Chapter 7

Faculty Recruitment and Management

Faculty and students are at the heart of any university. Students come and go after a few years, and even administrators often change once every few years. However, faculty remain—most of them for decades in the same university. Consequently, the character of a university is defined by the faculty it has and the culture that exists among its faculty. Faculty is even more critical in a research university, as the research is led almost entirely by faculty, who are also supervisors for PhD scholars.

It has been argued that research universities are organisms that work for prestige. The reputation and prestige of a university depend on the quality and success of its graduates and the quality and contributions of its faculty. As the former depends on the latter to some extent, the quality and contributions of faculty, in essence, become key factors affecting the reputation and quality of a university.

The situation in terms of faculty in universities is challenging in India, and perhaps in many other developing countries. The biggest challenge is the mismatch between the demand and the supply of faculty-calibre candidates. The lack of the supply of good-quality candidates not only affects recruitment but also restricts the nurturing of faculty to be high achievers.

Getting the best talent is necessary for a research university, but nurturing the faculty talent is even more important. Nurturing requires processes and systems to motivate faculty members to excel so that they can deliver to their potential. There are clear examples in India where faculty quality at the time of joining is as good as in some of the top global universities. However, if we look at the contributions of faculty after a decade or two, the achievement levels are often vastly different from those of their global peers.

Nurturing faculty so that they can achieve their potential and deliver to their level of capability is important not only for a research university but also from the perspective of faculty. Faculty in research universities are inevitably extremely talented, with the highest academic degrees, and often have a strong desire to make an impact. They are also among the smartest people, and their training provides them with strong analytical capabilities. Such people will frequently reflect upon their contributions and ask 'what they did in life'. A nurturing environment that motivates faculty to contribute more can also help the faculty feel more comfortable about their contributions through their academic careers. Unfortunately, in many universities in India, the culture and the environment are not conducive to high-quality teaching or research and are often demotivating for faculty. There are a host of factors that have led to this state of affairs, many of which are discussed by Chandra (2017), who also points out that faculty are one of the weakest links in Indian higher education today.

In this chapter, we discuss the recruitment of faculty, as well as various aspects of nurturing them. This discussion is mainly based on the policies and processes used in IIIT-Delhi, many of which are similar to those in other institutions. As the policies and frameworks regarding faculty management are strongly determined by the cultural and political context of a country, only a few references are provided in this chapter (there is very little literature about faculty management in India). We start the

discussion with the nature of faculty work and the various types of faculty a research university often has.

7.1 FACULTY WORK

The work of a regular faculty in a research university is one of the most multidimensional and complex activities. A research university expects faculty to contribute to its core missions of research and teaching. However, faculty in a university often double up as administrators—faculty members handle many important administrative positions and most committees within a university. They are also members of the larger research community for their discipline. An important aspect of a faculty career is identification with the discipline and the professional community. This community functions largely based on the support from its members. Hence, a responsible faculty also provides service to the profession. In other words, faculty work has three dimensions: research, teaching and service.

With this, a key question is how a university expects its faculty to divide their effort between these three roles. Many research universities do not explicitly state what is 'normally expected' from a faculty in these three dimensions. The effort spent on different activities cannot be measured or accurately estimated. However, reasonable expectations can be established. For example, in some universities, the 'normal' expectation from faculty members is that they spend about 40 per cent of their time in research, 40 per cent in teaching and 20 per cent in service. Any such expectation is on an annual basis and not on a weekly or monthly basis. That is, some semesters, a faculty may end up spending much of his/her time in teaching-related activities, but in some other semesters with a lighter teaching load, or during breaks between semesters (often of about 4 months total), he/she may devote almost all their time to research. Many Australian universities use this 40-40-20 guideline. IIIT-Delhi has also articulated this as the guideline. The importance of this

type of statement is not in the actual percentages but in the fact that teaching and research are both given equal importance and weight. This clearly has implications when assessing faculty contributions and performance.

7.1.1 Research

Faculty in a research university is expected to conduct research at an international level; this necessarily implies doing research, writing papers on results and communicating results through seminars, conferences, and so forth. However, for doing research, a faculty generally has to do much more, including applying for research grants, managing grants, guiding PhD students, managing research personnel, and so forth.

It is desirable to articulate the outcomes of research. Clearly, the main output of research is peer-reviewed publications. Sometimes, other forms of publications may also be considered, for example, patents.

While research publications are universally accepted as a recognized and primary output of research, other forms of outputs are also available. For example, getting and running grants is a significant activity for most faculty, which consumes a considerable amount of their effort. Universities also rely significantly on faculty getting these research grants. Thus, while one can view grants as inputs for research, they can also be viewed as outputs of the research activities of a faculty. A faculty may succeed in getting only some grants (just like research papers) after putting in considerable effort for developing research proposals.

Another reason for considering sponsored research projects as outputs is that these projects are generally granted by research-sponsoring agencies of the government. The types of projects they support often align with the current national agenda for research and development; only research efforts that are likely to advance the state of knowledge and technology in these areas are

supported. These sponsored projects can therefore be considered as contributions to national research missions and as independent outputs of research.

Similar is the case for guiding PhD students. Guiding PhD students essentially helps faculty get fresh ideas and develop these into research results. Consequently, PhD students may be treated as inputs, with the final output being research publications. However, this is a narrow view; guiding PhD students is a significant work for faculty, which consumes a lot of their time. In fact, in the initial years of guiding, PhD students are mostly 'unproductive' in terms of output, and the effort is mainly in guiding and preparing students to undertake research. Besides the fact that guiding a PhD student is a significant effort, the graduation of a PhD student is an important output in its own right, one that is perhaps more significant from a broader research ecosystem perspective. Hence, it should be included as a research output.

Thus, the research activity of a faculty has many aspects. What may be considered as outputs of a research activity depends on the view taken by the university. One set of outputs of research by a faculty in a research university, which is employed in IIIT-Delhi, includes the following:

- Research publications;
- Sponsored projects;
- PhD students graduated; and
- Technologies and innovations developed and deployed/delivered.

We have discussed the first three and the rationale of including them as research outputs. The last one is perhaps more relevant in the current times and is closely related to the third mission of a university. Here, we use the word 'technologies' in a more general sense—virtually anything that can be used for the benefit of the society or a group in the society. It may be actual technology, or it may be a process, or it may be methodology—we refer to

all of them as technology. The society and governments expect universities to provide new technologies and solutions for problems being faced by the society and to contribute directly to the economic development of the country, by leveraging their capabilities of generating new knowledge and converting them into innovations, products, processes and solutions. Universities can deliver innovations and technologies only if faculty aspire to do so. Hence, a university needs to articulate that these are valuable and expected outputs of faculty effort and will be recognized as such in evaluations, promotions, and so forth.

7.1.2 Teaching

All faculty are expected to contribute to education—the primary mission of a university. As the teaching of courses is the most visible activity in education, the contribution to education is often considered synonymous with teaching. We will use the term 'teaching' in a broader sense to mean not only the courses a faculty teaches but also other activities related to the teaching of students in which a faculty puts in effort to contribute towards the education mission.

The teaching of courses is perhaps the most important teaching function; it brings to mind the image of a professor delivering a lecture to a room full of students. In fact, it is much more than delivering lectures. It starts with the design of the course, which is an intellectually challenging exercise requiring establishing learning outcomes, designing lectures and other in-class teachings, planning out-of-lecture activities or assignments to ensure learning and planning for assessment. The lectures have to be delivered, and for each lecture, suitable preparation has to be made: assignments have to be given and graded in time, other assessment instruments have to be employed and checked, and feedback has to be given to students in time. Further, there are other course management tasks such as managing students, taking attendance, ensuring maintenance of academic honesty standards and code of conduct, holding sessions during office hours and, if

needed, special sessions, to help clarify student doubts, managing the course-related website and discussion forums, and so forth. A large class (e.g., an introductory course with a few hundred students) requires additional tasks such as managing teaching assistants, coordinating different sections, holding tutorials, and so forth. All in all, teaching a course is a time-consuming activity, and for large classes, it can be exhausting.

