—generally small institutions that served an elite, with a tiny proportion of the age group studying—could be managed by senior academics, generally elected by their peers for limited terms as rectors. Budgets were modest and organizational structures simple.

Postsecondary education is now a major enterprise worldwide. Massification has dramatically increased global enrollments; there are more than 170 million students enrolled in 2013, with expansion continuing worldwide. This growth has transformed higher education institutions and systems, and there are now more than 18,000 universities worldwide. At the same time, the emergence of a global knowledge economy has placed more emphasis on the research universities at the top of the academic hierarchy. Internationalization, in the form of flows of students across borders, increased mobility of academics, and branch campuses have broadened the scope of higher education.

Higher education, for centuries a small and elite sector in most societies and of concern only to a few, is now a major societal institution that plays a key role in economic and social development. Perhaps most important, higher education plays a major role in social mobility for growing populations, which now care about university access and other issues. Higher education requires significant expenditure to support mass access on the one hand and research capacity on the other.

The field of higher education emerged slowly, as postsecondary expanded starting in most of the world in the mid-20th century. It became clear that knowledge about the academic enterprise was needed, and that leaders and administrators of institutions and systems required expertise about the expanding size and scope of the higher education enterprise.

Higher Education's Needs in Terms of Data, Analysis, and Training

Universities were traditionally managed by senior professors. Typically, a rector or vice chancellor was selected by the senior academic staff from among their ranks, sometimes with the approval of government or clerical authorities, to serve for a short term and then returned to teaching duties. There were few if any administrative staff. These arrangements worked well enough in small institutions that had established roles and required little management. Massification and expanded responsibilities have changed all of this.

Many postsecondary institutions and systems are now large and complex organizations—requiring skilled management, innovative leadership, and effective frameworks for decision making. Some compare the contemporary university to a large business enterprise, but that is misleading. While universities are complex organizations and share many traits with large businesses, they are also communities of scholars and researchers with a long tradition of shared governance and self-management. Also, they are quintessential public good institutions—educating, producing knowledge for society, and in many instances serving as major cultural resources.

Universities are not only knowledge producers and educational enterprises, they are also knowledge consumers. They require sophisticated data to ensure effective decision making and management. Academic institutions need information concerning students, faculty and staff, financial projections, and many other kinds of data. This information is often referred to as

institutional research, and many universities have offices devoted to the collection and analysis of key data. Higher education systems and governments also need sophisticated data and analysis to ensure that effective policy is devised and implemented. Quality-assurance agencies, within academic institutions as well as serving systems and countries, also require careful research and data. In sum, contemporary higher education institutions and systems have become significant users of data about the entire higher education enterprise.

Universities and academic systems also need professional expertise. Specialist knowledge concerning academic administration, student services, research management, facilities management, financial affairs, legal issues, and many others are all required by the modern university. Traditionally, university management was left to academics with no expertise or experience who were temporarily elected or appointed to managerial positions. While academic leadership should remain in the hands of academics—day-to-day management of academic institutions and systems requires professional expertise (Goodall 2009).

There are at least two levels of academic leadership and management that require a sophisticated understanding of the academic enterprise and systems. Senior university leaders, typically chosen from among the senior academic ranks, require knowledge of institutional management and leadership to work effectively in today's large and complex institutions. A cadre of middle

management has evolved in most countries—professionals who manage financial affairs, student services, information technology, fund raising, and a broad range of other tasks. These administrators require professional training in their specializations and, like senior leaders, need to know about the special characteristics of universities in modern society.

Higher education systems and institutions require policies to ensure that they are managed effectively and that they serve the needs of society. In an unprecedented way, higher education policy has become an area of broad societal and political interest—and debate and controversy, as well. Issues such as access, public support, levels of tuition charges, the role of the private sector, and many other themes are topics of sharp debate. Institutions themselves, as they have become larger and more diverse, also debate policies regarding financing, orientation toward research, and many other issues. The internal governance and management of academic institutions often require intense policy debate.

