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IMPROVING YOUR RESEARCH MANAGEMENT

A GUIDE FOR
SENIOR UNIVERSITY RESEARCH MANAGERS

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FOREWORD

Managing a research group or faculty is an increasingly challenging task. On the one hand you need to be prepared to collaborate and compete at a global level, but on the other you are often obliged to depend on local sources of income. Furthermore, creating a strategy that will lead to the best outcomes in terms of research impact or innovation requires a highly-specific skill set which frequently lies outside the experience of those chosen to lead, regardless of their professional distinction. Given that you are reading this book, you are probably one of these people.

This is not to say that the skills you have acquired as a researcher are not also very valuable in the research management role. There is probably very little you don't already know about analytical rigor, networking or even what might be termed "scholarly diplomacy". There are, however, techniques and methodologies – as well as secondary tools like software products – which can help you to successfully apply this knowledge to the decision-making process you are now leading, and to thus optimize the outcomes of those decisions.

Elsevier is proud to serve researchers throughout their careers and has been doing so for a very long time. Recently we have started to take a more holistic view, complementing our journals, books and discovery offerings with a series of products for research management as well. Based on the successes of ScienceDirect and Scopus, the SciVal tools are comprehensive solutions that can help you lead and prepare your group for success in a challenging future.

This book by Professor Johnson is an additional source of knowledge and practical guidance for research managers. Professor Johnson has, throughout his career, successfully led research efforts at all levels in the Australian university system, one of the most competi

tive and advanced in the world. We are privileged indeed that he has shared key strategies and insights gleaned from this extensive experience in this book.

The management of research isn't the same as research itself – although it can sometimes feel like it – but is nonetheless vital in a world whose growing interconnectedness presents us with challenges and opportunities of an unprecedented magnitude. Consequently, we are pleased to be able to offer you this book, which I hope through you, can make a small but significant contribution to the advancement of science - one of the most important activities imaginable.

I wish you much success in your efforts and hope you enjoy this book.

brad fenwick

Senior Vice President, Global Strategic Alliances, Elsevier. Former Vice Chancellor of Research, University of Tennessee; Vice President for Research, Virginia Tech; and chair of the Research University Futures Consortium

INTRODUCTION

This book is a companion to my earlier career-planning guide (Johnson, 2012) for Early Career Researchers (ECRs), also published by Elsevier and freely available in 12 languages as a service for researchers (http://www.biggerbrains.com/career-planning-guide).

ECRs need guidance on how to plan and carry out their research to ensure optimal career outcomes. Given the certainty that global competition for academic research grant funding will only become more intense in the next few years, mentoring ECRs will become even more critical. Your role as a senior university research manager in managing their career development is a major focus of this book.

You also play a major role in managing the senior research leaders at your university or within your faculty unit.[1] Much of this book is directed toward assisting you in improving your expertise and skills so that you can perform that role effectively. I have provided a comprehensive academic underpinning to the subjects covered in this book, but essentially it is a practical guide to what you need at hand on a day-to-day basis. I have also provided an extensive bibliography should you wish to explore these subjects in more detail.

This book is designed to cover most of the areas in which managers like you—who have direct responsibility but probably not supervisory authority for research in universities—need to be competent if you are to maximise the research productivity of your university or faculty unit.

1 In this book I use the word "faculty" to describe a major Academic Organisational Unit (AOU) of a university, not, as commonly used in North America, as a generic term for all academic staff.

I also recommend this book to academics who are research leaders considering a future role in university research management. It will give them a good introduction into the skills and expertise they will need to ensure their future success as senior research managers.

Two important actions you could take are to make sure that the ECRs in your university have been given a copy of my ECR book, and to pass this book on to academics you are mentoring or considering for inclusion in your succession planning.

As a senior university research manager, it is your responsibility to ensure that the research outputs and outcomes[2] of your university or faculty unit are optimal. Your current position indicates that you, to your great credit, have managed over the last 5-15 years to conduct excellent research, and you probably possess a combination of natural ability and the capability to manage your career well.

You may now hold the title of associate/assistant/deputy dean (research) at the faculty level or perhaps deputy or pro vice-chancellor/ rector/president (research) at the central university level. As such, you are responsible for the research activities of a dozen to hundreds of staff and students within your faculty unit, or perhaps your entire university.

In addition, senior research leaders in your university may be directors of major national research groups. These groups go by many names around the world, such as centre, institute, key strength, centre of excellence or something more specific to your national funding agency (for example, Sonderforschungsbereiche [German collaborative research centres], Australian Cooperative Research Centres, or Starka forskningsmiljöer [Swedish strong research environments]). So you may not only be responsible for your own university research output, but also for the outputs of all the staff and students in centres attached to your university.