Besides teaching courses, guiding students' work is another major teaching activity for faculty. Most universities have provisions for independent study or project work by students. All such work has to be guided by faculty. As this is one-on-one guidance given to students, it takes time, even with just a few students. Such guidance also involves reading reports that students may write, helping them with the reports and, perhaps, also reading the related literature.

Most research universities have programmes at the master's level which provide students the ability to do a master's thesis or a scholarly paper, or an equivalent. A master's thesis is substantial, often requiring some original work or analysis. It often spans a year, with perhaps one semester fully devoted to thesis work. Such a thesis requires a significant time commitment from the faculty who is guiding the student. Although a faculty might get some useful output from such a thesis, given the small duration, most of the time is spent in training the student. Thus, much of the effort is effectively a contribution towards education.

While teaching courses and guiding students are the main teaching activities, faculty also engage in other teaching activities, leading to desirable contributions to education. For example, a faculty may design a new course in an emerging area—something that is done not too frequently but regularly in most research universities. Any new course design and teaching involves a considerable amount of effort compared with teaching a course that has been in existence for a long time.

How to offer effective teaching that leads to learning by students is a question that has gained importance. No single

answer to this has been accepted unanimously yet. Even accepted approaches to effective teaching might change with new technologies. Hence, teaching itself is a subject in need of constant innovation, and faculty who are involved in teaching are the ones who work on innovations by conducting research in teaching besides doing the teaching itself. Conducting research consumes extra effort but can generate valuable output for education. Hence, innovation and research in teaching is another teaching activity that faculty may engage in, which is often, and should be, encouraged by universities. This may lead to faculty publishing papers in the field of education.

Faculty members can contribute to education through other ways also, such as writing a textbook for a new course, developing courseware or lecture notes, projects, slides, online courses, and so forth. These contributions must be acknowledged and given due weight by the university.

7.1.3 Service

As research and teaching are the core missions of a research university, a faculty member is expected to contribute effectively to both. However, being an established researcher, he/she is also a member of a professional body of researchers. As these professional bodies function mostly based on volunteer effort in many of their tasks, faculty are expected to provide service to their profession—and most do.

At the simplest level, this may involve reviewing research papers submitted to journals or conferences; as a paper may be sent to two or three reviewers, voluntary reviewing itself involves a significant effort. The peer-review system, which has been honed over centuries by the scientific establishment, is widely regarded by all researchers as necessary and important. Researchers are morally obliged to do their share of work—if you expect your work to be rigorously and fairly reviewed, then you should be willing to do this yourself too.

However, the scientific establishment has many more roles undertaken on a voluntary basis by researchers and faculty. These include the editing of scientific journals, each of which has an editorial board that oversees the overall process of selecting papers for publication. Another example is organizing scientific conferences, which play an important role in the sharing of results and ideas and in networking and collaboration between researchers. Committees largely organize such events, and almost all members serve as volunteers.

There are academies with their own agenda and programmes (e.g., for recognizing research contributions), again mostly run by scientists volunteering their service. In addition, the government and society at large also often seek the services of faculty for various technical inputs, given their expertise and lack of alignment with any corporation or business interest.

Service to the profession is not only valuable to individual faculty members but also important for the prestige of the research university. Most research universities like to see their faculty work as editors of important journals or organize important conferences—these help in their reputation and prestige. While it is service to the profession and outside the university, it serves a purpose for the university also, and so universities encourage it.

Besides the service to the profession, faculty are also expected to do some administrative activities related to the university. Committees peopled by faculty take almost all academic decisions in a university. Any administrative role dealing with faculty normally rests with them. Faculty are also often involved in matters related to students. They provide much of the academic leadership in a university; we will discuss this aspect further in Chapter 8 on governance. Suffice it to say that a faculty member's role in service-related work in a university is significant.

Stating that a faculty may typically spend 20 per cent of their efforts on service has some implications on the university and the faculty. It implies that a faculty should not overcommit time and

take too many professional responsibilities. It also means that a university distributes the service effort among faculty members and does not use too much time of any faculty member for its service work. It also has implications on the need for support staff. A university must provide sufficient support staff to handle much of the service activities, while needing only minimal inputs from the faculty.

7.2 TYPES OF FACULTY

It may sound surprising that while the faculty hierarchy is quite flat, with only three main levels (Assistant Professor, Associate Professor and Full Professor), a research university can have many different types of faculty. The general discussion on faculty revolves around the 'regular' faculty, who undoubtedly form the core of a university. However, universities have other types of faculty; in fact, in some cases, the other types of faculty have increased rapidly in recent times. Some of the types of faculty in a research university are as follows:

- Regular faculty;
- Research faculty;
- Teaching track faculty;
- Visiting faculty;
- Professor of Practice;
- Guest faculty; and
- Adjunct faculty.

These are 'position types' in that their roles and expectations are different and their employment contracts are also different. Various other titles also exist: Distinguished Faculty, Institute Faculty, Honorary Faculty, Emeritus Faculty, and so forth. These are more to show the respect for and stature of the person, although contractually, each of these may be one of the afore-mentioned types. Let us briefly discuss the role and responsibility of each of the faculty types.

Regular faculty are the ones who are on regular payroll and have a path to continue in the university until superannuation. Generally, such faculty are tenured, that is, their employment contract extends till superannuation, for most of the later part of their employment period. Before they become tenured, which generally entails an evaluation process, they are considered to be on the tenure track. This period typically lasts a few years. Regular faculty often spend their entire working life in the university.

Regular faculty effectively are the academic core of a university, providing continuity of thought and academic leadership, and strongly influence the culture of the university. They generally are the largest group among all types of faculty. Many academic leadership and management roles (e.g., Dean, Head of the Department, Chair of Committees, and so on) are handled by regular faculty.

Regular faculty are expected to engage actively in all three dimensions of faculty work: research, teaching and service. Although some dimensions may become more dominant from time to time (e.g., when one is assigned an important administrative task or some specific roles, e.g., Dean), the normal expectation is a contribution in all three dimensions.

The quality of regular faculty mainly determines the quality of a university, as they influence not only teaching but also research, as well as administration. The quality of this faculty group is also the magnet to attract new faculty and PhD students. They are the ones who bring research grants and industry projects to the university.

Regular faculty are expected to excel in both teaching and research. However, some may not be strong on both the dimensions, although they may be very good or even exceptional teachers. There are clear examples of excellent teachers whom students love and who can motivate students to achieve and learn but who are either not very interested in research or not very good at it. Such faculty may not 'fit the bill' for a regular

faculty appointment, although they can contribute effectively to the university mission. Having teaching track faculty positions, in which the faculty is expected to engage much more in teaching and less in research, helps in leveraging the talent of such faculty effectively.

Teaching track positions in many research universities have been considered as different from that of regular faculty. Many universities, particularly in USA, often have different titles for such faculty rather than the regular titles of Assistant Professor, Associate Professor and Full Professor. This view, however, clearly gives more weight to research in its value system. For a research university that states equal importance to the teaching and research missions, the value of 'only or mostly research matters' is inherently contradictory to its mission.

An alternate way to view the situation is that strong contributions to research and teaching are expected from faculty, and some members can contribute more through teaching and less through research. In fact, the system should encourage this approach—to allow a faculty to contribute based on his/her strength and interests. In this approach, the expectation of contribution to teaching increases, and the expectation of contribution to research decreases correspondingly. For example, the number of courses a teaching track faculty teaches can be more than that taught by a regular faculty, while the expectations in terms of research can be correspondingly lesser. In other words, a teaching track faculty is a regular faculty with different expectations in the two dimensions.

It should be pointed out that this rebalance of expectations cannot become fully in favour of teaching. Not only would this be against the mission of a research university, but it can also compromise the level of teaching. Without research, it is hard to keep a course contemporary with the latest developments, which is a key aspect of teaching in a research university, setting it apart from teaching in other universities or colleges. Also, it can limit the teaching contributions a faculty member makes, as

other dimensions of teaching (e.g., guiding master's or bachelor's student projects, starting new courses, and so on) will not get the adequate support they need from engagement in research. Hence, the total number of teaching track positions is best kept limited in a research university.