All of these factors, and others as well, have contributed to the emergence of higher education as the subject of study, an arena for the training of leaders and managers, a vehicle for policy analysis, and a source for debate and analysis in many countries. This discussion focuses on the central elements of the emergence of a field.

The Emergence of an Academic Field

To meet these and other needs, the field of higher education administration has emerged in the past half century. While higher education is not an academic discipline—the study of universities is an interdisciplinary endeavor based on the social sciences—it has emerged in a growing number of countries as a recognizable field of study, developing the standard accouterments of any academic field. These include journals, publishers that focus on higher education, Web sites, national and international conferences, research centers and organizations, and others. While the development of the field is quite uneven globally, it now exists on all continents and in many countries.

Like other fields, there are centers and peripheries in the higher education knowledge network. Unsurprisingly, the main centers in terms of knowledge production and research are in the major English-speaking developed countries, with significant strength in western Europe and in China (Kehm and Musselin 2013). China is an interesting example, because at least 400 Chinese universities have included the study of higher education beginning in the 1960s, with major academic programs or research centers at 30 or more. According to a recent global survey of higher education centers and programs, at least 29 countries have a total of approximately 275 academic programs with some focus on higher education—with a serious undercounting of some less important Chinese programs—a dramatic increase in the past several decades (Rumbley, Altbach, Stanfield, Shimmi, de Gayardon, and Chan, 2014).

Researchers have traditionally been reluctant to study the institution in which they work. Social scientists preferred to focus their scholarly attention elsewhere, especially on subjects that might yield more useful theories. Most people interested in pedagogy and education focused on primary and secondary schools and not on higher education. As a result, postsecondary education was ignored by researchers in the field of education as well as by social scientists. Despite only limited interest from academic social scientists in higher education, the field emerged mostly in universities. Psychologist G. Stanley Hall is said to have taught the first academic course on higher education, at Clark University in Massachusetts, in 1893 (Goodchild 1996, and 2014). Visionary academic leaders, from Wilhelm von Humboldt to Robert M. Hutchins, have articulated their views on the development of the university. A few social scientists, perhaps most notably Max Weber, analyzed higher education. In the second half of the 20th century, when higher education became a topic of significance, social scientists—such as Burton Clark, Martin Trow, Clark Kerr, and S. M. Lipset in the United States, and A. H. Halsey and others in the United Kingdom, Michio Nagai and Ikuo Amano in Japan—all did pioneering research on higher education. Within the more traditional education faculties, academic programs in higher education spawned research as well—much of it in applied areas such as student development, teaching and learning, higher education administration and personnel management, and others.

The emergence of organizations of higher education researchers and professionals is another key indicator of the expansion and maturity of the field. The Association for the Study of Higher Education in the United States, the main organization of researchers and professors of higher education, sponsors a respected journal and other publications. The Consortium of Higher Education Researchers in Europe has a similar function (Teichler 2013; Kehm and Musselin 2013). Other similar groups exist in China, Japan, and several other countries.

Academic Degree Programs

There are more than 450 academic degrees offered in the field of higher education globally. Approximately half of them are located in the United States, where the academic administration was professionalized first. The study of higher education has been traditionally located in schools of education, where it is often considered peripheral to the main missions of these schools. Further higher education is a multidisciplinary field and, perhaps as a result, does not have a clear base in any of the academic disciplines. While interdisciplinarity is much praised, it often means that such a field has no real academic home. In addition, schools and faculties of education are seen in many universities as less prestigious than departments in the social sciences or other fields, thus further marginalizing higher education as a field of academic research. Despite these challenges, higher education has emerged as a field of research and professional training in universities around the world.

In the 21st century, academic programs in higher education have to some extent expanded beyond faculties of education. Several institutions in the United Kingdom and Australia have begun to offer higher education concentrations in schools of management. Interdisciplinary programs have been emerging as well, combining education faculties with management schools and some social science departments. In at least one case, for a period of time, the Erasmus Mundus degree program—funded by the European Union and managed by several European universities—is at least one multinational higher education program.