I hope that you will receive value from the advice contained in this book. For the sake of clarity, I will refer to the position you occupy using the North American terminology of vice-president (research) or associate dean (research) because they are probably the most common globally. And I will use the term president to include vice-chancellor, rector and similar titles referring to the chief executive officer of a university.

It is also necessary, for the sake of discussion, to separate the major issues in senior university management into sections that make up each chapter. However, it must be remembered that the topics in each chapter are interdependent: issues such as governance, leadership, strategic planning, ethics, and risk management are all interconnected and need to be practiced together holistically to ensure that your productivity is as good as it can be.

CHAPTER 1
IMPORTANCE OF YOUR
ROLE AS A SENIOR RESEARCH MANAGER

It is generally accepted that there are about 10,000 universities globally, with *Universities Worldwide* (Universities Worldwide 2011) providing links to 8,814 universities in 203 countries. The 21st edition of the *International Handbook of Universities* (2009) provides detailed data on over 14,000 higher education institutions in 183 countries.

Many of these institutions are modeled on the western style of the University of Bologna founded in 1088, although the University of Al-Karaouine in Fes is a madrassa, founded many years earlier, in 859. Growing out of what were essentially religious institutions, universities for hundreds of years pursued teaching and research for the benefit of society, with academic freedom as their core activity. Lohmann (2004) describes a short history beginning with the Reformation and leading to the establishment of a university model that remained relatively constant for hundreds of years in Europe. It then spread globally, especially to North America, then Asia, and the Middle East.

Often, major national research centres and especially the universities that house them are seen by national governments as global indicators of the prestige of the country's research, graduate education and innovation (Expert Group on Assessment of University- Based Research, 2010; Wendler et. al., 2010). Research performance is widely considered to be a major factor in a country's economic output and national innovation system, the so-called push toward a western-style knowledge economy (Rinne and Koivula, 2005; Holliday, 2012). This assumption is just as evident in newly developing research environments, such as those in the Middle East (Corbyn,

2010; Altbach, 2011a,b), as it is in more mature national research cultures. And the push to support business and industry by increasing university/industry linkages is occurring as much in middle- and lower-middle-income countries as it has in more developed countries (Baldini, 2006; Hershberg et al., 2007).

Your university is a major element in the so-called triple helix of relationships among university, government, and industry (Etzkowitz and Leyesdorff, 2000). So not only is there a local focus on your[2] research outcomes, but your research management is also of national and possibly international interest and importance. The economic and social viability of some towns and cities are dependent on the performance of the universities located there (Belkin, 2012).

However, leadership and management in universities, which will be discussed in detail in Chapter 5, has often been lackluster at best. Collegial and democratic self-governance has been the hallmark of universities globally over the centuries. Mintzberg (1979; 1983) classified universities as professional bureaucracies, and noted that they tended to be insular and received little external assessment or scrutiny. He found that senior university leaders were often appointed from within because of their teaching or research expertise, and not necessarily because of their outstanding vision, leadership, or management abilities. Many who have been appointed to leadership positions in universities have succeeded by being cautious and avoiding controversy, hoping to make few enemies (Southwick, 2012). Some individuals may even have been appointed largely because of what is usually termed "old-boy network cronyism" or nepotism, practices which have not necessarily ceased (Qiu, 2009; Denholm, 2010; Naghavi and Walsh, 2011).

Excellent senior management undoubtedly can be found in universities, such as documented at the University of Leeds (Donoghue and Kennerly, 2008) and the University of Arizona (Macilwain, 2007), but these instances are too infrequently identified and described in the published literature.

2 In Chapter 6, I will discuss your personal research, but for the majority of this book, the term "your research" will refer to the research carried out by all the staff and students of your university or faculty unit.

In recent years, management of universities has come under increasing scrutiny, especially by way of external assessment and critique. More than 40 years ago, James Surface of Vanderbilt University wrote a short paper entitled "Universities aren't corporations: Why corporate management won't work." Surface (1971) considered five aspects of universities:

- ownership,
- the chief executive,
- the governing board,
- time frame commitment, and
- measurement of results.

His views may well have been persuasive 40 years ago. Even now, some component of the "university as citadel" or "silo" or "fiefdom" concept of academic self-governance is evident in most institutions, and in some it's thriving.

The teaching and research that universities conduct may benefit the moral, social, and economic aspects of society, and universities are publicly funded by governments for these purposes, but they are not necessarily responsible to society (Boulton and Lucas, 2008; Shellard, 2010; Rennison, 2011; Shaheen, 2011). Certainly, from the university's perspective, this situation, which has existed for centuries, could be seen as ideal. But today, and certainly even more so in the future, universities will be seen as corporations in the business of education. So-called "corporate management," " new managerialism," or "new public management" is becoming much more important in universities, although it will probably always be challenged by academics who believe that they are responsible to themselves, not to society (Deem, 2001; Derbyshire, 2010).

