



The future of doctoral education in business administration

Doctoral
education

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Abstract

Purpose – Doctoral education in business administration needs to change in order to cope with the fast growing demand for PhD holders, who can teach and perform research at a high quality level. Additionally, society has a rapidly growing need for knowledge workers who have a doctoral education or an equivalent. The traditional apprentice approach may not be able to cope with that demand. Society has also criticized the inefficiency and cost associated with the current model of PhD education in management or business administration. The purpose of this paper is to provide a reflection for leaders in business education on how we can design a portfolio of different avenues for doctoral education.

Design/methodology/approach – This paper is based on the author's own experience with INSEAD, the University of Cambridge and Singapore Management University, as well as his observations of other universities. It is thus anchored in a few case studies.

Findings – The author pleads for more diversity in doctoral education. It is proposed that we may need to add different models of doctoral education, characterized by more interdisciplinary work and a more diverse career path. Business Schools will have to find new ways to deliver the education and to develop the communities of practice that will share the values of scientific research.

Social implications – Society needs more knowledge works. Many of these will have the ambition to obtain a research degree, for example, a PhD. This article provides some suggestions and guidelines on how to innovate in the design and delivery of doctoral education in business administration. This should help society to be able to count on more and better adapted PhD graduates.

Originality/value – The paper brings new insights based on extensive experience with leading institutions that groom leaders in business administration.

Keywords Doctoral education, Business schools, Knowledge society, Management research

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Introduction

We need more and better adapted PhD graduates of higher quality in Business Administration and/or Management. The simultaneous growth in the demand for education in business and management, and the intention of governments and private providers to improve the quality of the teaching has led and will continue to lead to an increased demand in PhDs in management or DBAs[1]. This is in particular the case in emerging economies, e.g. China, Indonesia, India or Brazil (Cervantes, 2012).

For example in China we witness a very high growth of the number of university students over the last 20 years, and the trend line is not yet changing (Gallagher *et al.*, 2009). Therefore universities have been recruiting increased numbers of faculty with a PhD. In many cases the best of these are returnees from studies overseas. But such international recruiting is obviously a costly exercise: many of these graduates do have employment opportunities in overseas institutions or companies, and thus require internationally competitive salaries. Therefore we notice that there is a rising trend to educate PhDs in business administration at China's universities, who often look for international partners to support them with joint supervision. A similar trend is true for India, where the expected liberalization of higher education and in particular in business may lead to a significant growth in the number of institutions, and thus



demand for good and well trained teachers. It is expected by some that the current supply of PhD holders in India is merely 40 percent of what will be needed (Ministry of Human Resource Development of India, 2011).

Similarly in Indonesia the Parliament has passed a bill in 2012 to revamp higher education. Its intention is to improve the quality of the education, enhance the autonomy of the universities and regulate access of foreign institutions. One can expect that in the future there will be a requirement to have a doctoral degree in order to be able to be a university teacher. The current reality is that many, if not most, of the university teachers in Indonesia have a Master's degree. Thus we may expect a rush to apply for PhD programs.

One can argue that this is an evolution that is specific to a few high-growth countries, and that it may have less effect on universities in traditional industrialized countries. That will not be true. The market for PhD holders is an international one. Many of the universities in the USA, UK, Australia or continental Europe are relying heavily on faculty who originally come from China and India. Increased demand and improved working conditions in India and China will have a significant effect on the supply of PhD holders for positions at the traditional universities and create a shortage for teachers in business schools in the industrialized world (Cervantes, 2012; Hawawini, 2005).

At the same time there are indications that there is stagnation if not a decline in the output of the traditional top-quality PhD suppliers, in particular in the USA and the UK (Hawawini, 2005; AACSB, 2002). Similar trends may be true in the best European institutions, where the need to rationalize and reduce the cost of higher education will no doubt have a negative impact on the availability of grants and bursaries for potential PhD candidates.

This is partially compensated by the creation of new forms of doctoral studies: we see the rise of DBAs, part time PhDs, executive PhDs, practice doctorates, etc. (Kot and Hendel, 2012). Some of these can alleviate the demand for good faculty, on condition of course that these are programs of high quality. These different types of doctoral education may well be better adapted to the needs of lots of the emerging educational institutions in management or business administration.

In the rest of this paper I will briefly touch on the origins of doctoral education, describe some of the challenges to the traditional view of what a doctorate is all about, and suggest the broad outline for how doctoral education in business administration and management can evolve.