There are many different kinds of degree programs offered. Traditional full-time master's degree programs are common in many countries. Typically requiring one or two years of coursework, some of these programs may have a thesis or long research paper component, while others are based on examinations. Some programs are designed for new entrants to the field, while others cater for professionals who want to upgrade their skills and earn a degree that will assist in their careers. Part-time programs are increasingly popular for those already employed in higher education institutions. Degree study that is fully or partly offered through distance education or blended study is available in about a quarter of master's programs offered worldwide (Rumbley, et al. 2014).

Doctoral programs also vary considerably. American programs typically require coursework plus a research-based or professional dissertation, resulting in either a PhD or Ed.D degree (Freeman, et al. 2014). European doctorates are

often research-based and require few if any courses. Online or programs that combine some in-class with distance instruction have emerged in doctoral programs as well. Some programs at both the doctoral and master's degree level are cohort based.

Higher education programs typically offer a general introduction to the nature and sometimes the history of universities, because it is understood that academic institutions are unique institutions and their management and leadership requires special knowledge of their history, tradition, financing, and patterns of governance. The "customers" (students) also require understanding, precisely because they are more than customers. They are learners, and their participation in the academic enterprise is more than "transactional." As higher education has expanded and serves a larger and more diverse student body, more careful understanding of the student population is crucial.

There is a trend to provide a more specialized curriculum in higher education, reflecting the specific positions that administrators typically take. Thus, a general introduction to the academic enterprise considers specialized areas such as financial management, student services, institutional research, and others.

The academic field of higher education has for the most part emerged from the need to provide training for higher education professionals. The research function of all but a few of the most prestigious programs is less central than the training programs. Most programs offer master's degrees. A smaller

number provide doctorates, and some also offer specialist certification in a variety of specialized fields. These academic programs produce many thousands of graduates. . The majority of these graduates go into university administration. A smaller number of graduates, mostly at the doctoral level and from the more prestigious universities, join the ranks of faculty members in higher education departments and programs or in some countries become senior university administrators or work in universities as policy or planning officers. Some take positions in government agencies and work on higher education planning and policy.

Higher education programs are still limited in scope in all but a few countries and do not yet exist in much of the world. Of the 275 located in a new inventory, two-thirds are in the United States, with the second largest number in China—perhaps 100 or more programs although the inventory only looked at the top programs. The United Kingdom has 13 programs and continental Europe 8. While Japan has 6 programs, the rest of Asia, not including China, has fewer than 10. Africa has 7—4 of them in South Africa, and Latin America has 3. Thus, the professionalization of higher education management globally, at least as measured by the existence of degree-based academic programs, remains in its infancy.

Non-degree Leadership Programs

Providing some knowledge of higher education leadership and of the role of universities to those appointed or elected to postsecondary leadership positions has been recognized as a key need. Most top academic leaders, especially presidents, vice chancellors, and rectors, after all, are chosen for their jobs from the ranks of senior professors, many of whom have little knowledge of the role or management of universities. In several countries, agencies have been established to provide seminars and courses for higher education leaders. For example, the National Academy of Educational Administration of China is a large government-sponsored agency that provides courses and seminars of various lengths and foci to senior higher education officials. Programs range from short seminars to year-long courses. In Russia, the Skolkovo Institute of Management in Moscow offers a year-long part-time program for university rectors and senior managers on higher education leadership, while the Ministry of Higher Education in Saudi Arabia provides training for rectors of Saudi universities. The Institutional Management in Higher Education program of the Organization for Economic Cooperation and Development provides conferences and guidelines for higher education leaders. The American Council on Education, an organization of American universities, offers seminar programs for senior higher education managers. Many universities offer seminars for academic leaders—a well-known example is the Harvard seminar for university presidents. There are other similar programs in many countries. In a few cases, leadership programs are provided on a regional basis. For example, the University of Hong Kong has

organized for several years a program for academic leaders from Southeast Asia, with funding in part from the Asian Development Bank.

