

14 THE LONG TERM SUPERVISOR/RESEARCHER RELATIONSHIP

14.1 Overview

Traditionally, the completion of a postgraduate research degree was considered to be the end of an apprenticeship that had been served, and the recipient was deemed to be worthy of an entry-level research or academic position within the university. The reality is that this is no longer the case.

The sheer volume of postgraduate research completions at a global level, relative to annually available academic positions, means that many people who complete their postgraduate research degrees will never work in the university system. Some will never work as researchers in industry, and some may never even work in a professional capacity.

The point here is that, where a postgraduate research degree once prepared a candidate for a particular type of career, the same is no longer true in the modern world. All research supervisors therefore need to think long and hard about the implications of this for their research students.

From a technical point of view, the research supervisor's role has effectively ended when the postgraduate research examination process has delivered a final verdict – hopefully a passing grade. Pragmatically, however, each research supervisor is also an academic staff member of the university, and therefore has an important, additional role as an institutional builder/advocate.

At this point it is opportune to reflect upon the Greek proverb (source anonymous) which says that,

"A society grows great when old men plant trees whose shade they know they shall never sit in."

The same is true of universities. Each academic and researcher has the responsibility of planting the seeds for future generations of students, academics and researchers. Part of this involves accepting some responsibility for the future careers of those who pass through a university's portals. Part of this requires the building of long-term relationships with the student after graduation.

Needless to say, a research supervisor cannot guarantee the future career success of a research student any more than a university can guarantee the future success of a first-degree graduate. The key point here is that, in all cases, it is important that the graduates – be they first-degree or advanced research degree – leave confident that the university and its academics have done the best that they can to assist them in the transition towards a professional career.

For an undergraduate student making the transition from, say, an accounting degree to a career in accounting, the pathway is relatively straightforward, because the degree and the career are both well defined. The same is clearly not true of a research degree, where the future career pathways are many and varied, including:

- A postdoctoral position, teaching or research assistantship in the same university in which the research degree was completed
- A postdoctoral position, teaching or research assistantship in a university other than the one in which the research degree was completed – possibly even in another country
- A business/industry professional (non-research) position in a similar field to the one in which the research was conducted
- A management career in business/industry/government
- A commercial research and development career in business/industry
- A start-up company, based upon ideas or technologies arising from the postgraduate research degree or other interests.

These aspects have already been discussed in Section 2.14 (Professional Career Foundation) and Section 3.9 (Professional Development). The primary issue to be addressed by the supervisor is that the postgraduate research degree does not, of itself, necessarily provide an expedited pathway into any of these career options. In each case, extracurricular efforts are

required on the part of the research student, and support is required from the supervisor. Table 3.2 is reproduced here (as Table 14.1) to highlight the range of issues that need to be addressed.

The main point to take from Table 14.1 is that all of the possible career options and their implications need to be considered by the supervisor early in the research program – possibly even before the research student knows which direction he/she intends to take at the end of the program. Each potential career pathway necessarily involves some planning and preparatory work and, by the time the research program has concluded, many of the opportunities for conducting this preparatory work will have already lapsed.

In this chapter, each of these possible pathways is examined from the perspective of how a supervisor can provide support to a research student in achieving such outcomes. At the end of the research program, the research student should then, at a minimum, have a profound appreciation for what the supervisor has done – potentially forming the basis for a long-term relationship.

In addition to these important *career-kick-starting* issues, there are also other basic things that a supervisor can do to help maintain an ongoing professional relationship with the research graduate, and these are also examined in this chapter.

The long-term benefits of a good relationship between the graduated student and the research supervisor should be clear – especially if the graduate becomes successful as an eminent researcher, a business owner in his/her own right, or a senior business/industry executive. The benefits can include:

- Donations to the university
- Establishment of research collaborations
- Funding of contract research and development at the university.

All these benefits can be substantially larger and more rewarding than any short-term benefits that a supervisor may gain during the course of the postgraduate program. All of the benefits that may accrue to the supervisor and the university have the same starting point – that is, doing everything possible to assist the research student in becoming successful in his/her chosen career pathway.