Let us consider the example of teaching track faculty positions in IIIT-Delhi. The objective of having these positions is to value education. Hence, a teaching track faculty should be just another regular faculty. For teaching track faculty, the number of courses to teach each year is one higher (from three to four), and the expectations on research are somewhat lower. The number of such faculty positions is limited. A faculty can move from teaching track to regular through the standard process. Therefore, for a faculty to opt for teaching track is conceptually not an irreversible decision.

Faculty can be recruited for teaching track positions. Some regular faculty may opt to shift to teaching track too. This is likely to be the case when an individual realizes with time that he/she enjoys teaching more and is not as excited about research and all that it entails. That is, with time, a faculty may find his/her strength in teaching and work according to his/her strength. With this, both regular track faculty and teaching track faculty form the regular, tenure track faculty of an institute.

Research track faculty are those who are typically recruited to work on research projects, and their salaries come from project grants, or 'soft money'. They may teach some course sometimes but are often not required to do so. This track is not widely used, and in India it is rarely used.

Visiting faculty, guest faculty and Professor of Practice are all positions to tap talent from different talent pools, mainly to contribute to the teaching function. A visiting faculty may be a full-time (or part-time) faculty, which means that the person is an employee of the university. A visiting faculty is expected to contribute not only in the teaching of courses but also in student

guidance. As research expectations are minimal from such faculty, they are expected to teach more courses. They may be given some administrative responsibilities too.

A Professor of Practice is essentially a long-term visiting faculty, except that the source base for this is professionals with industry experience. Typically, these are people who have spent a considerable amount of time in the industry and, perhaps, got tired of the business and other related pressures, and who have the desire to teach young minds and share their experience with them. They might not have the necessary degree qualifications for a regular faculty position but might have a great deal of experience that can be leveraged for many technology- or application-based courses. Such faculty can bring in the real-world experience, which most regular faculty often lack, and are consequently very valuable for teaching such courses or introducing newer courses in cutting-edge technologies.

Guest faculty are people who are effectively given a contract to teach a course, that is, they are not appointed as employees. Their only commitment is to teach the assigned course and do all the work related to teaching the course. Given that guest faculty only need to spend a few hours every week, these people can be in regular employment elsewhere and may do this extra work. The motivations for taking up such a role are many: to contribute to education and be in touch with young minds, to stay connected with academia (perhaps to facilitate later transition to it), to earn some extra money, to add to their experience, and so forth.

In many countries, the number guest faculty (and perhaps visiting faculty) is growing rapidly—even faster than regular faculty. From a university's perspective, guest faculty are a lower-cost resource for teaching a course. Regular faculty are typically quite expensive and are expected to perform a variety of roles; hence, positions are created for them only with a long-term perspective in mind. Guest faculty, with the minimal role of teaching a course, only need to be paid modestly and can also be effectively used to take care of any short-term peak teaching demands. In India, many universities use 'ad hoc appointments' of faculty. These

are temporary appointments, often for a year, with a lightweight process for selecting the faculty, who are like visiting faculty.

Adjunct faculty appointments are honorary; they are not given any salary. They are typically full-time employees of other organizations but want to engage with academia to give their advice and inputs and perhaps engage in research projects. A standard profile of adjunct faculty is that they may be working in a research lab for the government or in a corporation but want to engage with students and some research groups in a university. Being associated with a university might also provide added prestige to the person. To the university, they provide linkages to other organizations and their advice and inputs to various research projects. As they can co-guide a thesis, they also increase the capability of the university of guiding theses and projects. The main challenge in this appointment is that they have minimal expectations, and hence often do not result in much collaboration or activity.

Similar to adjuncts are honorary faculty positions. These are often given to distinguished faculty who may have retired after a long period of service to a university, or to famous scientists. Their role is largely whatever they wish to engage in. The benefit to the university is having the presence of these distinguished people, and the benefit to the faculty is that they have a home base in a university.

A university may have some other temporary or contractual positions for some supporting roles in teaching—teaching fellows, instructors, and so forth. These are not faculty positions in that, generally, these people cannot teach courses independently and guide theses, but they support faculty in various ways—conducting tutorials, taking a few lectures, helping in assessment, conducting lab sessions, and so forth.

7.3 FACULTY RECRUITMENT AND APPOINTMENT

Recruitment and appointment of faculty is one of the most important tasks of a research university. While large universities

delegate this role, particularly at the entry level, to colleges or departments, it may be managed by the central leadership team in smaller universities.

An essential principle for an appointment is that the body that recommends appointment and the authority that accepts the recommendation should be distinct. Inputs from the unit where the faculty is to be placed must be widely taken and given due weight; although, sometimes, the views of a department that supports recruiting a person may not be accepted, it should not be the case that someone the department strongly recommends is not recruited.

7.3.1 Recruiting Regular Faculty at the Entry Level

Let us first discuss what a research university looks for when recruiting a new faculty at the entry level—typically an Assistant Professor or a lecturer. Then, we will discuss the process of selection and appointment. Research universities typically recruit PhD graduates from other research universities—this is to be expected, because the focus is on research, and so PhDs from research universities are likely to have a better alignment with the research goals.

7.3.1.1 Assessing a Candidate

It is evident that research universities are looking for faculty members who are excellent in research and teaching. A key point is that excellence is expected in the future, that is, recruiting faculty is about assessing their potential to excel in research and teaching. This is important to understand because, typically, the record of a recently graduated PhD, who is typically the candidate for consideration at the entry level, cannot really fully demonstrate excellence in either teaching or research; the record has to be supplemented with judgement.

For assessing the research potential of a candidate, the past research record, as demonstrated by the quality and quantity of

publications, is looked at most carefully. In general, this is the primary contribution of the research work done during a PhD, as PhD students often do not get opportunities to explore other aspects of doing research, such as guiding other students, preparing research grant proposals, and so forth.

The quantity of research is generally measured in terms of the number of publications or the range of results achieved. However, assessing the quality of research work done is a challenge, as their work is recent and has not had sufficient time to show impact. Hence, the potential for impact and the significance of the research done have to be assessed. One proxy that is often used for this is the stature of the publication venue; a paper published in a highly reputed journal or conference (say with a high impact factor) is broadly assumed to be of a higher quality compared with ones published in less prestigious venues. Another indirect measure is comments by peers about the work—generally, recommendation letters for candidates comment on the quality of the research done.

Often, the assessment of research capability and past work is done by listening to a seminar given by the candidate to explain the work he/she has done. Through this seminar, administrators and faculty in the discipline gain a better understanding of the problems the candidate has worked on, their significance and importance and the quality of the results of the research. A seminar may be followed by interactions in which faculty may try to understand various other aspects of the work done. Often, some faculty members, particularly those working in the area in which the candidate has done a PhD, read key papers or reports of the candidate. Through these methods, the research potential of the candidate can be assessed reasonably well.

The teaching ability of the candidate has to be judged, because most PhD programmes do not offer opportunities to demonstrate or develop teaching capabilities. A PhD student might have been a teaching assistant in some courses. The exposure one gets in

these roles, though valuable, is very limited. In other words, the résumé of the candidate itself can provide very little information for assessing his/her teaching ability.

There are two aspects generally assessed for evaluating the candidate's teaching capability. The first one is the communication capabilities, in a broad sense—good communication skills to communicate and explain difficult concepts. An important method for assessing this is the seminar the candidate gives, which gives some idea about his/her communication capabilities. In many universities, the candidate is often asked to give a lecture on a standard topic with which the candidate is familiar. This lecture is to assess the lecturing capability of the candidate directly. Besides these, communication skills are also assessed during meetings of the candidate with various administrators and faculty.