There is general agreement that leaders of postsecondary institutions, in general drawn from the ranks of the academic profession, require knowledge of academic administration, the role of universities and other postsecondary institutions, and the fundamentals of leadership. Academic leaders who are elected to their posts often have no experience with administration or leadership, and they are most in need of in-service training. But, even those who have served in other leadership positions often require additional background and training, in order to do the best job possible. Without doubt, the vast majority of academic leaders have had no training for their jobs. The provision of training and educational programs for higher education leaders is in its infancy, but at the same time is of great importance.

Research Centers and the Research Community

Research on higher education takes place in a large variety of settings (Zgaga 2013). As noted, most university-based higher education programs conduct some research, but their main focus is teaching and the credentialing of higher education professionals. The top American programs emphasize research and are often able to obtain funds from foundations and other organizations to support large-scale research (Sadlak 1981; Teichler and Sadlak 2000). Similarly, well-know European programs, such as university-based Center for Higher

Education Policy Studies in the Netherlands and the International Center for Higher Education Research in Germany obtain funding from European and national agencies for applied research. The Hiroshima University-based Research Institute for Higher Education and several centers in Chinese universities also combine well-regarded research with small-scale training programs and are funded by governmental sources.

A range of research organizations focus on higher education. The scope, size, sponsorship, and orientation of these groups make it difficult to generalize about them. Many are located within government agencies, most often in ministries or departments focused on higher education. They are responsible for collecting statistics and other information and often conducting policy-based research. Some can be quite large and influential in shaping policy. There is no data concerning the size or scope of higher education research capacity within government agencies, but there is no doubt that this sector has expanded significantly in recent years.

Independent research establishments are quite varied in scope, size, focus, and financing. Some are mainly consulting firms that undertake research and advising for higher education institutions, government agencies, or companies on higher education issues. Some undertake policy or other research for those who sponsor the research, engaging in "contract research" on a range of topics. Some are specialized research organizations that may work on specific themes, such as financial issues. Research subjects may range from specialized research

for universities, government departments, or other groups to broad policy questions that may relate to national debates, legislation, or broader initiatives affecting the academic community generally. It is quite difficult to generalize about the many independent research organizations.

Some countries, such as the United States or several European nations, have many higher education research organizations that are especially clustered in the capital. Others have very few such organizations. In China, for example, while there is much higher education taking place, but few independent organizations—research takes place in government agencies and in universities. Many countries simply have little research about higher education. Even large and complex academic systems—such as India, Russia, Brazil, and others—have little research capacity.

Many organizations concerned with higher education conduct research, and some have research offices to perform this task (Bassett and Maldonado-Maldonado 2009). Other groups "subcontract" research to others. In most countries, organizations representing the university community are concerned with research to assist their work. For example, in the United States, large organizations such as the American Council on Education (ACE), which represents the university community to the government, has research capacity to collect information and shape policy and other recommendations. Smaller American organizations—such as the Council of Graduate Schools, the Association of Catholic Universities, or groups representing law or engineering

schools—sponsor research in their specific areas. In Britain, UniversitiesUK has a similar function as the ACE. Many countries have organizations that speak for the higher education sector, and these often have research offices to assist them in their work.

The inventory includes a total of 217 organizations in 48 countries conducting research on post-secondary education (Rumbley, et al. 2014). Research centers in the United States (50), China (44), and the United Kingdom (18) account for over half. The number of researchers employed by each organization varies considerably. The total number of researchers across the globe is impossible to estimate since many conduct research independent of a center. However, the number is substantial. If one adds up the membership of the several higher education research associations in such key regions as North America, western Europe, and China, there are at least 6,000 higher education researchers worldwide—no doubt an underestimate of the total. For example, some estimates are that there are 3,000 higher education researchers in China. If the number of researchers involved in institutional research, most of whom are based in the administrations of universities, the number doubles. Thus, a total conservative estimate of professionals who are involved in research on higher education is probably more than 12,000.