The roots of doctoral education

The current model of doctoral education was created in the early nineteenth century in the context of the then new German model of University education. This model was developed in first instance at the Von Humboldt University in Berlin, and it was rooted in the ideas of the eighteenth century philosopher Immanuel Kant (Pedersen, 1997). In this view Universities are supposed to practice "high science," and this can be best performed in an organization which is organized by disciplines. Education in this model is a by-product, mainly to educate the elite that would serve the nation state. Universities had a certain level of autonomy, and therefore performance appraisal and evaluation was performed by a kind of peer-review system. A PhD was basically a form of cooptation into the elite that would teach and research at Universities. Therefore PhD education was characterized by a discipline-based research effort with a value system that is about the search for new knowledge. In such a system the

individual has an individual responsibility for the research and its outcomes. And to some extent the education was rooted in the tradition of the quasi-medieval guilds: the thesis is a master piece that you have to deliver to be adopted into the “guild of masters.”

This originally German approach spread rapidly to the USA, where it was among others imported by Charles W. Elliott who led Harvard university from 1869 to 1909 (Christensen and Eyring, 2011), and later on to the UK and Australia. In that diffusion process doctoral education has seen many adaptations. Therefore the current requirements for a PhD do vary between countries, universities and subjects. In some cases there are strict course requirements, e.g. in the USA, Canada or Denmark. In others, e.g. the UK, the education is to a large extent an apprentice relationship between a supervisor and his or her pupil. But the basic value system remained unchanged.

A professional PhD such as the one in Business Administration is a relatively recent one. Some of the programs are quite established, but the real drive for a doctoral education in this field was a consequence of a few influential reports in the USA and the UK in the late 1950s and the early 1960s, that called for a more rigorous and scientific approach to management education[2].

Doctoral education in business administration needs to change

I will argue that this model of PhD education, though allowing for some variety, is insufficient for our future needs. I see broadly speaking four drivers for this.

The development of the knowledge economy requires more and cheaper PhD graduates

The overarching driver for change is the development of our economies into knowledge economies, i.e. economies where knowledge becomes a major production factor, and where many of the employees are, to a large extent, knowledge workers. In such an economy we need many more employees with an advanced university education. In the UK there has been a drive to have more than 40 percent of the cohort of young people of the same age going to institutions of higher learning. Scandinavian and Nordic countries have typically more than 50 percent of their young people going to University. Also more recently developed countries, e.g. Singapore have the ambition to have 40 percent of the cohort obtaining a university degree. This has to some extent devalued the bachelor’s degree and many of our young best and brightest have therefore the motivation to pursue a Master’s degree or a PhD. As a consequence many PhD graduates have become “industrial workers” in the knowledge production process. Universities do not have any longer a quasi-monopoly on the placement of PhDs and are in competition with R&D organizations, research departments at financial or international institutions, governments, etc. for the recruitment of PhD graduates.

This evolution toward a knowledge economy is not a slow organic evolution. The shift of industrial production to lower labor cost countries or regions, led governments of industrialized countries to develop competitive industrial policies aimed at enhancing the knowledge content of their economic activity. Therefore education of PhD graduates has become a national investment and governments require significant increases in output numbers, but at lower cost. The availability of affordable PhD graduates in the labor market becomes a tool in the competitive battles between economies. Universities are required to sustain the supply chain. Therefore a lot more attention is paid to doctoral education by outside stakeholders than it used to be when it was simply a process for educating future academics.

Diversification of the employment and mobility: increased opportunities for educated researchers outside the academic environment

The PhD holders that Universities produce have today a more varied portfolio of options upon graduation. As I mentioned earlier, they can pursue their academic work at a variety of academic institutions (often with a different emphasis in their research priorities), international or financial institutions that provide an interesting environment to pursue more applied work, consulting companies, etc. Scholars of Sociology of Science have argued that once these graduates left the University environment for other types of institutions that they were lost for science: they would not publish anymore and would be “lost” for science (Crane, 1972). This may have been true for a traditional industrial society, where it was indeed difficult to move back from industry to academia, but that is not obvious in a knowledge economy, where the type of work, performed at universities and some of the more sophisticated companies and public institutions, is quite similar. I therefore expect that we will see more institutional mobility in the future: doctoral degree holders may move back and forth between different types of institutions. That may well be a very healthy evolution for our institutions of higher learning.