<i>Career Aspirations</i>	<i>Key Factors</i>	<i>Timeframe</i>
Academic Career	<ul style="list-style-type: none"> • Significant research outcomes • Publications/conference attendance • Citations • Academic service work – reviewing for journals, contributing to student programs • Networking with senior staff in current and prospective universities • Understanding of broader university research and education requirements and performance issues 	3 Years
Professional Career in Broad Field of Research	<ul style="list-style-type: none"> • Understanding of research outcomes in the context of business/industry • Experience in/exposure to (e.g., internship) relevant companies • Understanding of company business models in fields of interest • Understanding of competitive advantages of PhD qualification relative to other graduates 	1-2 Years
Management Career	<ul style="list-style-type: none"> • Formal management training/accreditation (e.g., MBA) • Basic business/industry experience (e.g., internship) in possible future employment organizations • High level communication ability • Networking with business-oriented colleagues 	3 Years
Commercial Research and Development Career	<ul style="list-style-type: none"> • Demonstrable ability to deliver tangible research outcomes – on time • Ability to communicate R&D outcomes in an efficient, concise manner • Experience in commercial R&D environment (e.g., internship) • Possible Management training/accreditation (e.g., MBA) 	2 Years
Start-up Company	<ul style="list-style-type: none"> • Understanding of basic entrepreneurship concepts and processes • Understanding of the business value proposition of the research outcomes • High level of communication ability • Networking with business angels, seed funding and venture capital organizations • Networking with enthusiastic colleagues to form possible teams 	3 Years

Table 14.1 – Example of Possible Development Pathways and Requirements

14.2 Academic Career

Traditionally, the logical extension to a postgraduate research degree has been a career in the university system. Unfortunately, the annual disparity between the number of people achieving postgraduate research degrees and the number of available tenured and non-tenured positions is so great that there is no guarantee that a graduate will ever enter academia.

A research supervisor's task is not necessarily to discourage a postgraduate student with the daunting statistics but, at the very least, to ensure that the student is aware that an academic career is not *fait accomplis* after graduation. The objective is to get the point across that the competition for entry-level academic positions is enormous and, thereafter, the competition for tenured positions is also considerable. A research student therefore needs to understand that if he/she wishes to pursue a career in academia, then considerable preparatory work needs to be performed during the course of the postgraduate research program.

There are numerous tasks/achievements/milestones during the course of the postgraduate program that could tilt the statistics in the research student's favor. Some of these include:

- *Landmark research outcomes* – there is a great deal of serendipity involved in achieving benchmark research that becomes internationally acclaimed and cited – nevertheless, raising the sights of students over and above the mundane may inspire them to achieve significant outcomes. Quality always needs to take precedence over quantity in terms of research outputs.
- *Publications in respected, peer-reviewed journals* – each field has its own journals which are regarded as the benchmarks for acceptance of particular ideas – acceptance by peers in these journals is important for future career considerations in academia
- *Citations* – highly cited work is well regarded in academia but, unfortunately, time constraints are such that most postgraduate research students will not have had their work exposed for a sufficiently long time to attract large numbers of citations
- *Understanding the university environment and driving factors* – universities are large, complex organizations with diverse objectives and constraints – people who understand these are more likely to fit into the culture following the completion of their postgraduate degree. It is also important for the student to understand institutional research strengths and gaps in order to potentially fit into emerging academic positions

- *Networking with a broad range of academics* – the research supervisor may not have the grants/funding to retain a research student as a postdoctoral scholar after graduation but other colleagues may – a research supervisor needs to ensure that his/her research students are networking with people who have the potential to provide academic career openings within the university or at other universities. Networking means more than just socializing – students have to be able to offer something of value and substance to those with whom they interact
- *Experience in lecturing, laboratory supervision, tutoring, mentoring* – all basic academic functions, and ones in which experience may count when seeking a position.