Scholarly and Professional Organizations

The field of higher education has also built up, over a half-century—a nexus of associations devoted to many aspects of postsecondary education. These organizations are essential for the field, as they create a community of researchers and practitioners, are hubs of communication, and often sponsor journals, books, research, and other reports. Most hold periodic conferences that bring together their members and often others, with related interests.

Most countries with a significant research and practitioner community in higher education have at least one organization focused on the field of higher education. One of the largest, reflecting the size of the research community, is the Association for the Study of Higher Education (ASHE) in the United States. ASHE sponsors a respected journal in the field, a book series, and holds an annual conference drawing several thousand participants. Similar organizations exist worldwide—in China, the United Kingdom, Canada, Japan, and others. Major organizations representing university leaders also hold conferences and reflect the interests and concerns of presidents and other senior administrators.

A large number of specialized organizations reflect specific interests. In the United States, which has a large, complex, and well-organized postsecondary sector, organizations reflect the interests of planners and architects, housing staff, student affairs professionals (two national organizations), international education administrators (two national organizations), Catholic colleges and universities, accrediting associations, university lawyers, and many others. No

other country has quite the number or specialism of the United States, but many have rapidly developing professional organizations.

The Funding of Higher Education Research and Policy Analysis

Although the field of higher education has expanded impressively in recent years, the funding for many of its programs is tenuous and multifaceted. Most degree programs are funded by the universities that sponsor them and often by tuition fees paid by the students. In some cases, training programs are funded by sponsoring universities or governmental agencies or, occasionally, by the individuals participating in them. There are a small number of organizations that maintain capacity for training, with funding coming from a range of sources, but predominantly from governments.

Funding for research is even more varied and often tenuous. Institutional research, which, as noted, is the largest element of higher education research even though seldom available to a broader audience, is almost exclusively funded by the sponsoring university. A small number of research centers, such as the Research Institute for Higher Education at Hiroshima University, receive continuing government funding. Some research centers receive core funding from their sponsoring universities—examples include the International Center for Higher Education Research at the University of Kassel in Germany and the Center for International Higher Education at Boston College in the US. Some

university-based research centers depend on external funding for research, and thus are guided by the interests of external funding agencies.

Higher education research and data collection is often funded by governments—sometimes conducted directly by government departments but also done on the basis of contracts awarded to external agencies.

In a small number of mainly industrialized countries, research and other higher education activities are supported by philanthropic foundations and other organizations. Foundations may be interested in supporting university development or particular academic programs or initiatives. Some organizations with a particular policy or other agenda may support higher education research that assists that agenda—for example, the conservative American Enterprise Institute in the United States occasionally provides funds for work on initiatives that it supports.

Research and development on higher education is perennially short of funding. In much of the world, there is no funding at all for research in this field: with the result that there is almost no data, analysis, or knowledge about postsecondary education. Even in countries where there is some funding for higher education research, the amounts are seldom adequate or sustained.

Institutional Research

Although seldom considered part of the higher education research, institutional research constitutes a large and important sector in the field of higher education.

Institutional research may be defined as the research and data collection that is conducted by individual academic institutions to aid in management, planning, and improvement of that institution. While there are no statistics concerning how many of the world's 18,000 universities engage in institutional research or have specific offices or departments devoted to this task, it might be estimated that perhaps half participate: thus close to 10,000 are involved in institutional research. The number of universities and individuals engaged is growing rapidly as the need for data and analysis for larger and complex academic institutions is required.

Universities that conduct institutional research typically have an office with dedicated staff responsible for this task. In large and sophisticated universities, these departments or offices may be large and responsible for a range of data collection and analysis. Institutional research contributes to budgetary management and planning, student services, admissions, curricula development, and many other functions. In many public universities, governments and system managers require data on individual academic institutions for system-wide planning or to assess government policies or programs. Thus, there is an increasing need for institutional research analysis for external purposes.