The second aspect is the subject matter expertise in courses the candidate expects to teach. A faculty has to often teach a few different courses on different topics, many of which may be outside the direct area of research. It is assumed that, for many courses, a faculty can gain the subject matter knowledge. However, a good foundation in the subject matter is often desirable. This is often assessed by looking at what courses the candidate has done during his/her master's and PhD programmes. The project and the research work the candidate has done, if closely related to the subject to be taught, provide other indicators that the candidate has a good understanding of the subject matter on which he/she can build upon to deliver a good course on the subject.

Besides the research and teaching capabilities, there are some other desirable personality traits which are hard to assess, such as taking initiative, getting along well with colleagues, having the ability to collaborate, and so forth. These are sometimes indicated by responsibilities the candidate might have been entrusted with, work he/she might have done that did not count towards the thesis, hands-on projects that might have been done by the candidate, and so forth.

7.3.1.2 Recruitment Process

Recruitment, of course, starts with candidates applying for faculty positions. Highly reputed universities may not need to be proactive in this step and can still expect the best candidates to apply. However, for most universities, a proactive approach can help. In today's world, where all talented people are essentially global citizens and good talent is being sought globally by universities, it is important to reach out to potential candidates and guide them to consider one's university. This proactive reaching out (for which various strategies can be evolved, such as engaging with PhD students in conferences) also communicates to the candidate that the university values talent and is excited about having him/her in the university. That he/she is wanted is often a factor in the decision-making by a young person who has recently completed a PhD, as many scholars want to work in an environment that values them and supports their efforts and aspirations.

Once candidates have applied, their applications have to be processed. Most established universities typically process these applications together; often, once a year, they look at applications and shortlist candidates to be invited. This might be suitable for an established university, which often has a few faculty positions and needs to look at all applications to decide. Large universities also, for logistical reasons, often want to process applications together. Again, a young university may respond quickly to applications as they are received. By processing each application on its own merit and soon after it is received allows the university to respond fast to the application, which is clearly an advantage in the struggle for talent. This approach is feasible for a young university, provided it has a good sense of the quality level of faculty it wants to recruit; each candidate can be assessed against this (unspecified but understood) quality benchmark, and decisions can be taken based on this.

A specific process should be followed while deciding on a candidate. The process should be thorough and rigorous; in the pursuit of talent, the evaluation process should not be compromised.

A candidate must prove his/her competence in all aspects. A shallow process that does not put the candidate through careful scrutiny and assessment might also communicate to the candidate that a university does not have the capability for rigorous evaluation. Also, it is psychologically well established that if a process of achieving something is hard, even painful, then the achievement is valued more, and conversely, if something is too easily achieved, it might not be valued highly. Hence, shortening the process to attract a candidate might actually backfire.

We have discussed how research and teaching are assessed. These imply that the candidate must give a research seminar, deliver a lecture and meet many faculty members, particularly those working in the candidate's area and in related areas. This necessarily should involve a visit to the university, with seminars and meetings scheduled. Also, letters of reference from people who can comment on the quality of the candidate's work must be sought.

Clearly, a department in a university should not invite all applicants to visit; only applicants who hold promise should be invited. Although this shortlisting can be done on the basis of the candidate's resume and teaching and research statements, it is better to interact with the candidate. Given the state of technology today, this interaction may be done on video, especially interaction related to the candidate's background, his/her teaching and research interests and plans. Such an interaction, perhaps with the head of the department and some senior faculty, is sufficient to assess whether the candidate has the potential to be invited for a formal meeting and full interaction. This interaction is also an important step to engage with the candidate and show to him/her how the university is suitable for his/her career aspirations.

The candidate's visit is another opportunity to strengthen or weaken the attraction of the candidate towards a university. A well-organized visit, which takes good care of the candidate and treats the candidate well and with respect, goes a long way in convincing the candidate that the university and the department value him/her and have effective systems to take care of their faculty.

In India, in most public universities, often, the final recommendation about a candidate is made by a 'selection committee', which generally has a few experts external to the university and one or two members from within the university. This selection committee meeting is often difficult to schedule. Therefore, universities often organize these once a year, during which all candidates are processed.

Organizing the interaction of the selection committee with the candidate and inviting the candidate for interaction with the faculty are often challenging. If these two are combined, it necessarily implies that one day all candidates will visit, give seminars and meet faculty, following which they will interact with the selection committee. This is a challenging process to manage and schedule and also leads to delays in processing applications. With technology, it is clearly possible to separate these two interactions, with one of them being scheduled during a visit and the other one organized through electronic means. Often, universities give more weight and importance to the selection committee interaction and have this scheduled in the face-to-face mode. However, for a decent research university with its own capability for assessment, it is actually better to use the physical visit for seminars and interactions with the faculty. This requires more time and is the more substantive part of the process. Given the statutory requirement that the final recommendation can be made only by a selection committee, the outcome of this visit is actually a recommendation to the selection committee itself, which uses its own assessment too. This makes the overall process more rigorous and preserves the ability to process each application as it comes while preventing the process from becoming cumbersome.

7.3.1.3 Focus Areas for Recruitment

A somewhat different aspect of faculty recruitment is deciding which areas faculty should be recruited in. This is clearly an important aspect, particularly when a department has many faculty in some areas and few or none in other areas. This is also important if the university or a department wants to launch a

new educational programme or a research centre, which requires recruiting faculty with expertise in some specific areas.

Often, departments and universities have some focus areas for recruiting faculty. Having some such defined focus areas is desirable. A common and least conflicting approach to identify these areas is to see which areas are still not 'covered' by existing faculty and give preference to candidates in those areas. Although this might be a suitable approach for a teaching-focused university, this is not a smart approach for a research university. A research university should decide the focus areas based on the research areas it wants to strengthen—presumably, emerging areas where it may want to build strength or areas where it is already well placed and wants to strengthen further to take a leadership position. There must be faculty to teach the basic and important courses in different educational programmes, but a research university need not necessarily aim to provide courses on all topics; it is acceptable if some topics are left out, or if some faculty, though not working in the area, offer to teach it.

However, while strengthening an area, a teaching issue comes up. Faculty in an area want to teach similar types of courses, and if some faculty members are already active in that area, most of these courses might be already 'taken' or 'covered'. A faculty is required to teach a specific number of courses in a year. Hence, it should be ensured that he/she has courses to teach besides the possibility to teach some courses in his/her area. The incoming faculty member should clearly know at the time of recruitment what types of courses he/she might be able to teach and should plan for introducing some new desired courses. Due to this constraint on teaching, a group in an area cannot be too large in a university, unlike in a research lab. Therefore, even in a hot area (e.g., currently, artificial intelligence), where a research lab in a corporation can have many researchers working on various research projects, a department will probably have only a few faculty members in that area. This is also necessitated by the fact that there are limited faculty lines, whose numbers are decided by complex formulas or negotiations in the university. Further,

a good department must have research groups in multiple areas and also provide sufficient breadth necessary for an academic department.

When recruiting faculty in an area that is already represented, a sound principle is to go for candidates who, while working in the area, bring strength and value in some aspects that are lacking. The case for candidates who bring nothing 'new' is weaker, because just replicating some capability adds little value. Hence, the view to keep in mind is that of overlapping circles—the candidate has knowledge and capabilities in existing areas but also has some additional capability and knowledge, so that the addition of such a candidate expands and strengthens the overall capability in the area.

There is one more aspect worthy of some thought. Although it is good to have focus areas, it should be kept in mind that these focus areas shift from time to time and that faculty themselves do not often remain in an area through their entire academic life—they may change their areas. In this context, it is important not to take focus areas too seriously; while looking for candidates in focus areas, a department and a university should always be looking for excellent candidates in any area within the discipline. Excellent faculty, regardless of the area, can strengthen the research culture and the academic and intellectual environment of the department. Moreover, if they later shift areas, such faculty are likely to be strong in their new area also. Thus, in the long run, often, such faculty can make significant contributions. Therefore, the opportunistic approach to faculty recruitment should also be taken—if an opportunity to recruit a top candidate comes, then it is tapped regardless of the area in which the person is working.