Another consideration for the research supervisor is to try and ascertain the research student's strengths and professional preferences – and how these can best fit into the university environment. In particular, many research students may have a penchant for design, conduct and construction of experiments and experimental systems. These research students may prefer to have a university career in laboratory or technical support, rather than traditional academia or research. In large, modern universities, the career pathways for laboratory and technical staff can be both engaging and challenging – and provide an excellent alternative for high caliber graduates who prefer hands-on experimentation to broader research or academic roles.

Some research supervisors – either through naivety or a desire to hold on to a high caliber postgraduate student after graduation – often make grandiose promises about potential future employment in the same research group. Unless the supervisor has a well-established track record of competitive research grant income, or some other guarantees on the part of the university, it is best not to overstate the possibility of future employment in the same group, only to disappoint the student later. If one is intent on building up a long-term future relationship with the graduated student, failing to deliver at the first hurdle is not a good start.

A research supervisor, as part of his/her role as an educator, should be looking out for the best possible future career opportunities for his/her research student. This can involve introducing the student to a range of colleagues within the university or other various institutions – in the full knowledge that this may ultimately lead to losing the graduated student for potential postdoctoral positions.

All these issues require engagement and support from the research supervisor early in the research program, and the supervisor needs to ensure that meetings with a research student do not focus solely on the

research *per se* but also upon the manner in which the student's research will manifest itself in future career options.

14.3 Professional Career in Broad Field of Research

Not all research students seek to become researchers when they graduate from an advanced degree. Some undertake the degree to pursue an area of special interest and others merely for the challenge of completing an academic program at the highest possible level. Once such a program is completed, a proportion of graduates will seek to move into a conventional professional career in the broader field of interest that has motivated their research. For example, someone who has undertaken a Doctoral degree in an area of bioscience may elect to move into the pharmaceutical industry – not as a researcher, but as a professional within the organization.

The obvious question then is, if students choose such a pathway, what is the role of the supervisor?

To begin with, it needs to be understood that those who undertake a postgraduate research degree, and then move into a conventional professional environment, are commencing their career outside the university at a considerable disadvantage. Postgraduate-qualified individuals have sacrificed several years of salary in order to achieve their qualification. Not only this, but their peers who moved directly into the professional market will likely have earned one or more promotions before the postgraduate qualified individuals even gain entry-level positions.

Postgraduate qualified individuals also incur opportunity costs as a result of being out of the general income-earning environment. For example, a professional with an income stream could purchase a property or stocks, and benefit from several years of capital growth, while a postgraduate research student does not have the means to undertake such investment.

If a research supervisor is seeking to develop a long-term professional relationship with the graduated student, then clearly sending that student out into the professional job market and having them accept a salary considerably lower than their already-promoted peers, who do not have postgraduate qualifications, is not a good start. A research supervisor therefore needs to take an active interest in the sorts of competitive advantages that a postgraduate qualification can contribute to the professional job market.

It is naive in the extreme for postgraduate research supervisors to delude themselves that their task is complete provided that their research students have undertaken quality research and have received their degrees. The reality in the modern world is that this simply isn't enough, because the postgraduate qualification, of itself, is insufficient to create the competitive advantage that the graduate will require to achieve high-caliber positions in

business/industry.

A research supervisor therefore needs to become actively involved in the potential future career of his/her student, specifically:

- What sorts of companies hire students with advanced degrees?
- What are the competitive advantages (if any) for people with advanced degrees in those companies?
- How can the research supervisor maximize his/her student's competitive advantages?
- What additional training or extra-curricula activities will the student need to undertake in order to become a more convincing value-proposition for potential employers?
- Who are the recruitment decision-makers in organizations that are potential employers?
- How can the supervisor get the research student to network with potential employers and decision-makers, or else bring those decision-makers to the university to showcase his/her student's work?

These are all important questions that the research supervisor needs to address, once he/she understands the research student's predisposition to a particular future career. The objective is to make the research student as valuable as he/she can be so that he/she can have the best opportunity for a professional career in the field of interest.