Globalization and Internationalization

As higher education has become internationally engaged in a globalized world, the field has also moved in a more international direction (Altbach 2004; de Wit, 2002). The internationalization phenomenon includes ever-increasing numbers of mobile students—close to 4 million—as well as branch campuses, franchised academic programs, international massive open online courses (MOOCs), and many others. Universities increasingly look outside their borders for innovations, management ideas, and academic staff; and they often compete with institutions in other countries. These factors, among others, have internationalized the field of higher education. Research insights from other countries are often taken into account in formulating research agendas and considering policy directions. International journals have been established, and conferences increasingly include participants from many countries. Web sites, blogs, and elements of social media are international as well.

For the most part, the knowledge produced and communicated by the English-medium research community in the main knowledge centers dominates the global higher education dialogue, although there is some scope for inputs from around the world. The advent of an international perspective in a significant part of the field of higher education is a recent and quite significant development for the field.

International Research and Organizations

Despite both globalization and the massification of higher education in the past half century, it is surprising that there is only a modest international participation in higher education research and policy (Altbach 2014). However, several international organizations have played a role in higher education research and policy over time. These include the World Bank, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), and the Organization for Economic Cooperation and Development (OECD), although both have recently cut back on their higher education focus. All have sponsored some international research and have collected statistics. The UNESCO Institute of Statistics is the only source of international statistical information on higher education. The World Bank has sponsored several influential reports on higher education, including one cosponsored with UNESCO (Task Force on Higher Education and Society 2000; World Bank 2002). These organizations also publish books and other documents.

Several other organizations also participate in international higher education initiatives. The Global University Network for Innovation, based in Spain, has sponsored conferences on global issues (Global University Network for Innovation 2007). Groups such as the International Association of Universities (IAU) have also sponsored research. The IAU, for example, sponsored an annual survey on higher education internationalization and publishes a book relating to that research project. It also publishes a journal.

Regional entities such as the European Union provide funding for higher education research. Regional organizations such as the European Universities Association, the Academic Cooperation Association, the European Association for International Education, and others sponsor research and issue publications relating to their research and other activities.

Quality Assurance and Accreditation

A relatively new area of research relates to quality assurance and accreditation of academic institutions. Many countries require accreditation of academic institutions, and a growing number are assessing the quality of academic institutions and programs—and some require both. Universities and/or academic programs may be accredited by external agencies—either government or nongovernmental—and in all cases accrediting procedures require the collection and analysis of data. Most countries require some kind of accreditation of postsecondary education, although procedures, purposes, orientations, and agencies differ substantially. In many places, institutions must be accredited in order to function, offer degrees, or qualify for governmental funding, access to loan programs, or other resources. Quality assurance is a more recent development and is in some countries related to accreditation or occasionally provides the equivalent of accreditation. Quality assurance may be more limited in scope than accreditation and typically tries to evaluate an institution or

program for the quality it offers, sometimes providing a basic stamp of acceptable quality or in some cases providing "grades."

These agencies require professional staff skilled in evaluation, measurement, and related fields in order to appropriately plan, administer, and evaluate accreditation and quality assurance. The organizations require staff, as do the academic institutions and programs, who produce data, develop documentation, and in other ways assist in the process. Other than a small number of seminars provided by accrediting and quality-assurance organizations, there are no training programs in these fields.

English as the Dominant Language of Research and Communication

International research and discussion of higher education, as is the case for all scientific fields in the 21st century, take place largely in English, although national and regional communication is generally in national and regional languages (Altbach 2007). Larger academic systems—such as China, Russia, Japan, Germany, and some others—have well-developed communications networks in their own languages and produce research and analysis in these languages. Regional discussion in Latin America takes place in Spanish, in French in Francophone Africa, and in Russian in the former Soviet countries—although English is making inroads in some of these areas.

English dominates the research literature on higher education—and is increasing its position even in non-English-speaking countries. Most

international organizations work mainly in English, even where other languages are officially recognized. Virtually all of the research journals in higher education are published in English—and with pressure in many countries for researchers to publish in recognized international journals, more is written in English to conform to journal requirements.

While there has been no research on the languages of the many Web sites in higher education, research concerning academic Web sites generally indicates that English is most widely used on the Web sites that have an international reach.