Internationalization of the demand and supply

Originally the education of doctoral students was purely national, if not even more parochial: universities would select their best students and groom them to become dons at their own institution. There may have been occasionally major movements of scientists and academics due to political circumstances (e.g. the major wave of German academics to the UK and the USA just before and after the Second World War). But till the early 1970s the volume of international mobility of academics was relatively limited. This changed significantly with the first waves of Indian (in the seventies) and Chinese students (in the 1980s) going to the USA and the UK. Many of them stayed overseas and built strong and influential careers at American and European institutions. This created a world market for PhD graduates in Business Administration or related disciplines. Organizations, e.g. INSEAD (France and Singapore), IESE (Spain), LBS (London), Harvard, Stanford, Chicago, Cambridge, HKUST (Hong Kong), SMU (Singapore) or CEIBS (Shanghai) may supply the world market but definitely compete for the same rookies or established researchers in their recruitment.

Information overload, the lack of organizational temporal and geographic boundaries for information flows and the changing nature of diffusion of information

The environment in which we perform research has changed. One of the fundamental changes is that we have moved from a world where information was scarce toward one where information is largely freely available to the user and access is not hindered by organizational or geographical boundaries. One of the “*raison d’être*” of universities was precisely that they were places where information was concentrated (e.g. in big and/or specialized libraries and in the relatively closed networks of colleagues). Universities had a sort of oligopoly on information, and older readers will remember how we queued up in university libraries to get access to the latest issues of some of the more influential journals. This created an ecosystem where universities were the best place to perform research, and where PhDs could be trained. This situation has changed dramatically: empirical research may well be performed better in places close to the action, because access to codified information is not an issue anymore.

Apart from the growing irrelevance of organizational and geographical boundaries, the other evolution is the increased information overload. Knowledge and information is doubling ever faster[3] and the average researcher is confronted with the impossibility of knowing everything that is relevant to his or her research. The researcher is also at the risk of unknown competition: discoveries are often made simultaneously at several places in the world, and knowing who your “competitor in the discovery” is, becomes increasingly difficult. PhD programs need to adapt to these new situations in which research is carried out.

A corollary of this is that the traditional output for a PhD student, i.e. the dissertation, may not be the most appropriate anymore, and some universities are experimenting with other forms of output, e.g. interactive databases, collective works, etc. (Patton, 2013).

Additional challenges for the current model of doctoral education in business and management

In addition to the drivers for change that I described in the previous sections, one hears quite a few more operational criticisms on how we organize doctoral education today.

The organization of doctoral programs is inefficient

Funding organizations seem to think that we have an inefficient system of PhD education. Given that doctoral education is an expensive education, often quite long and delivered to small groups of students, one would expect that we do it with a high yield and in the shortest time possible. And yet we fail to deliver on that. The attrition rate for starters is high and is for example in the USA on the average and across disciplines more than 50 percent (Cyranoski *et al.*, 2011). Moreover research at one University in the USA indicated that the quality of those who fail to make it is not lower than those who get to the degree. Poor supervision, decreasing job prospects or simply running out of financing led to failure (*The Economist*, 2010).

The second inefficiency is that PhD programs have become too long: in the 1930s it took an average of only twenty-one months to obtain a PhD from Imperial College. Today many of our graduates spend five years to obtain a degree, and often have then to spend a few more years as post-docs in order to be considered for one of the better posts as an assistant professor. One can barely argue that the quality of research in the old days was significantly lower than what many of our PhD students work on today.

Is our doctoral teaching relevant?

There is a lot of criticism that the current PhD programs are a bad preparation for the role that PhD graduates have to play (*The Economist*, 2010). Most of what we teach is about research methodology and the more advanced knowledge about relatively narrow disciplines. Hopefully we also teach them about critical thinking, critical reading and clear communication. Nobody will deny that these topics are necessary to groom future researchers. But do we groom them to be future leading thinkers or leaders, who can influence society? The criticism is often that writing reports on experiments, giving academic presentations and conducting in-depth six months literature reviews may be not that useful or sufficient in a world where knowledge needs to be understood quickly and explained simply to larger audiences.

Universities are also direly in need to find good ideas about how to measure the effectiveness of doctoral education. Simply counting the number of PhDs, produced by an organization, does not cut it. Not even the number of papers the graduates produced

before graduating will do. For the students themselves it is probably the speed with which they get a good and well paid job. For the universities it may well be the impact of the positions in which they can place their graduates. But for society at large it may be the efficiency with which we, universities, can produce the graduates needed for the knowledge economy.