7.3.1.4 Recruiting Initial Faculty

For a young university, or one that is starting, how the university fares in the future depends on how it attracts and recruits junior faculty at the entry level while having some senior faculty to

help provide the administrative depth and leadership. The first few recruits are critical, because a core of good faculty attracts other good faculty. Most candidates, when looking for a faculty position, inevitably see the profile of existing faculty and make judgements about the university based on that profile. Hence, it is critical to recruit high-quality faculty at the start.

As new institutions are often in a rush to start their educational programmes and expand, recruiting high-quality faculty is a big challenge. Once educational programmes are started and students are admitted, courses must be taught. Often, in an attempt to have faculty to teach these courses, the situation becomes desperate, and in desperation, average faculty is recruited. This can considerably damage faculty recruitment initiatives in the long run; the first few candidates often set the standard for faculty, and once the standard is lowered, its improvement becomes much harder and slower. Thus, the best approach is to give sufficient time to recruiting faculty before starting educational programmes. However, often, this does not happen in India—institutions are announced and then started in temporary premises within a short time (as was the case with IIIT-Delhi). In such a situation, an alternative is to have some arrangement with existing institutions to provide faculty for teaching initial courses and, through this, gain time for recruitment.

As the initial set of faculty members can be critical in future faculty recruitment, providing additional incentives to the initial faculty is a good practice. Besides, these faculty members are the ones who are taking a larger risk, which should be recognized and valued. Once some critical mass of faculty has joined a university, the risk for later joinees is less; not only has the university itself stabilized, the presence of a sizable faculty shows the stability of the university and ensures that the working environment is decent. In fact, the incoming faculty can check their interactions with the existing faculty about the working environment and support from the university. Another reason for not just having good initial faculty but also supporting them well is that they are the magnet and ambassadors for future faculty recruitment.

It is desirable to give as good a compensation and support as possible, and something extra for a limited duration to the initial faculty. While compensation helps, good junior people join a university only if they are attracted to the vision and mission of the university, its focus on and support for research and the leadership of the university. Most good-quality PhD graduates are excited about the possibility of making their mark in research and want to actively engage in it. Good PhD graduates are simply not available primarily for teaching positions, making it easier for research universities to attract such candidates. If a research university has an exciting vision backed by good leadership and suitable policies, it has a better chance of attracting good PhD graduates as junior faculty.

7.3.2 Recruiting Senior Faculty

The purpose of recruiting senior faculty is completely different than the purpose of recruiting junior faculty. Senior faculty are generally recruited to develop some research areas in the department and university. This works well for areas that are not well represented in the department and the university but where there is a desire to grow them. The traditional route is to make the area a thrust area and then recruit junior faculty in it. This route is slow and takes many years to build a credible group that is respected in the community of the area. An approach that speeds up this process is to recruit a senior faculty member, hopefully a well-established 'star' in the area, and then give him/her the responsibility to build the area. The presence of such people can then act as a magnet for getting high-quality junior faculty. The senior person can not only provide an anchor and visibility for the group but can also help mentor junior members of the group.

Although the technical process for recruiting senior faculty may be the same as that for junior faculty, the process of engagement is likely to be different. First, often, senior people do not apply; they have to be approached informally or through contacts to gauge their interest. The initial engagement and visits are often

informal, during which the senior person assesses whether his/her aspirations can be met in the potential host institution and the university assesses whether the prospective candidate will fit well in the culture and environment of the university and the department. Often, discussions are held regarding labs, support and other facilities that may be provided to the senior person. Following a broad agreement between the university and the senior person, the formal process may be kicked off to complete the recruitment.

In India, the culture of shifting at senior levels is virtually non-existent. A senior faculty is rarely seen to move from one institution to another. This is because the level of ease of mobility in the society, which is impacted by issues such as admission in schools for children, opportunities for the spouse, proximity of relatives and friends, and so forth makes it rather hard for people to shift after being in one place for an extended period. Also, some institutional rules and practices do not permit providing incentives for attracting a senior faculty, and without strong incentives, such a move is challenging anywhere.

7.3.3 Recruiting Other Types of Faculty

Recruitment of other types of faculty is relatively easier, as it does not involve long-term commitments. Internal processes for such recruitment may be less rigorous. Often, there may be a standing committee to consider applications for such types of faculty, particularly when offering contracts for a year or so, which is initially the case for most such appointments.

While the process may be shorter and quicker, such candidates do not naturally apply or approach a university for faculty positions. Since these positions are not very visible and are generally not advertised widely, people often do not know about these possibilities. Consequently, people who can be good guest or visiting faculty have to be sought out. This is even more so for Professors of Practice—practitioners are not really looking at universities for

opportunities, even if they are inclined towards and interested in working with academia.

This means that such people have to be reached out to with proper messaging and through formal and informal networks. Then, there are retired professionals—they may sometimes contact a university but often have to be introduced. In other words, the methods used to attract these faculty are completely different from those employed for regular faculty. For regular faculty, the target is the research fraternity and PhD students—a community that is intricately tied to universities and which universities understand well. Here, the target is professionals and practitioners—a target group with which universities often have few connections and who also have a limited understanding of academia. Hence, different channels have to be explored and activated. These faculty clearly enrich the academic environment and course offerings.

Some of them have to be cultivated and developed so they can contribute effectively. As they do not know the needs of different programmes, they are often not able to even suggest what courses they may be able to teach. They often also have a different view of teaching, thinking that it is mostly about designing courses and giving lectures to students who are eager to learn. They may not be aware of many other aspects of teaching a course, in particular, assessment, which requires a lot of effort and which may not be as exciting as designing and lecturing. Therefore, expectations have to be set, and their course designs have to be carefully evaluated and guided well so that the course is pitched intellectually and content-wise at the right level. Without guidance, often, the course may either be too lightly loaded with some simple assignments or too heavily loaded with complex projects.

Leveraging this talent pool for education requires one to be flexible; often, such professionals may not be very interested in offering traditional academic courses. If one was to look for such professionals to teach from a set of defined courses, then the scope of engagement would be limited. On the contrary, if

a university is flexible and willing to explore the possibility of designing courses that add value to academic programmes, and can leverage the strength of such resources effectively, then this engagement can be more fruitful. Programmes always have discipline electives and open electives, offering some special courses in the discipline and, in general, an interesting course that may provide a better understanding of a few aspects of the professional and real world.

7.4 FACULTY ADMINISTRATION

Managing faculty is not like managing human resources in the corporate sector—it is fundamentally different. First, faculty are essentially autonomous agents who largely decide their own work; they do not have a boss to whom they 'report' and who can assign them work. Although some work is assigned, for example, courses to teach and committees to serve on, these are often done in a collegial manner rather than being 'assigned by a boss'. The research work the faculty undertake is completely decided by themselves.

Faculty generally are adverse to authority; in fact, one of the reasons for joining an academic profession is 'not to have a boss who will tell what to do'. Faculty, like many other professionals, tend to be very competitive. Further, 'teamwork', which is practised in industry and in large projects, is not the norm in a university. Most research teams are headed by one or a few professors and consist of research staff on their projects and students working for them. All this makes people management a challenging exercise. Thankfully, the goals of a university are such that rather than delivering on a task, excellence is what is desired. Hence, light-touch management, expecting sound output and performance in research and teaching, works well.

The goal of this management is also somewhat different than what it might be for a corporate. Rather than having people contribute towards corporate goals, the objective of faculty management is to ensure that faculty achieve their expected goals of

excellence in research and teaching. If most faculty can operate to their potential, the best possible outcome for a university is also achieved. Some of the tools that are often used for ensuring that faculty performance remains high are briefly discussed here—we use examples from IIIT-Delhi.

7.4.1 Yearly Review

Filing a yearly report of contributions by each faculty member in the previous year is a standard technique in many research universities across the world. As much of faculty work is not assigned and is self-determined, such a report is essential to clearly understand what a faculty has contributed. This differs from the processes in a company where the assigned job is well understood and the yearly appraisal depends more on how well a person has done. (In fact, even in a university, the non-faculty staff are not necessarily required to prepare a yearly report of their contributions.) Capturing the yearly contributions is required for faculty before an appraisal of their yearly performance can be done.