Many research supervisors have little or no exposure to business or industry themselves and so, unsurprisingly, they are hesitant to get involved in something on behalf of their students, which they themselves find difficult.

There are two factors working in the favor of research supervisors in this regard. The first is the credibility/brand-value of the university itself in helping the supervisor forge an introduction. The second is the machinery that is already in place at the university for recruitment of undergraduate students.

Cold-calling external organizations, to forge relationships, is less onerous for a university staff-member than for a student or member of the public. Universities are seen to be organizations of public good, and many business and industry people genuinely welcome the opportunity of supporting the educational process. Some organizations are also keen to recruit high caliber graduates, and so any mechanism that the research supervisor can create to build bridges, and demonstrate the abilities of his/her postgraduate research students to business/industry is a value-

adding activity.

Each university has some form of outreach program or graduate recruitment program that it conducts at a broad level with business, government and industry. The connections and introductions that a research supervisor will require in order to assist his/her student in networking are therefore generally already available within the system. The research supervisor should make use of these to forge programs that bring relevant potential employers closer to postgraduate students who see their futures in business or industry.

Finally, most large business/industry organizations have internal recruitment coordinators and departments specifically set up to interact with universities and their students. A research supervisor can also make use of these to help the student make the necessary linkages.

Importantly, there is more to supporting a research student achieve his/her career objectives than making a simple introduction or handing out a business card. The research supervisor needs to work with the student in understanding what potential employers want, and what factors/triggers can lead to:

- Greater desirability
- Higher entry salaries
- Broader position scope.

Sometimes, the supervisor's maturity and life experience can, of itself, be a great benefit to helping a research student bridge the gap between his/her research and a potential career pathway with a particular commercial or government entity.

Clearly, these are all issues that need to be worked upon from the early days of the postgraduate research program, through to the conclusion and ultimate recruitment.

14.4 Management Career

A postgraduate research degree may seem incongruous with a future management position in business or industry. In the classic XY-graph of *breadth vs depth* that is sometimes applied in the commercial environment, those who have a great depth and limited breadth are deemed technocrats – and those who have great breadth but limited depth are deemed managers. The two positions appear to be incompatible.

The *breadth vs depth* model applies more appropriately to large, traditional companies than it does to lean, modern organizations with limited resources and a limited operating life. In these leaner organizations, there are potentially management roles for those with a large depth of knowledge – provided that they are prepared to put in the work to understand the semantics and semaphores of business and industry.

There is only so much that a research supervisor can do in isolation in order to prepare a research student for a management pathway. Clearly, additional training, beyond the postgraduate research program, is required. This could take on the form of a traditional Master of Business Administration (MBA) or other forms of training and accreditation in business and entrepreneurship.

In coming to an understanding of where the research student would like his/her career to go, beyond the research degree, the supervisor needs to consider how other supporting training can be provided – either within the university or at another appropriate institution. This will also involve additional workload for the research student, and the supervisor needs to understand the impact that this may have upon the research program.

In addition to any basic accreditation in the business field, there are also mindset changes that may need to take place. In particular, the objective of postgraduate research is to foster a thought process where attention is given to the analysis of every small detail – in order to eliminate uncertainty. In the business/industry environment, there is seldom sufficient time to eliminate uncertainty in the decision-making process. Decisions often need to be made at a visceral level by balancing risks and rewards, in an environment where the data is manifest in shades of gray rather than black and white.

Is it practical for a research supervisor to inculcate such a mindset shift on the part of a research student? The answer to this question clearly depends upon the research student. Some research students are able to quickly and naturally adapt from one form of thinking to another. Others are not.

It may be that those who are steadfastly wed to the consideration of detailed analysis of data and information in order to make decisions will never become senior managers – but they may be the material of great researchers. It may also be that those who can shift from detailed analysis to broad decision-making in an environment with shades of gray will never become great researchers, but they may become exceptionally good technology managers.