In fact, the financial value of quite a few universities on the worldwide list of 10,000 could put them on the Fortune 500 list of top global companies, and most universities are still largely government funded. The average university in Europe still receives about 80% of its funding from the public purse. Even in the United States, where the proportion is closer to 45% (Wolinsky, 2009; Fearn, 2010a), public support is still an extremely large amount of money. Government-

funded research performed in the higher-education sector as a share of gross domestic product in Australia, Canada, France, Germany, the United Kingdom, the United States, and Japan in 2008 was 0.48%, 0.39%, 0.37%, 0.36%, 0.32%, 0.24%, and 0.21%, respectively. And in 2012, the credit agency Moody's gave the University of Cambridge a AAA credit rating, much higher than the ratings of many countries (Matthews, 2012). So if your university is one of these major organizations, your president is effectively a member of a select group of global chief executive officers. And you bear responsibility for the research outcomes of this institution or one of its faculty units, which is a complex and difficult task to do well. As Taylor (2006a) said: *Research is an intensely personal activity, strongly dependent on the ideas and imagination of individuals or groups of individuals. . . . Research, therefore, does not lend itself to control and management. Yet, in the fast-changing competitive world of today's higher education, there are constraints that require the application of some sort of management framework.*

You will need to develop and use the management tools, skills, and expertise discussed in this book if your university or faculty unit is to achieve and maintain excellence. And although some argue that teaching undergraduates and conducting research are separate activities, they are intricately linked and interdependent. There is evidence that postgraduate students and research staff who teach become better researchers (Feldon et al., 2011). Yet teachers perceive researchers as enjoying higher status, better conditions of employment, and improved promotion prospects (Ball, 2007).

Many senior university managers, especially vice presidents responsible for teaching and learning, contend that research funding in universities is often supplemented or even fully supported by income brought in through undergraduate teaching. Using the Australian higher education sector as an example, in 2008, research expenditure represented 36% of all university outlays, with 40% of this research spending ($2.7 billion) coming from government non-research funding and student fees (Larkins, 2011).

The problem is that the costs of specific initiatives within a university are difficult to quantify accurately, if at all (Kocjancic, 2009). The many financial analyses conducted to show how much specific universities add

to society economically are open to reasonable criticism (Siegfried et al., 2008). The accuracy of the cross-subsidisation argument probably varies from university to university, but it is likely true to some extent because of the interdependence of teaching and research.

Universities often spend millions annually on marketing and communication, predominantly to highlight their undergraduate teaching profile (Thompson and Roberts, 2008). Even before the 2008 global financial crisis, public funding to universities had become increasingly tied to outcomes, consistent with the greater external critique and assessment of university performance.

There is no doubt that the global financial crisis has had and will continue to have marked effects on all facets of society, both directly (Eggins and West, 2010; Leading Article, 2010; Lopatto and Faler, 2011; Jha and Sample, 2011; Belkin, 2012) and indirectly (Lipsett et al., 2008; Wolinsky, 2009; Douglass, 2010; Leonard, 2012; Nicas and McWhirter, 2012; www.researchuniversitiesfutures.org accessed Feb. 10, 2012). These effects include major negative influence on university research. In 2009, American colleges with endowments larger than $1 billion saw average 1-year losses in research funding of 20.5%, and even colleges with endowments less than $25 million lost on average 16.8% (Stripling, 2010).

As stated in a report by PA Consulting group (2009) *Some commentators have likened the current combination of global recession, public spending constraints, and intensified competition to a perfect storm of coinciding shocks to the HE [higher education] system. We disagree. Life after a storm returns to relative normality, as UK universities have experienced before in the early 1980s and 1990s. What we see happening today is long-term and irreversible climate change in the HE environment.*

These changes are having an especially significant effect in European universities and may open up a continental divide in research and teaching (Abbott, 2011; Gibney, 2012). Certainly, significant reductions in government funding of universities, especially their research activities, are occurring globally. There are exceptions, such as in Sweden, although even there two-thirds of funding for university research will come from the private sector (Myklebust, 2012a). In the United Kingdom, reduced government funding has been accom

panied by an increased focus on directing funds to certain research disciplines, such as medicine (Ramesh, 2011). This trend may offer some relief for researchers who work in selected highly competitive areas of medical research in the UK, but it is of little comfort to the tens of thousands of British university researchers who work in numerous other research disciplines affected by declining funding. This trend toward increasingly focusing research funds to achieve specific objectives, usually in line with strategic national priorities, is also happening in a number of European countries (European University Association, 2011).