The accurate compilation of this report is in itself very useful. Faculty are smart and perceptive; an individual faculty looking at his/her own yearly report can make a fair assessment of how the year went. As faculty are frequently driven by intrinsic motivation, self-assessment, for which a detailed yearly report is useful, can itself often provide them the first level of feedback.

The criticality of an accurate system of yearly reports by faculty also needs to be understood. Almost all contributions to research, research grants, teaching, service, and so forth have faculty involvement. What a department or a university has contributed in a year is basically a sum total of what all has been captured in the yearly reports of the faculty. In this sense, yearly faculty reports provide the basic data for preparing any report about the department or the university's annual contributions. Without any comprehensive yearly report of faculty contributions, it is impossible to accurately assess the university's performance and how it has changed over the years. Most public

universities have to submit their annual reports to government agencies. Moreover, such reports may also be needed for legal reasons. Analysis required for accreditation and other such agencies also often relies on the data from faculty yearly reports. Hence, a sound system of faculty yearly reports is essential.

In India, research institutions require data on publications, grants, and so forth for preparing the department report. However, requiring complete individual reports by faculty for yearly contributions are not a common practice.

For capturing the main contributions during a year, the template used for yearly reports should be such that it allows the capturing of various aspects of faculty contributions that align with the university's mission and vision. It must capture contributions made by faculty towards research, teaching and service. Some measures on impact can also be included in the template of yearly reports, although impact is better understood with longer time horizons than a year.

As an example, let us discuss the template used at IIIT-Delhi for reporting the yearly contributions. Besides different sections for research, teaching and service, IIIT-Delhi also has sections to report on impact, awards and recognitions received. Some important research aspects captured are:

Publications
Papers published in top-tier venues
Other papers published
Books and book chapters published

Sponsored projects
Sponsored projects sanctioned or submitted
Major consultancy projects

PhD students
Students who graduated in the year and where they are placed
Students currently working

Patents, technologies developed and deployed and spin-offs

List of patents filed

List of technologies that may be transferred to other companies

Any start-up that may have been started using the research work

Impact

Impact on research community—total citations and changes from the previous year

Impact on industry (number of users, licenses, installations, income, and so on)

Impact on the government or society

Awards and recognitions

Note that publications are listed in different categories. Assessing faculty research performance is challenging, with many issues (Braxton and Bayer 1986; Lim 2006). Assessing research publications has challenges, as there are many venues available, and there are many types of publications even in one journal. One approach is to group publications with respect to the quality of venues, for example, top-tier, second-tier, and others. Interestingly, although tiers are often broadly well understood by the research community, enumerating these for any formal purposes might be very challenging; sometimes, a favourite and an important venue for publication by a faculty might not be viewed favourably by the overall community. Separating venues into tiers, despite operational difficulties, helps in creating a culture and an environment of publishing in top-tier venues, which, in turn, necessarily increases aspirations of the quality of work. This message also gets passed on to PhD students, who then aspire to get their work in good venues. Using the quality of venues as a proxy for quality of research is not suitable for an in-depth assessment, though it can suffice for a quick yearly review. Counting book publication has its challenges, particularly on what is the weight of a book as compared to research publications (Braxton and Bayer 1986).

The portion of the report that captures services is straightforward—it requests the faculty to list all the services provided

to the university and the profession the previous year, and any other service that might have been provided. Assessing service has its challenges and is influenced by how the department and the institute value service (Seldin 2006b).

Reporting on teaching-related activities is to capture contributions to teaching. As discussed earlier, teaching work involves not just teaching courses but also student guidance and other contributions. Student guidance is an important aspect of teaching, and the nature of it also depends on educational programmes. If programmes allow for an undergraduate thesis or independent study or project, then contributions to these should also be captured. As an example, some elements reported as teaching contributions in IIIT-Delhi are provided:

Course feedback
The number of students registered, number of responses, and average student feedback
Summaries of courses

Students guided
Undergraduate thesis, independent study/research/project completed
Master's thesis/scholarly papers, etc. completed

Other teaching contributions
New courses designed, special modules and lecture notes

As discussed in the chapter on education (Chapter 3), a course summary is also prepared for each course, which captures not only the student feedback but also innovations that might have been developed during the course, types of comments received, and so forth. This is a condensed form of teaching portfolios (Devanas 2006), and it provides more information about teaching, so the teaching assessment is not just dependent on student feedback, which has limitations (Pallett 2006).

The preparation of a yearly report serves an important goal of providing a structured input for self-assessment. However,

the next question is what a university or a department should do with it. Any report on which nothing depends eventually becomes a chore, and submitters realize that it is merely a formality, inevitably leading to incomplete and shoddy reporting. This also compromises the accuracy of the annual reports of departments and universities.

One action that can be taken is to share yearly reports with colleagues in the department. This helps all faculty to have a view of what others are doing and encourages transparency about the functioning. This sharing permits an informal peer review of the yearly report by colleagues, motivating a faculty to ensure that the yearly report looks good.

Most research universities also have a specific type of yearly review based on the yearly report. The review, which has to be conducted by senior faculty from the discipline, can assess the contributions in the three dimensions, and feedback may be provided to the faculty on these. The contributions may also be assessed on a particular scale. Having a broad scale, rather than having a fine scale, is better to capture the level of contribution of a year qualitatively. However, whenever scales are used, guidelines for how performance is to be rated need to be evolved. Assessing the contributions of a faculty accurately is quite hard and challenging (Seldin 2006a). Also, the evaluation is always subjective and hence never uniformly agreed upon. However, the level of performance in the discipline is often not too hard to assess particularly by experienced faculty. Ensuring that the assessing committee is unbiased and is perceived to be so is important. Although disagreements may be there in the committee's assessment, its integrity and intent should not be in doubt in the minds of the faculty. (At IIIT-Delhi, the committee comprises some senior academics from other institutions also.)

What should be done with the review outcome? Of course, first, it is to be communicated to the faculty. This also provides a good opportunity for a university to have a formal one-on-one interaction with the faculty, understand their perspective

or challenges and maybe even seek their views on some matters of importance to the university. These one-on-one meetings are best held at a department or centre level. Involving the Dean or the Director in such meetings is excellent and desirable, which provides the personal interaction and direct connection of faculty with senior administrators. In IIIT-Delhi, the Director meets each faculty member individually. This opportunity is also used by faculty members to provide inputs on some important issues. Overall, this yearly meeting of senior administrators with an individual faculty is an excellent practice with many potential benefits.

Given that there is subjectivity and that reviewers might err, allowing faculty to 'rebut' review comments is desirable, if they want to do so. This is much like how some journals and conferences allow for a rebuttal phase, whereby the author can explain or make arguments in favour of the submission. Such a process makes the exercise fairer and more transparent, although it makes the overall process longer and more complicated. Like in conferences, rebuttal comments can be reviewed and earlier comments and/or review ratings may be changed, or they may remain the same.

After communicating and discussing the review feedback in a one-on-one meeting, one possibility is to just leave it to the faculty to take suitable actions. In such a case, the yearly review really provides a moral force and does not have any 'teeth'. The risk of this approach is that it might become a mere formality that is not taken seriously, defeating the whole purpose. At the other extreme is to follow what companies generally do—yearly increments to the compensation depend on the performance. Some universities do this, but this approach is somewhat at odds with the academic culture and also tends to promote extrinsic motivation over intrinsic motivation. In a country like India, where the whole environment and the educational system are such that the yearly compensation is based on fixed formulas, implementing something like this is not only challenging but also undesirable, particularly since compensation information is not a secret.

An approach followed by IIIT-Delhi was not to let the compensation be affected by the review but make the yearly professional grant given to the faculty dependent on the outcome of the review. In other words, the professional grant was tied to the performance. As these yearly grants were not too large, the impact of the review outcome was not too much. However, this action based on review made the whole process of the yearly review formal—one that was taken seriously by the faculty—which was the main intent of the whole exercise.