At some point, in coming to know the research student, as one does during the course of a supervision, the research supervisor needs to determine which of the personality traits his/her student has, and how that will affect future career aspirations.

Other factors will also influence potential pathways to management. For example,

- Is the research student gregarious, shy or a loner?
- Does the research student naturally lead when placed into a team environment?
- Can the research student bring together a disparate band of individuals and make a team which is greater than the sum of its parts?

These are the sorts of questions that need to be answered in order for the supervisor to get an insight into whether his/her student is suited to a management pathway.

A good way to determine the particular strengths and weaknesses of a student is to provide opportunities for team-based activities – whether these be formal academic activities, informal academic exercises or informal extra-curricula activities. It may be that, in providing such opportunities, the research student will be able to come to his/her own conclusions about suitability for a management pathway, and the added commitment and potential training that will be required in order to fulfill such ambitions.

14.5 Commercial Research and Development Career

A career in commercial research and development (R&D) may appear to be as logical an extension to a postgraduate research program as an academic research career. However, there are significant differences and, because competition for commercial R&D positions is intense, research supervisors may have an important role to play in maximizing the chances of their research students achieving success in such positions.

In the middle of the 20th Century, many large, multinational corporations maintained *blue-sky* R&D facilities (e.g., IBM and Xerox), wherein groups of high-caliber graduates and researchers had the freedom to tackle challenging problems that might only have been peripherally related to a corporation's core business activities. Some of these activities led to commercially significant products, and some created collateral technologies that were eventually incorporated into other mainstream products. In the modern world, however, the cost of maintaining such facilities is often prohibitive, particularly because of tight profit margins, limitations on cash flow, and so on. Many modern commercial organizations have therefore developed a portfolio approach to the management of commercial R&D.

A portfolio approach to commercial R&D means that the manner in which research activities are tackled is segmented according to risk (or probability of success). For example:

- *Low-risk activities*, which are likely to yield a commercial outcome within a short timeframe, are generally conducted in-house with full ownership of intellectual property (IP) retained by the company
- *Medium-risk activities*, which have a reasonable chance of a commercial outcome, but which may involve too large a risk in terms of investment, may be performed in partnership with other commercial organizations or universities
- *High-risk activities*, which have only a minute chance of success, and for which commercialization mechanisms *are unclear*, are farmed out to universities and other government R&D facilities through research grants, and only a portion of the total IP is retained by the company in the event of success
- *High-risk activities*, which have only a minute chance of success and for which commercialization pathways *are clearly identifiable*, may be fostered through venture capital or seed funding of innovative researchers – with the prospect of buying out the

resulting company if it proves to be successful – thereby effectively outsourcing high-risk R&D.

A good example of this portfolio approach might be in the pharmaceutical industry, where research into minor variations to mainstream products is performed in-house, while new pharmaceutical products, with a high degree of risk in terms of development and certification, are left to small biotechnology companies. The small start-ups wear the risk through venture capital investments (sometimes through mainstream pharmaceutical companies) and possibly other supporting funding from government.

The key point to take from all this is that a postgraduate research student cannot simply expect to pursue the same research pathway in modern commercial research as in the university environment. There are significant pressures to deliver tangible results – on time and on budget. Moreover, in commercial research, the emphasis is on team-based outcomes, where individuals are generally not permitted to lay claim to significant portions of IP – in order to prevent individuals from starting up competitor organizations.

In order to tackle these cultural differences, the research student needs to understand basic principles of:

- Entrepreneurship
- Management of R&D in the corporate environment
- Basic business management
- Team-based research.

It may not be necessary (or feasible) for an individual to possess additional, formal qualifications in these areas in order to get a foot in the door of commercial R&D, but extensive reading on the subject could be a particularly useful competitive advantage.

From the supervisor's perspective, there are various things which can be done to assist the student in making a transition to commercial R&D. Bringing industry people into the university to see research first-hand is a good starting point. Exposing the research student to staff in other relevant faculties is also useful – especially if the university has faculties which have a focus on entrepreneurship; venture capital, and so on.