While the use of English enhances international dialogue and creates a common means of communication, it also gives significant advantages to the countries and academic systems that use English as their first language. Language has an impact on the research culture, and most of the journals are edited by English speakers who are located in the main English-speaking academic "powers" since they are published in English. The norms, methodologies, and values of the English-speaking academic systems have a significant advantage. Similarly, books published in English have a greater international circulation and more influence. The reality of the 21st century is that English is the dominant medium of research and communication in the field of higher education, as it is in most scientific areas.

The Communications Network in Higher Education

As the field of higher education has matured and expanded—and as postsecondary education worldwide dramatically grew—the scope, amount, and complexity of research and analysis in the field has exploded. At the same time, the information technology revolution has taken place, making knowledge distribution easier and more complex. The creation of knowledge networks and the means for communicating information is central to the establishing of any scientific field; and makes it possible for research and analysis to be provided to academic leaders, government officials, and other stakeholders.

Much of the research, statistical development, and analysis on higher education is carried out for specific purposes and does not become available to the broader research and policy communities. Almost all institutional research would fall into this category, as would many studies carried out by stakeholders for their own purposes. In many ways, this is unfortunate, since both raw data and analysis done for specific purposes could be useful to the broader community. This situation is also understandable, since research intended for particular purposes in many cases is considered proprietary and confidential. Much research may end up as "gray literature"—available only with careful search and not easily obtained.

The traditional means of scholarly and scientific communication are books and journals, and the field of higher education has become quite active in book and journal publishing. It is not possible to estimate the number of books on higher education published worldwide annually, but it is at least several

thousand. The largest number is probably published in English, and this is certainly the case of books that reach an international audience. Many publishers have established book series that focus specifically on higher education or have taken a specific interest in the field. A few examples of English-medium publishers with strong higher education interests are Routledge, Palgrave-Macmillan, Johns Hopkins University Press, Springer, Sense, and others. Several publishers that are not based in English-speaking countries publish extensively in English, such as Dutch-based Sense Publishers and Springer, a global brand, indicating the dominance of English as the key global scientific language. Publishers in Germany, France, Japan, China, Argentina, and many other countries have higher education specializations as well. Many of the books published are guides for academic administration, teaching, and other practical themes, but a large number are also research-based studies and policy-focused volumes. Several of these publishers have established specific book series that are typically edited by prominent higher education researchers.

Several higher education encyclopedias have been published—all in English—that have brought together knowledge and trends in the field (Clark and Neave 1992; Forest and Altbach 2006). Now in its 29th year, the *Higher Education: Handbook of Theory and Research,* published by Springer, while largely US-based, provides an overview of current research trends and literature in the field of higher education.

Like most academic fields, much of the research is disseminated through academic journals, and these publications are often indexed and thus easier to locate (Huisman 2013). Although knowledge distribution networks are changing as a result of the expansion of research and especially advances in information technology, peer-reviewed journals remain central to the field. In 2006, a listing of higher education journals worldwide listed 191—with almost half of them located in the United States (Altbach, et al. 2006). The 2014 listing includes 279 journals, with somewhat one-third from the United States, with 35 countries publishing journals in the field (Rumbley, et al. 2014). China has a large number of journals focusing on higher education—the CIHE journals listing had to limit the Chinese journals to a small number that are recognized as the most influential because the larger majority of an estimated more than 200 journals are local and have little impact beyond the sponsoring university. English dominates the journals—with 190 of a total of 279. Other commonly used languages for journals is Chinese (27), Japanese (26), Spanish (15), and French (8).

Several of the key journals, such as *Higher Education* and *Higher Education Policy,* are international in scope and have international editorial teams and publish articles on all areas of higher education. Other journals also have a wide scope of subjects as well. However, there is a growing trend in the field to establish journals that specialize on specific topics such as student development, quality assurance, or that focus on specific parts of the world. This specialization

is not surprising as many academic fields tend to focus more on themes and fields and disciplines grow larger.