7.4.2 Next-Year Plans and Mentoring

A sound performance management practice is to set reasonably ambitious plans for the future, translate them into plans for units or individuals and then try to achieve them. This is a standard approach used by corporations to achieve great results. In academia, such types of plans with targets are often not appropriate, particularly for research, as a university cannot assign research targets to individual departments or units and ask for specific outputs. Also, given the academic freedom, the research plan can only be made by an individual faculty. However, the process of planning and noting down the plan is in itself a beneficial exercise that can help faculty be productive.

Therefore, having some plans for the next year to help faculty achieve ambitious goals is desirable, which in turn can help them achieve their potential—the basic driving force behind faculty management practices. This can be considered more like a self-realization or self-improvement plan, rather than part of a 'corporate plan' to achieve organization-level goals. As most self-improvement pundits and consultants advise, having a plan of what one wants to achieve is almost an essential aspect of higher achievement.

Given that faculty have to make their own plans independently, the next question is what these plans should contain. Aligning with their main work, the faculty should try to specify what they want to achieve in the main dimensions of research,

teaching and service. As faculty are often engaged in learning about new areas, which consumes time and may require active planning (e.g., attending a colleague's course or an online course), this can also be added as part of the plan. At IIIT-Delhi, the yearly plan template consists of four components:

- **Research**. Papers to be completed and their targets, projects to be completed, proposals to be written, books to be developed, and so forth
- **Teaching**. Any new initiatives/experiments planned to improve teaching and learning process, new courses planned, preparation of slides or notes for future use, and so forth
- **Service**. Goals in service for the institute and profession
- **Learning and self-growth**. New areas, concepts and technologies one wants to learn

Having a plan is a good idea, as with most such activities. However, if it is left entirely to individuals, such 'good-to-do' things do not get done. Hence, having the plan documented and submitted is desirable, which can enforce the discipline of thinking and documenting plans for the next academic year. If the plan is to be just documented and submitted, the exercise becomes meaningless and degenerates to just 'paperwork'. The whole idea of documenting a plan is to have not only faculty goals but also the possibility of providing advice and inputs on them. Mentors can play a useful role here.

Generally, it is senior faculty who mentor junior faculty. Discussing the yearly plan with the mentor is desirable, who can give inputs and provide guidance. The mentor can also review how the last year's plan panned out—how much of it was achieved, how much got missed, what changes were made due to new opportunities, and so forth. Mentorship can be very useful for the long-term growth of faculty. It needs to be done only in the initial years of a faculty's career; once a faculty has become a senior, this support is not needed. This type of mentorship can be provided only by senior and experienced faculty working in a related area. Often, this mentorship is established

informally in a work setup where a junior faculty works closely with a senior faculty. In some places, this relationship may be facilitated. Rarely is it too structured or an administrative instrument.

7.4.3 Faculty Promotion

Promotions are standard in all organizations; generally, in corporations, promotions involve a larger role with more responsibilities. As discussed earlier, academia, having a flat faculty hierarchy, has one standard three-level system that comprises the Assistant Professor, Associate Professor and Full Professor. The normal job is the same at each of the three levels—teaching and research. The main thinking behind having a relatively flat hierarchy in academia is to reinforce the culture that essentially all faculty are colleagues, and a senior faculty is not the boss of any junior faculty. This is how academia has evolved; the hierarchy-less culture, where the importance of people is decided not by their title but by what they contribute and the quality of their work, is really deeply embedded in the academic mindset.

The selection for an entry-level faculty position is based mainly on potential, with the past record given some weight in the assessment of potential. However, for promotion, it is the record that matters the most. One can refine it even further. For promotion from Assistant Professor to Associate Professor, the past record is important, but future potential is also assessed, because the impact might still not be visible (particularly of more recent works). The weight of the record increases even more when a candidate is considered for promotion to Full Professor; the assessment is based almost fully on the record, with future potential given some consideration. (Going further, prestigious fellowships or awards are based exclusively on contributions and impact made.)

Policies for promotion and processes to implement them are needed, which should be such that they support the basic value of research universities, namely, excellence in research and teaching.

The processes for promotion differ from university to university. The discussion here is on the model employed in IIIT-Delhi, which is based on the system prevalent in US universities. (A discussion on promotion and yearly reviews in the US context can be found in [Diamond 2004].)

Technically, in India, most universities do not have a formal concept of promotion. The general approach is that at each level, there are appointments following the laid-out process for appointment. For example, for the 'promotion' of Assistant Professors to Associate Professors, advertisements for the post of Associate Professors are issued, in response to which anyone eligible can apply, including existing Assistant Professors. Then, the standard appointment process is followed, which involves a selection committee comprising mostly external experts who interact with applicants and give their recommendation.

Following this process means that promotions are based on the interview by the selection committee. As experience has shown, when senior people are entrusted with the task of making a recommendation about candidates, they rely mostly on the interaction they have with the candidates; the record of the candidate often becomes a secondary input. This process is suitable for the Assistant Professor position because the potential of the candidate is assessed, for which the opinion of senior experts is valuable. However, for senior levels, it is desirable that the record should speak for itself, and the 'interview' by the committee should not be necessary. Besides, some external inputs from peers can be obtained for more information on contributions to faculty. Then, a committee can assess the record. This type of assessment is consistent with the academic culture wherein assessment based on records is a standard practice—students are assessed and given grades based on their performance, papers are reviewed and their acceptance or rejection is recommended, proposals for possible funding are reviewed, and so forth. Generally, committee-based evaluation relying on suitable records and views from experts is well aligned with the academic system.

Some research universities have evolved methods to support 'promotion' within the framework of the selection committee (which is required). We briefly describe in the following text how this has been done in IIIT-Delhi—a few other institutes also follow a similar method.

Promotion should be based on the performance or past record of faculty. Clear criteria should be followed for promotion, so that faculty know what is expected of them. Quantitative criteria, though clear and unambiguous, are not feasible or desirable for faculty promotions. The combination of quality and quantity, which decides the overall contribution to research and its impact, cannot be captured through metrics. (The president of a US university very aptly captured this sentiment, saying, 'we can promote a person based on one research paper, and we may not promote a person with 20 research papers'.) Research contributions have to be assessed qualitatively, and the best way to assess them is to use the judgement of experts in the particular area about the nature and importance of the contributions, and also how the contributions compare with those of faculty at a similar stage of their careers globally (or any other such comparisons).

To ensure that key contributions are highlighted, a process followed in many universities is to get a focused summary of the contributions made by the faculty, in addition to the full resume. Asking the faculty to list their major contributions, particularly contributions to research, is desirable to focus on quality. Similarly, contributions to teaching and service can be summarized by highlighting the main contributions. For example, the summary to be provided by a faculty for promotion at IIIT-Delhi asks, among other things, for the following:

Key publications and impact
List five best papers (10 for Full Professor) and their impact
Give total citations and h-index

Technologies developed/deployed and patents received/filed
List up to two technologies/patents (five for Full Professor) with impact

Sponsored projects summary
• Number of sponsored projects completed and their value
• Number of sponsored projects currently at hand and their value
• Total number of consultancy projects and their value

PhD students
• Number of PhD students graduated
• Number of PhD students currently supervised

Courses taught
A table containing key parameters about courses taught: course name, year and semester; number of students enrolled; student feedback scores

Students guided (non-PhD)
• Number of master's theses guided
• Number of undergraduate projects guided

Awards and recognitions
List of awards and recognitions such as best papers, journal editorships, keynotes, well-known prizes/honours from professional societies, etc.

The summary focuses on research and teaching and the stature of the faculty. To better understand the level and impact of research contributions, letters from experts in that area to assess research contributions of faculty, and how they compare with academicians at a similar stage of their career across the world, are sought. Different universities may require different numbers of letters; about half a dozen is quite common. At IIIT-Delhi, at least six letters are sought, at least half of which have to be from those on a list of names provided by the faculty, while the other half can be from those on the list or from other experts. Also, a general guideline followed is that some experts should be

from within the country and some from outside, to gauge how the academic community within the country and how the global community perceive the contributions.