At a more basic level, in terms of research supervision, it may be worthwhile to provide a much greater focus on research planning and management on the part of the student – particularly in areas such as project timelines, critical path management, and so on. It may also be worthwhile for the student to engage with potential employer organizations

and, perhaps, work as an intern in order to gain experience in the commercial environment.

A good research supervisor should have an awareness of the companies that recruit researchers in his/her field – and should work to establish ongoing relationships with those companies. This can foster a greater synergy between commercial research departments and the work undertaken at the university, and also allow commercial organizations to develop some trust in the research staff and students at the university. With a good relationship intact, the research supervisor may become a first port of call for companies looking to recruit postgraduate research qualified staff.

14.6 Start-Up Company

Many research students in the modern world, who may be frustrated by limited, exciting prospects in traditional research environments, see the possibility of establishing a start-up company, based upon their university research, as a means of retaining a foothold in the area of interest, as well as generating an income.

The probability of start-up companies, initiated by postgraduate research students, becoming long-term successful is very small, but even a failed enterprise can provide an entrepreneurial graduate with invaluable experience – to either start up another company or work in other commercial areas.

The notion of a start-up company being a pathway to riches is a rule borne out in the exception. Nevertheless, the allure of financial success is often a powerful incentive for graduates to work tirelessly in setting up a new enterprise.

For the research supervisor, providing support to a research student in starting up his/her own enterprise can have numerous benefits for a long-term professional relationship after the conclusion of the postgraduate program.

As a starting point, if a research student's commercial venture becomes successful, and the academic supervisor is seen as a person who was instrumental in supporting that success, then numerous benefits can flow back to the university and the supervisor – including contract R&D, research project funding, donations and support for university activities. Even if a venture is unsuccessful, any reasonable graduate should still recognize the efforts and contributions that his/her supervisor has made in trying to create that success, and various collateral benefits may flow from this.

A research supervisor whose student has expressed an interest in using his/her postgraduate work as the basis of a company can provide numerous supporting functions to that student. First and foremost, on behalf of the student, the supervisor needs to formally determine the status of IP arising from a research student's project. If a postgraduate student has been funded through a collaborative research project with industry, or if the student has received a scholarship from industry, then formal agreements may be in place in relation to the disbursement of IP arising from the project. In some universities, it may also be the case that the university itself owns the IP resulting from a postgraduate research project. If this is the case, then the student has no *prima facie* basis on which to start a

company. It may be possible, however, for a research supervisor to work with relevant partners, and the university's nominated representatives, to negotiate a mechanism by which a start-up company may be formed – perhaps, this might be through the allocation of equity in the new organization.

Assuming that a start-up company can be formed, it needs to have a more systematic driving force than simply a research student with boundless enthusiasm. To begin with, in order to make meaningful headway in the realm of start-up companies, a postgraduate student will require:

- Training/education in the field of entrepreneurship
- Advice/support from business/venture capital and legal professionals
- Seed funding and venture capital funding
- Office accommodation/space – incubation area
- Basic infrastructure – information technology, payroll, accounting software, etc.

Clearly, most supervisors are not equipped to themselves provide this type of support. However, it is not unreasonable to expect that supervisors should make an effort in informing themselves on the best means by which such resources can be obtained – particularly if there are programs available within the university to provide them.

Some universities are better equipped than others to support the start-up activities of research students. For example, an international leader in university-based start-up activities, Stanford University, provides support through its StartX Accelerator Program (*Startx.com, 2015*), which addresses many of the above issues on behalf of research students, and without placing an unnecessary equity burden on the newly formed start-up.

Needless to say, not all universities can provide the Stanford level of support to their research students, but each university will have some elements available in-house, which a research supervisor may be able to tap into on behalf of his/her students. For example, a research supervisor may be able to negotiate incubation space for a start-up, including use of the university's IT infrastructure. Another possibility may involve tapping into the goodwill of academic colleagues in accounting/business/economics fields in order to provide a team of mentors for the research student, with expertise broader than just the core knowledge itself.