Finally I am convinced that we have reached marginal declining returns on disciplinary research. I am still a strong supporter of discipline-based teaching and research exercises in order to teach rigor to PhD students. But I am equally convinced that the really interesting research topics are multi-disciplinary, i.e. where solutions come from a combination of different disciplines, in order to address messy problems for society. Disciplinary boundaries are challenged! The more interesting solutions may come from combining for example microbiology with psychology, pure economics based on game theory with sociology or IT with law. Our PhD programs need to groom our best students to be able to address such problems, and work in multi-disciplinary teams.

Governments and sponsors want to reduce the cost of doctoral education

Business schools' stakeholders want to have a higher volume of output of PhD students with a lower investment per person. I already referred to the relatively high inefficiency with which we educate PhD graduates. This is reinforced by a higher emphasis by governments on containing the cost of PhD education. Let us face it: PhD education is often carried out in a one to one or one to few relationships between highly paid supervisors and students who hang around for many years in the physical space of the university. For governments and donors this is probably an unsustainable allocation of resources. There must be alternative ways to deliver at least part of this type of education (Hawawini, 2005). New technologies for delivery should be opening up opportunities for effective distance learning and reaching out to larger groups.

Toward a revision of our doctoral programs

In recent years we have seen a growing dichotomy in the type of PhD education as it is practiced at our universities (Bond and Lee, 2009). The first type of PhD education is what I will call "postgraduate research." It is the natural successor to the nineteenth and twentieth century approach to PhD training. The second one is more of a generic "doctoral education" (Table I).

In the first one the supervisory relationship is the core element of the education. The PhD graduate student is an apprentice to a "master" from whom he/she learns all the tricks of the trade. Course work may exist, but its role is to support the apprentice relationship. The focus of the output is really on the thesis, which is often discipline based, and quite narrow in perspective. While it needs to be original it is also a license to practice as a researcher. It may or may not be the onset of the "opus magnum" that will establish your name as a researcher, but it must be meaningful to the research

Postgraduate research	Doctoral education
Supervisory relationship	Course work
Thesis as an output	Knowing the subject
Stewards of a discipline	Knowledge workers
Discipline based	Problem based

Table I.
Two types of PhD education

community. The model assumes that there are relatively few graduates: after all a supervisor can have only a handful of apprentices. As a consequence the successful graduate will also become a steward of the discipline, whose task it will be to protect and enhance the discipline and its standing (Golde and Walker, 2006).

The second model is one that enables much larger groups to pursue a PhD degree. The core element here is the course work, which can and preferably should be performed in larger groups. The ultimate purpose of the study is not to produce a thesis, but to know the subject and the process of how to do research. The thesis becomes more of a proof that one has understood all the different intricacies of the area of study, and the originality of the output is perhaps not that relevant. Topics can be real problems as formulated by companies, institutions or society, and may require multi-disciplinary solutions. Often the researchers will work in teams, and the really relevant output may well be the sum of the work of many – engineering has practiced this type of doctoral studies for quite a while – the ultimate output for society is not to create stewards of a discipline, but knowledge workers, who are able to operate in larger institutional frameworks, and who can creatively contribute to problem solving.

What are the implications of this evolution?

Horses for courses: there will be a growing number of distinctive programs

This second (and more recent) approach to PhD education leads to a much higher variety of different educational models for young researchers, but also for mid-career knowledge workers and professionals. We see already the emergence of alternative formats, e.g. professional PhD programs, part-time executive PhD programs, practice-based DBAs, new route PhDs and problem-based programs (Bond and Lee, 2009). And I expect even more variety. At the same time we witness a greater diversity in the type of applicants to these programs.

I am convinced that this is a good evolution. Not all business schools', universities', government institutions' or companies' R&D departments require the same type of graduates. All of the graduates will be strong in research and will have a thorough understanding of a particular field, and may be able to continuously learn. But their skill set may be slightly different and what they have learned may be aligned with the type of work they want to do or the stage in their professional and personal career (Park, 2007). It will of course be a challenge for leaders of business schools to manage the variety of career tracks that this will create (Hawawini, 2005). At Singapore Management University we have currently three career tracks: a traditional tenure track for research faculty and a career track for both practice and education professors. This helps us to manage faculty with different competencies and career aspirations.