Indirect factors relating to undergraduate teaching quality and overall quality as perceived in rankings may have as great an effect as direct factors on your continued research funding. As mentioned above, undergraduate teaching fees often cross-subsidise your research activities, and with decreasing government funding to universities, the competition for these fees has increased globally. A recent study on the Australian higher education system (Beaton-Wells and Thompson, 2011)—among the best national university systems in the world, ranking first of 17 OECD countries (Ederer et al., 2008) with close to half (19 of 38) of the country's universities ranked in the top 500 (Rowbotham, 2011) in the Shanghai Jiao Tong 2011 ranking—found that "*a direct correlation could be drawn between research quality and quantity, and higher than average international student fees that ended up subsidizing base research, especially in elite universities*" (Hare, 2011).

German universities have introduced a fee of up to €500 ($640 US) for each semester. Although it may be judged inequitable and overturned by some Länder (German states), the German fee is low relative to those charged in many countries, and its introduction was a significant initiative (Zora, 2007), which shows how some national governments are requiring universities to secure more of their own funding. "*The University of Melbourne depends on the $200 million a year it earns from foreign students, who make up 27% of the student body, to pay for new facilities and research scholarships and professional appointments*" (Slattery, 2009), and many British universities are planning to increase their foreign student numbers to boost their incomes following government cuts (Paton, 2011a).

Although fees for local students have risen globally, the justification for fee increases is not always clear, and some domestic students in Europe are challenging them (Myklebust, 2012b). This trend may be exacerbated as even world-renowned student-exchange programs run into major budget shortfalls (Osborn, 2012).

Fee increases are leading to greater student debt on both sides of the Atlantic (Shepherd, 2011), a situation that has been compared with the American housing mortgage crisis (Cohn, 2010). It's even been suggested that American student debt is actually encouraged by some colleges (Hacker and Dreifus, 2011), although perhaps not surprisingly, some senior university administrators may not share this view. At a recent annual policy conference, Illinois state higher education executive officers concluded that *"the typical student borrower is not in crisis."* But a report on the outcome of the conference (Kelderman, 2012) stated that: *while the level of student borrowing is not yet at crisis level, speakers said, there are problems with the number and amount of college loans, and serious policy considerations that need to be made, such as how to better inform students about the amount of money that they really need to borrow and what kind of loan they are receivin*g.

Is it really only the students' problem? The US Consumer Financial Protection Bureau carried out a major study (http://files.consumerfinance.gov/f/201207_cfpb_Reports_Private-Student-Loans.pdf) of the private student-lending market and compared private student loans to the subprime mortgages that precipitated the 2008 global financial crisis. As a result, the Bureau urged Congress to consider letting borrowers discharge such loans in bankruptcy (Nelson, 2012).

Questions are also being asked on both sides of the Atlantic as to whether a university education is worth the substantial personal cost involved (Ferguson, 2011; Paton, 2011b; Williams, 2011). Margaret Spellings, secretary of education during the George W. Bush administration, has said"*People are up in arms. Tuition is going up, but an interest in reform is going up for the first time ever. . . . People are starting to ask the right questions that would have been heretical 5 years ago. Universities have enjoyed their ivory tower status of being above it all, but they're beginning to change, and it's happening worldwide*" (De Aenlle, 2010).

Despite this, however, a recent survey (Kiley, 2012a) found that

70% of American colleges and universities were still focused on increasing net tuition as a way to increase revenues, more than any other strategy. And in Great Britain, some have even suggested that universities are seeking the highest possible fees allowable under new government regulations, just so they don't look "second rate" (Paton, 2011c).

We know that when funding, especially research funding, is directly at stake, universities respond seriously, with the British Research Assessment Exercise (RAE) and now its successor, the Research Excellence Framework (REF), leading to many massive changes over the years they have been in operation (Pring, 1995; Kushner, 1996; Rogers, 2000; Thomas, 2001; Ashley and Rossiter, 2009; Slade, 2011).

The main point of this chapter is to provide evidence that the research outcomes of your university or faculty unit have a significant impact both directly and indirectly on your country's international prestige, which in turn attracts undergraduate students and leads to the likelihood of more funding for research from both internal and external sources.

This book will give you advice on the skills and techniques you will need to develop and practice to help you meet the international standard required by the university research activities you manage.

But first you need a plan.

CHAPTER 2
RESEARCH STRATEGY AND PLANNING

In fact, you need two plans.

The first plan you must work on is for your own academic career. You are currently a vice-president (research) or associate dean (research), and these positions usually entail contracts for defined periods of 3-5 years. So you must first decide where you want to be in 3-5 years. Are you going to reapply for your current position, apply for a position as a president or vice-president (research), move to a similar position in a more prestigious university, resume a full-time research position, retire, or perhaps move into a consulting career or some other position outside the academic environment?