It would be all too easy for a research supervisor to shrug his/her shoulders and complain that these sorts of activities are not his/her

responsibility. However, this is ignoring the realities of modern supervisory practice – regardless of whether such additions are enshrined in university procedures.

In addition to these supporting activities, a research supervisor may also wish to take on an additional mentoring role in the context of trying to evaluate the research student's personality and work practices against those required for an entrepreneurial start-up company. If a supervisor feels that his/her research student simply doesn't possess a team-building capacity, or is not naturally gregarious, then there is some responsibility to support the student by identifying deficiencies/weaknesses and seeing how they might be worked upon in order to become strengths.

Finally, there is the notion of a supervisor investing his/her own personal money into a start-up company to support the research student. Some highly successful technology companies started on just such a basis. As a general rule, however, this might be overstepping the boundary of an educator. Additionally, if a research supervisor is not an informed and experienced investor, it may lead to the ultimate loss of personal savings. Over and above these issues is the possibility that, by investing in a research student's company, the supervisor may establish a conflict of interest by holding a personal equity in an organization that may also attract other funding or resources from the university itself.

According to Fortune Magazine (*Griffith, 2014*), nine out of ten start-up companies fail. The key reason for failure is a product for which there is no real market,

"...CB Insights recently parsed 101 post-mortem essays by startup founders to pinpoint the reasons they believe their company failed. On Thursday the company crunched the numbers to reveal that the number-one reason for failure, cited by 42% of polled startups, is the lack of a market need for their product."

Entrepreneurship is largely founded on the principle of having the ability to predict what the market will want before that market knows what it wants. This was well encapsulated in the words of automotive industrialist and entrepreneur Henry Ford, who said,

"If I had asked people what they had wanted, they would have said faster horses."

In the context of university postgraduate research, however, it may be that the technological/social boundaries of what is being created by research students are simply too far ahead of the market to facilitate short-term commercialization. In other words, within the normal operating window of a start-up company, many university research outcomes may not have a market for some years – or even decades.

These aren't decisions that a research supervisor can make on behalf of a research student, beyond providing impartial, sage advice on the perils of investing heavily in a venture which is inherently risky. The research supervisor's role is neither to dampen enthusiasm nor overstate the benefits of the start-up option. What is called for is a reasoned and informed presentation of the evidence in relation to start-ups and entrepreneurial traits that lead to success. Beyond that, there is a need for the supervisor to respect the research student's ultimate decision and provide as much support as possible to maximize the chances of success.

14.7 Other Basic Relationship Building Issues

Thus far, this chapter has documented only the relationship building issues that are associated with a research student's career choices. There are, however, more basic means by which a research supervisor can establish and maintain a long-term professional relationship with a research student. The obvious ones include:

- Involvement and participation in university alumni organization functions
- Organization of formal and informal functions for graduated research students to attend on a regular basis
- Inviting graduates to lunch or dinner to maintain contact with them and follow their career choices.

These should already be apparent to anyone who has reached the stage of becoming a research supervisor. Nevertheless, it is important to understand that these sorts of functions can only work if the graduate student:

- Has a genuine and profound respect for his/her supervisor – specifically, as it relates to integrity, knowledge and understanding
- Believes that the supervisor has the ability to provide ongoing value (i.e., knowledge or advice) to his/her career
- Believes that, at all times during the supervisory process, the research supervisor put the student's interests ahead of his/her own personal and career interests.

Without these underlying qualities, many of the mechanisms that are in place within the university system to maintain ongoing relationships with students may appear shallow and insincere. Simply put, the research supervisor can neither buy friendship nor respect – both of these need to be hard earned over the years spent with the research student during the postgraduate research program.

The long-term relationship between the research student and supervisor cannot be built at the end of the research program – it needs to be built from the very beginning through mutual respect and trust.