Scholarly integration across disciplines and conceptual thinking plus application plus diffusion

Interesting problems for research will require a more multi-disciplinary approach. Problems of sustainability, energy provision, global warming, mobility, urbanization, cheap food production, aging, universal health care, etc. are the ones that will increasingly become interesting. PhD students may be still very specialized in one particular discipline, but they will have to hone their capabilities to work in teams, and to collaborate across fields and disciplines. At the same time they will not be able to limit their research to one element of the value chain, i.e. the early stage research. As in science and engineering there will be an increasingly strong demand to understand the link between early stage conceptual work, applied research and application or

commercialization. I expect society to become much more demanding in getting justification for research, explanation of the results and diffusion of the applications and generally speaking alignment with the objectives of the society. Retreat in the proverbial ivory tower will be far less tolerated, and PhD graduates will have to develop their skills as communicators.

Creation of intellectual communities

PhD research may still require an individual output. But essential in the success of the grooming of future researchers apt to carry out creative and cutting edge research remains for me the creation of an intellectual community (Wenger *et al.*, 2002) or the “hidden” curriculum where we share messages about purpose, commitment and roles – I am not referring here to social activities, e.g. potluck dinners and hallway conversations. I am thinking of the sharing of fundamental values of what academic research is all about. I am referring to values, e.g. science’s universality, the sharing of results with peers, the respect for the work carried out before ours, and the honesty about methods and data gathering.

Creating intellectual communities in a master-apprentice relationship was not so difficult, assuming of course that the master embodied them. In fact the sharing of these values happened almost intuitively and in a tacit way. When we start organizing doctoral education in larger groups and when some of the course work may well happen through systems akin to MOOC’s (massive open online courses), we will need to invest in organized communities of practice (Wenger *et al.*, 2002).

One caveat: there will remain a need for stewardship of the body of knowledge

The current disciplines may survive, or some of them may disappear. But there is no doubt that we will keep on organizing scientific endeavor in groups or buckets. Scientific journals will no doubt contribute to this (even when they go completely online). Therefore there will be a continued need for stewardship of these groups, and some of our doctoral education will need to take care of this. Even when we grow more toward the second model of “doctoral education,” we will need to preserve some of the original “postgraduate research” to take care of this.

Conclusion

PhD education will have to change. There is a growing demand for PhD holders in the knowledge society, but at the same time there will be a need for more diversity, and more efficiency in the delivery of the PhD education.

The classic model of postgraduate research no doubt will and has to survive, but perhaps on a smaller scale. At the same time I am convinced that we will see a growing variety in the models for doctoral education with which universities all over the world will experiment. Based on what I argued in this paper I summarize that these new models of PhD education will share some of the following characteristics:

- (1) These models will need to be more efficient and educate PhD holders in a significantly shorter time: funders of doctoral education, be it governments, industry or foundations, will want to see more results for their investments.
- (2) The focus of the education will be more on the process of how to conduct rigorous, relevant and revealing research, and getting a good understanding of the field, and less on the originality of the output.

- (3) PhD output will need to be more aligned with the needs of society: a lot of the work will require multi-disciplinary efforts by teams of researchers and we need to prepare PhD holders to work in collaborative teams.
- (4) The output may not necessarily be a dissertation written by one individual: it may well be a set of papers, an interactive model or database or a collective product.
- (5) The PhD holders will not be exclusively committed to an academic career, but may switch back and forth between academia and practice in the knowledge-driven industries. Universities will need to develop systems to manage this mobility.
- (6) But whatever the model is that we develop, schools will have to find new ways to deliver the education to and share the values of good research with larger groups of students, and have to invest in the development of communities that will share those values of rigorous scientific research.

Notes

1. This may not be true for other disciplines, e.g. science, or arts and humanities (The Economist, 2010; Cyranoski *et al.*, 2011).
2. I refer to the report by Gordon and Howell (1959), supported by the Ford Foundation in the USA and the 1965/1966 Franks Report in Great Britain (Tiratsoo, 1998).
3. Buckminster Fuller's "knowledge doubling curve" argues that the more we know, the faster we know more. Knowledge volume undergoes exponential growth, doubling and redoubling over time. For example IBM predicts that based on current estimates, the amount of medical information doubles every five years and 81 percent of physicians have indicated they can spend, on average, less than five hours a month keeping up.

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