Many options are open to you, but the academic environment is extremely competitive. There's a lot of opportunity, but it's up to you to decide how you wish to progress your career, and then plan how to get there. Universities with a strategic budget and a clear process for devising strategy are more confident that their strategic aims have been achieved (Langley and Green, 2009). And a major criterion on which your future career will be judged is how successful you've been in the second major area you must plan, the research productivity of your university or faculty unit.

Planning for your personal career is relatively straightforward, because it involves only you and perhaps your family, but the research productivity of your university or faculty unit involves input from the many staff and students who belong to it, as well as external stakeholders.

As previously described, universities have long histories of independence, often based around the concept of "academic freedom."

Academic researchers usually consider themselves free, within the limits of legality and ethics, to research whatever topic they choose. Based on this long history, many academics, especially prominent "high flyers," believe they should not be subject to central managerial processes they see as limiting their freedom and potentially constraining their productivity. Such academics may avoid work expectations such as teaching, submitting routine requests for information, appraisals, and committee work, but they can be extremely successful in their research (Kennie, 2009). Many academics don't consider plans for research productivity "imposed" on them as worthwhile, although this attitude is not uniform and is probably more prevalent in some research disciplines than in others (McInnes, 1998; Kolsaker, 2008). A recent study (Sa and Tamtik, 2012) of 27 faculties in 10 Canadian universities found that four even claimed research does not lend itself to planning; they saw pressuring faculty as a serious infringement of academic freedom.

An attitude that could be expressed as: "My research is great, so you need to give me lots of public money to spend on it without constraints or without my having to compete for it, so that I can do what I like" is not uncommon in academia. Although I have no doubt that if such funding were provided, some good research productivity would be achieved, unfortunately such "free" money is rarely available. When it is, because it is not based on competition, the projects it funds are not assessed for national or international quality, and possibly are not in the best interests of the university or faculty as a whole.

In fact, the way universities and their faculties have been structured over the centuries, with collegial focus on decisions having to be considered and ratified by committee or board after committee or board, could be seen as mitigating against any strategic planning, focus or increased productivity.

The Lambert (2003) review of British university/business relationships found that universities were slow-moving, bureaucratic and risk averse. This academic bureaucracy does help ensure that the greatest number of academics have input in all decisions made and that therefore the decision-making progress is more egalitarian and incorporates a range of perspectives. Focused, more managerial

strategic planning in universities may be seen by some academics as a negative way forward, because, just as in companies, with ever decreasing funding, some academics will "win" and others will "lose" (Rumelt, 2000).

A clear example of this type of strategic planning resulting in "losers" and leading to great angst at the national and disciplinary level is the response by more than 100 chemists to the strategic approach taken by the UK Engineering and Physical Sciences Research Council. In a planned response to expected budget cuts ranging up to 15% over the next few years, the Council announced earmarked reductions for funding in synthetic organic chemistry. This action resulted in a public letter sent by senior chemists, including six Nobel Laureates, to the British prime minister (Jha and Sample, 2011).

I have no doubt that unfortunately over the next few years most research disciplines and universities will face similar situations. You may be the one toward whom the angst is directed, with comments concerning your management ability, or lack of it, sent to your president or dean. It is therefore essential that you take every opportunity to exercise the research management strategies described in this book in order to reduce and ideally eliminate this possibility.

In addition, as Zagotta and Robinson (2002) state: "*Many executives shy away from circulating their strategies because it's time-consuming and difficult. ... The failure to communicate strategy widely and effectively can create the kind of suspicion that undermines team effort and guarantees the failure of the strategy itself*."

So why is it essential that universities and their faculties have well-formulated and well-disseminated strategic plans? Because they provide a sense of direction and purpose, promote research-oriented scholarship, and give substance to your university's mission. Public dissemination of your strategic plan also informs the public, who ultimately fund you, and other key stakeholders, such as the research funding agencies you wish to impress. A good example here is the corporate and strategic plan of Warwick University in the UK. (See http://www2.warwick.ac.uk/services/gov/corporateplan/cps_2010. pdf accessed 28/12/2011.) Some senior managers in developing universities also have acknowledged the value of planning. Chris

Nhlapo, deputy vice-chancellor for research, technology innovation and partnerships at the Cape Peninsula University of Technology in South Africa, said: *"universities should develop research strategies to sustain academic and professional reputation in a knowledge-based economy and to attract and retain high-quality staff and students. The strategies must make optimal use of the available resources . . . The law of physics says if you position everywhere, your momentum is zero. Universities must also align constitutional competences to national strategies*" (ResearchAfrica Team, 2010).

Failure to plan is planning to fail.

But good strategic planning is not easy. And over planning can be a challenge. Various other forms of planning, such as strategic dynamism and scenario planning, have also been advocated for academic pursuits (Anderson, 2012), but the overall objective is to think and manage strategically, not to blindly engage in strategic planning for the sake of strategic planning (Nickols, 2011). "*Most executives do not know what all the elements of a strategy statement are, but with a clear definition . . . formulation becomes infinitely easier because executives know what they are trying to create . . . and implementation becomes much simpler because the strategy's essence can be readily communicated and easily internalised by everyone in the organisation*" (Collis and Rukstad, 2008).