It is fair to say that only a small number of the journals published have significant influence on research trends or policy debates in the field of higher education. These tend to be the journals that are indexed by the Social Science Citation Index and similar agencies.

In addition to research and academic journals, there are also magazines and related publications that are important parts of the global, regional, and national communications networks in the field. Two internationally focused publications, *University World News* (UWN) and *International Higher Education* (*IHE*), one weekly and the other quarterly, provide news and analysis on a global scale. *UWN* is published online only, while *IHE* appears in both print and electronic editions. *Times Higher Education* (*THE*) and the *Guardian*, both British publications, provide detailed coverage of UK higher education as well as considerable international news. *THE*, which also sponsors the global higher rankings, is exclusively focused on higher education. The main US-based higher education publications, the weekly *Chronicle of Higher Education* and the daily online *Inside Higher Education* both provide some international news and analysis but are mainly focused on the United States. National higher education newspapers and magazines exist in many countries. Examples include *Deutsches Universitätzeitung* in Germany, *Edutech* and *University News* in India, and many others.

Higher education organizations, of all kinds, sponsor magazines and other periodical publications. On the international level, the International Association of Universities publishes *IAU Horizons,* while aimed mainly at IAU member institutions, provides news and analysis. Regional and national organizations also sponsor magazines and other periodicals.

A large variety of blogs in many languages provide additional information, analysis, and opinions concerning higher education issues. Some blogs are organized by individuals, while others are affiliated to organizations and publications of all kinds. There is no estimate of the number of bloggers, blog networks, or organizations sponsoring blogs. In addition, information and analysis concerning higher education is communicated by Twitter posts, "retweets", and other social networking arrangements.

It is not surprising that the nexus of communications in higher education is so dense in the 21st century. Research, analysis, opinion, and news about higher education has expanded exponentially. This expansion has been stimulated by the increased size and scope of postsecondary education itself, the growth of the field of higher education studies with its expanding number of researchers, students, and other experts, and the increased ease of communication aided by the Internet. Without doubt, the internationally influential communications networks, journals, and Web sites are dominated by those in English that in general emanate from the main academic centers. Yet, the

Internet permits some democratization of communications, and journals, Web sites, and others can be found in most countries.

Conclusion: An Impressive Development

The emergence of higher education as a viable field of research, scholarship, training, and professional concern during the latter part of the 20th century, and the first part of the 21st reflects the growing size and importance of higher education globally. The field in this short period of time has built all of the infrastructures of a traditional academic field—communities of researchers, journals, centers for research and training, and others. Higher education professionals are, of course, specialists in organizational development and thus they have been able to build relevant organizations.

Clearly, higher education is not a scholarly or scientific discipline; it has no central and accepted methodology nor does it have a set of concerns for research and study. Rather, it is a field that uses the disciplinary insights of other fields, mainly in the social sciences, to inform research themes that often require interdisciplinary insights.

Higher education, as a field, is significantly unbalanced. Most of the research and publication reflects the realities of the industrialized nations, despite the fact that most growth is taking place in developing and middle-income countries. However, with the exceptions of China and to some extent South Africa, the rapidly growing regions have little or no base of higher

education research, few researchers, and only a limited number of organizations and networks.

Higher education is a field without a clear intellectual, methodological, or disciplinary center. This is inevitable, and not necessarily a detriment. A diversity of approaches reflects the varied interests and backgrounds of those involved in the field.

Higher education is also a field that stems from practice and from the practical concerns postsecondary education institutions and systems worldwide. While there are a small number of scholars who have studied universities as a subject of "pure research," most analysis has stemmed from a desire to shed light on pressing issues or crises and an effort to understanding a dynamic phenomenon.

The field is evolving, developing, and growing more diverse. It is hoped that it will gain strength in parts of the world where it is needed to help solve the challenges of rapidly growing academic systems. At the same time, the challenges of research, equity, student development, financing, the increased use of technology, effective management, among many other challenges, create the conditions for further intellectual development of the field.

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