Newton (1992) classified the university into two distinct cultures, the "corporate community" and the "community of scholars," and identified planning strategies to encompass the nature of both. Although the culture of a university is much more complex than that, it is important to bear in mind that your planning should ideally cover both ends of this spectrum. It is most likely that you do have experienced personnel available to assist you. Your university probably has a section or unit for policy and planning, or in larger universities you may even have such personnel attached to your office. And even if you don't, many companies such as mine (Research Management Services International) are available as consultants to assist you in your strategic planning. If you can obtain "buy in" from the many university boards and committees that provide input into its formation, your plan is much more likely to be "owned" by the researchers in your university or faculty unit, and therefore much more likely to succeed.

But your university has already laid general ground rules for your planning. Every university has a mission statement, which may also have core values attached to it. These statements are usually defined by the senior board, council, trustees or senate of your university (hereafter referred to collectively as your council) and are widely and publicly available. The challenge in an ever more global academic environment is that most mission statements and core values are very similar and are therefore relatively non-informative as a way of defining your strategic direction. They all mention, in wording that ranges from a few lines to a paragraph, outstanding teaching and learning, the construction and dissemination of research and scholarship, and collaboration and innovation with industry and society, to the highest international standards. In fact, mission statements are often so general and *"wishy-washy"* (Brown, 2009) that they do not mean anything. Lokman (2012) described the slogans that describe business schools as *"grandiosity run amok."* Based on their experience across a range of company types, Collis and Rukstad (2008) believe that few executives could summarise their company's strategy in 35 words or less, or even in a similar way to their colleagues.

So you probably have a reasonably broad area in which to work. "Strategy" has been defined in many different ways (Nickols, 2010). For the purposes of this book, I will use Nickol's definition: "*Strategy is a term that refers to a complex web of thoughts, ideas, insights, experiences, goals, expertise, memories, perceptions, and expectations that provides general guidance for specific actions in pursuit of particular ends*."

The strategy you develop as a vice-president (research) at the central university level will not only reach a higher policy level than the one you develop as associate dean (research) at the faculty level, but also, university strategies are usually designed to cover the longer 3- to 5-year term, while 1- to 3-year plans are more appropriate at faculty level.

So why is it essential that you do strategic planning and that you do it well? The answer is that we know it works at all levels, from small research groups (Van der Weijden et al., 2008) to larger departmental groups (Schuetzenmeister, 2010) to universities (for example, ETH the Swiss Federal Institute of Technology, Litta, 2011) to coun

tries such as the UK (the RAE has been associated with an increase in UK research performance, Adams, 2002) and probably Canada also (Sa and Tamtik, 2012).

The next critical questions are: What is strategic planning and, more importantly, how do you do it well? Perhaps we should start with what strategic planning is not. Porter (1996) believes: "*The root of the problem is the failure to distinguish between operational effectiveness and strategy. The quest for productivity, quality, and speed has spawned a remarkable number of management tools and techniques: total quality management, benchmarking, time-based competition, outsourcing, partnering, reengineering, change management".* For background on these, see Webster et al., (1989). Commonly, strategic planning, strategic thinking, and strategy making are all thought to be similar, but they are not. Strategic planning is not strategic thinking, and in fact strategic planning often spoils the ability to think strategically, leading managers to confuse the formation of a real vision with the analysis of numbers only (Mintzberg, 1994). However, strategy formulation and implementation are a major part of formulating a vision, and necessitate your gathering and monitoring information from multiple internal and external sources. The analysis of numerical data is an extremely important part of your strategic thinking, and many tools exist to assist you.

Unlike universities, businesses tend to have good quantitative indicators of productivity, but not good qualitative indicators. In fact, I think the reverse is probably the case for universities. To overcome the problem in business, Kaplan and Norton (1992) developed the balanced scorecard for use as a strategic management system (Kaplan and Norton, 2007). This scorecard puts strategy and vision, not control, at the centre, which establishes goals and assumes that people will act to achieve these goals. The scorecard includes four perspectives—financial performance, customer knowledge, internal business processes, and learning and growth—and bears strong similarities to *hoshin kanri*, the organisation-wide strategic planning system widely used in Japanese companies (Witcher and Chau, 2007; SkyMark Corporation, 2011). Parmenter (2010) believes two more perspectives—employee satisfaction and environment/community—should also be added.

While the scorecard approach was clearly designed for companies, because you are responsible for research productivity in a knowledge-generation company, I believe universities can benefit from many advantages if they at least consider these management strategies and techniques. Franco and Bourne (2003) reviewed published studies, although based again on industry performance, and also carried out their own survey to identify the critical factors that enabled organisations to manage through measurement. I believe that these factors provide a good background for consideration of performance measurement and its use in universities. Indeed, the University of Leeds has documented its use of the balanced scorecard to assist its transformation into a world-class institution (Donoghue and Kennerley, 2008).

But we must continually bear in mind that strategic thinking is an iterative process, and planning must be continuous and not a static process. Although not every university has a clear, focused and accepted research strategy, in most organisations, there is too much strategic planning and not enough strategic thinking (Nadler, 1994). A recent survey of a representative group of 20 English universities found that confidence in the effectiveness of having a research strategy was at best inconclusive and at worst very low among the 19 institutions that did have a research strategy. Only four felt they had achieved their strategic research objectives, and the research strategies of most of the other universities were under review or likely to be reviewed in the near future (Langley and Green, 2009).

But as I have discussed, the strategic plan you develop as vice-president (research) to cover the next 3-5 years of university productivity will be a higher-level plan than the one developed by the associate deans (research) who will cover the next 1-3 years of faculty research productivity. Ideally, while both plans are detailed and clear, there should be enough flexibility to enable updates or minor changes in direction should urgent attention be required. The challenge is that the academic world does not stand still, and although your strategic plan may be appropriate today, your competitor universities may be moving at an even faster pace than your university, resulting in greater research productivity. And as described in the introduction to this book, this

situation may lead not only to a reduction in your research activities, but also to changes in the number and quality of undergraduate students attracted to your university. Your national and global rankings and therefore your worth in terms of your government's assessment and recognition, may also suffer. Your strategies should be crafted, therefore, to ensure that you maintain a competitive advantage over your peer universities (Pilbeam and Jamieson, 2010).

The full details and amount of information needed to craft effective research strategic plans are too voluminous to include here, so let me just reiterate the essential need for such plans. Keep in mind that they are dependent on the current research culture of your organisation (university or faculty unit), and the amount of detail they require can change over time as the sophistication of the university's research culture changes. Also, the level of detail will increase the further "down" the university structural hierarchy you go.

Strategic planning is usually "top down," but can also be "bottom up" or an "integrated" mix of both. In an ideal top-down situation, the university council will prescribe general outcomes for the next planning period, and you will have the responsibility as vice-president (research) to prepare a detailed university-wide plan to achieve the research outcomes desired. This task is usually accomplished in consultation with senior staff in the faculties and may involve many meetings, a number of written versions, and much compromise in order to develop a plan your university research committee and then academic board/senate are willing to sign off on.

Of course, some universities follow a bottom-up approach, gathering data on what the departments can achieve for planning over the next 3-5 years. Often the best research policies—policies that are more widely known, accepted, and agreed to—come from a mixture of top-down and bottom-up approaches. What you do will depend on the research culture of your faculty and university, but you must know what you need to do and how to project manage and achieve an appropriate research strategic plan. (See Chapter 3.)

This plan will then be assessed by the faculties, which will prepare their plans based on what they can or should be able to achieve during the planning period as their part of the overall university plan. As

associate dean (research), you will have responsibility for these outcomes in your faculty unit; you will also be responsible for ensuring that schools/colleges and departments plan their goals and desired outcomes such that the total sum of all these "lower-level" plans will allow the university to achieve its overall goals. Unfortunately, I believe that Hemlin (2006) was correct when he stated that "*a typical attitude in academia is . . . that management is not needed in research, because researchers must follow their own minds and organise activities freely by themselves without considering manage*ment," and you must achieve in this environment.

As mentioned above, achieving a widely understood and accepted research strategic plan is not a trivial exercise. Strategic planning should be an iterative and continuous process; still, a new plan is usually produced every 3-5 years. The main reason for doing this is to facilitate the continual assessment of each organisational element's research performance compared with its plan. And you are wholly responsible for this at the university or faculty level. That's why it's essential that you distinguish between strategic planning and strategic management, which should be an ongoing process for reviewing and maintaining strategic momentum at all levels in the university.

For example, are your high-quality publications, PhD student completions, and research grant-funding successes per department and faculty unit on target? If not, why not? What factors were detailed in the plan to ensure that these targets were achieved? Do you focus on increasing productivity of only selected staff who already possess a high level of expertise, or do you focus on improving the expertise of less experienced staff? Or do you have the resources to pursue both strategies, or only a selected mixture of both? Do you increase high-quality publications and grant success by internal review of all submissions, and cull those not thought to be of sufficient excellence? Who decides? On what basis do you cull? Do you assign outstanding internal staff to run training courses, employ consultants, or invite external journal editors and staff of government funding agencies to assist? These are all real and possible strategies, and their appropriateness for your university will depend on a range of factors, including organisational culture and agreed performance indicators.**30**

Whatever plan you choose, you must test it for critical flaws. Although there is no guarantee that a flawless plan will eventually lead to desired outcomes, it's clear that a plan that's flawed, with respect to consistency, consonance, advantage, and feasibility, is highly unlikely to achieve its objectives (Rumelt, 2000).

But having a well-developed, informative and detailed strategic plan, which has resulted from your strategic thinking and strategy-making, is just the start of the process.Your plan must be communicated widely and transparently throughout your university, and ideally then accepted and acted upon by all staff and ideally students. Appropriate communication is essential in every university. (Development of a communication plan will be discussed in Chapter 7.) A recent survey of 1,075 business leaders found that 72% thought communicating strategy in clear terms is a top priority in execution, because failure to communicate strategy causes frontline workers to invent their own strategies (Martin, 2010a). Compounding this issue, very senior researchers may not wish to be involved in strategic management, as they could see it as restricting their academic freedom.

Having developed a plan, tested it for flaws, and then communicated it appropriately, you must execute your plan. For the sake of discussion, I am considering strategic planning as separate from execution, and indeed, although this distinction has become firmly established in management thinking over the last 10 years, drawing a line between strategy and execution almost guarantees failure (Martin, 2010b). In fact, Charan and Colvin (1999) found that an estimated 70% of CEOs fail because of their inability to execute— not getting things done, being indecisive, not delivering on commitments. Implementation of organisational change is one of the more important yet least understood skills required of successful leaders, and success depends on the expertise, trustworthiness, and credibility of the person trying to implement the change (Armenakis and Harris, 2002; By, 2007). This requirement is not restricted to the private sector; it is even more important in higher education.

"There are high risks associated with the execution (rather than development) of strategy. These risks are amplified when dealing with the execution

of strategy in the university sector, where strategies and change are notoriously difficult to implement due to cultural, leadership, diversity, scale, and governance factors" (Donoghue and Kennerley, 2008).

Turnball and Edwards (2005) focused on how a multi-college higher education institution failed in its transformation efforts and found that organisational trust, empowerment, and identity were key inhibitors of change. Consultants were hired to make appropriate recommendations for change, but even with this input, neither the council nor chancellor ever followed up. Of course, over-reliance leading to a dependence on consultants, leaders not displaying the desired new behaviors, and leaders being unclear themselves about the objectives can be just as problematic (Greaves and Sorrenson, 1999).

Different types of institutions require different strategies for allocating resources. It is one thing for central administration to decide on the principle of selective cutbacks or reallocation of resources, but plans to phase out faculties and programs are difficult to impose on complex and decentralised universities. Your decisions will not be made in a vacuum, but in a very political context (Hardy, 1990).

A major problem is that there's usually too much focus in universities on debating and discussing what should change, and far too little focus on making it happen (Scott et al., 2010). This occurs despite the fact that the processes necessary for successful strategic planning and change management are extremely well documented. I have listed examples of the findings of seven major studies in this area in Table 1.

One of the more important factors that ensures the success of organisational change is organisational commitment. The more staff identify with their organisation, the higher their commitment to the organisation, and the greater their willingness to accept organisational change (Vakola and Nikolaou, 2005). Your major challenge in this respect, which will be further discussed in Chapter 5, is that university staff identify more strongly with their research group or department than their faculty or university. What will help with your efforts to manage change and convince staff to accept your strategic plan is painting a positive picture: "*Here is why change will be good*" rather than "*This is why we need to change*" (Armenakis and Harris, 2002).

Table 1. Major criteria in strategic planning and change management

Kanter et al.,1992	Kotter, 1996	Armenakis and Harris 2002	Luecke, 2003	Vakola and Nikolaou 2005	Kaplan and Norton, 2008
Analyse the organisation and its need for change	First phase Readiness – staff prepare for change and ideally support it		Mobilise energy and commitment through joint identification of problems and their solutions		Participate in planning
Create a shared vision and common direction	Develop a shared vision of how to organise and manage for competitiveness		Good and effective work relationships		Develop the strategy
Separate from past structures and routines					
Create a sense of urgency			Establish a sense of urgency		
Support a strong leader		Create a guiding team		Identify the leadership	
Line up political sponsorship			Top management commitment		
Craft an implementation plan	Develop a vision and strategy	By (2007) adds an implicit strategy conveying the importance of continuous change management	Focus on results, not activities		Plan the strategy
Develop enabling structures	Second phase Adoption – change is implemented and staff adopt new ways of operating	Start change at the periphery then let it spread to other areas without pushing it from the top	Allocation of resources		Alignment - Organisation - Financial resources - Human capital - IT - Process
Communicate, involve people and be honest	Communicate the change vision		Institutionalise success through formal policies, systems, and structures		Effective communications