The summary, the full CV and other records and letters received are then discussed by a tenure and promotion committee of the department. These are senior faculty from within and outside the institute. They discuss contributions and letters and, based on that, prepare a short report for the candidate, which also contains the recommendation of the committee. The report gives their views about the research work (publications, impact, funding, PhD student guidance, etc.), sentiment expressed in the letters from experts, teaching contributions and service contributions. The report also makes an overall recommendation, based on the policy of the institute, whether tenure/promotion should be granted or denied or whether the person should be given more time.

The formality of the selection committee process includes the following: the candidate's record and the committee's recommendation are placed before a formal selection committee, which then may accept the committee's recommendations or modify them. In this process, only the candidate's record speaks; the candidate is not interviewed.

7.4.4 Preventing Faculty Complacency

Faculty complacency is perhaps one of the biggest challenges, particularly in India. There are many examples of faculty members who, at the time of joining as junior faculty after completing their PhD, had a record comparable to their peers in good universities of the world. However, a decade or two later, many of them find a comparison with the same peers much less flattering. The main reason for this is a complacency that often sets in. It is therefore important for the system to prevent complacency from setting in. In India, generally, salary scales and yearly increments are fixed, and therefore, compensation cannot be used as an instrument for motivation. As pointed out by Chandra (2017), there is no

tenure system for faculty other than in a few places, and overall, evaluation systems for faculty work are weak. Such a system does not motivate faculty to perform; it rather encourages them to become complacent. Here, we discuss some measures that can be employed in the Indian context to prevent faculty complacency, based on experiences in IIIT-Delhi.

7.4.4.1 Yearly Review and Plans

Getting the best talent is necessary, but nurturing the talent a university gets is even more important. The basic goal of nurturing talent is to provide an environment and system that allows individuals and groups to reach their potential and, indeed, even exceed it. In other words, an academic system should be such that ordinary faculty do extraordinary work and extraordinary faculty do exceptional work. A mechanism of regular feedback on performance is indispensable for this. Without such a mechanism, it is very easy for an individual faculty to become complacent and be satisfied with ordinary achievements because he/she enjoys a very high degree of freedom and does not have pre-specified goals. For both the institute and the faculty, it is essential to have a proper review and feedback mechanism.

A yearly review of contributions made by a faculty is perhaps the single most important measure that can be employed to prevent complacency. As discussed earlier, for this, the faculty member prepares a yearly report of contributions. Feedback by senior people is then given about the contributions, based on this report. Just preparing the report itself helps, as the formal report provides the faculty member a method to self-assess the contributions. The value of the review is enhanced substantially with feedback from senior people. As discussed earlier, the yearly review should be not only of research contributions but also of teaching contributions and quality. It is important to recognize and communicate through these exercises that research and teaching are both important aspects of academics which support each other, and a compromise in teaching will in the long term hurt research.

The annual reporting of contributions and their review can be well supported with faculty yearly plans, which may be discussed with senior mentors for their inputs. Perhaps, the most important method to prevent faculty complacency involves reviewing, planning and mentoring. We have discussed yearly reviews and planning earlier in the chapter.

7.4.4.2 Tenure System

Faculty are often recruited after they complete a PhD, or after a few years of postdoc or other such experience. Just after PhD, neither the person nor the selection committee is fully sure whether the candidate is fit for an academic career with the twin objectives of research and teaching. There are PhD holders who are good at research but either do not like teaching or are not good at it. Also, there are those who can provide good teaching but are not excited about doing research. For the former, a career in a research lab is more suitable; for the latter, a career in a teaching-focused institution or a teaching track position is better. For those who can both do good research and provide good teaching, an academic career in a research-focused university is not only the most suitable but probably also the most rewarding and desirable option.

Whether a faculty can effectively manage a twin-objective academic career becomes clear only after a few years of experience in academia. Unfortunately, if the person is not suitable for such a career, the person does not leave to follow a more suitable and appropriate path but remains in the current job, often due to the 'permanent' nature of academic jobs in India. (As pointed out by Chandra [2017], very few universities in India have a tenure system.) Clearly, such a person is unlikely to succeed in this twin-goal academic career in a research university, and the institution is unlikely to derive the type of output it expects from such a faculty. Even the best academic institutions have faculty members who are not quite fit for the twin-objective career but stay on.

To ensure that only suitable candidates remain in the twin-objective career, it is important to systemically support some

movement of faculty in early years. In other words, if a faculty or the institute finds that he/she is not suitable for the twin-objective career, the system should encourage him/her to leave the institution early to pursue careers more suitable for themselves. One of the best models for this is a tenure system in which a new faculty has some initial period to prove, both to himself/herself and to the institute, that he/she is suitable for this career before the job is made permanent. Championed by USA (a discussion of the approach in USA is provided by Diamond [2004]), it is now followed in some form in many countries.

In a tenure system, initially, a faculty is appointed for a specific duration, typically sufficient for promotion to the next level. After this period, an assessment of his/her contributions is done; if he/she meets the tenure criteria, he/she is 'tenured' in that the faculty has a permanent job until superannuation. If the criteria are not satisfied, he/she may have to leave the university.

The criteria for tenure is a major issue, and it must depend on the aspirations of the institution and the context in which the institute exists. In a country like India, where the research ecosystem is rather small and the concept of tenure is not common, it is not desirable to have a strict system of tenure often followed by some US universities, in which the duration given to become ready for tenure is fixed and that there are only two possible tenure outcomes: out or in. A fixed duration for being considered for tenure essentially implies that it is expected that all faculty ramp up their research and demonstrate their research capabilities during that period; it has no room for those who might want to build their research agenda somewhat slowly.

In India, the possibility of giving more time is desirable. Not all faculty ramp up their research swiftly. Also, given the overall higher education ecosystem wherein most faculty jobs are permanent, it is not desirable to have a harsh tenure system. Here, we briefly discuss a tenure system used in IIIT-Delhi.

An Assistant Professor is initially given a contract for 7 years. Normally, 6 years after PhD, an Assistant Professor may be considered for the tenure (and promotion too). A faculty may request,

with reasonable reasons, up to a 2-year delay in his/her tenure evaluation. Some reasonable reasons for such a request are childbirth, serious illness in the immediate family, setbacks in work beyond one's control, challenges faced in initial years, and so forth. The tenure process is essentially the same as the process for promotion to Associate Professor, which was discussed earlier.

The outcome of the tenure is not binary; there are three possible outcomes. If a faculty satisfies the criteria, he/she is granted the tenure, and a new contract till superannuation is offered. If the evaluation suggests that the faculty is not fit for a career in a research university, the tenure may be denied (and no new contract is offered). The third option is that, if the faculty has shown potential and progress but has not yet satisfied the criteria, then he/she may be given another 3 years (this can be given maximum once). With this, essentially, only those who are not fit for a research-based academic career are screened out.

With a tenure system, it is necessary to have regular feedback on how a faculty is doing. Thus, a faculty can assess his/her performance on an ongoing basis and has a reasonable sense of what may happen during tenure assessment. Hence, a regular review and assessment of contributions made by a faculty is essential if a tenure system is in place. There are other reasons for having an annual review, as discussed earlier.

Interestingly, contrary to what might be expected, a tenure system does not result in many faculty being denied tenure. Often, if a faculty member is not suitable, he/she will choose to move on, as, with the yearly review, the person realizes his/her level of fitment. Hence, mostly suitable candidates come up for tenure, and so they are mostly successful. (This is the experience in most public universities in USA also.)

7.4.4.3 Large PhD Programme

The PhD programme is indeed a defining aspect of a research university. While not universally true, many successful academics have multiple PhD students working with them—how well PhD

students perform gives also an indication of the quality of the research of a faculty. Hence, one of the best ways to keep a faculty active is to ensure that he/she is working with PhD students. For this, it is desirable to have a large PhD programme so that most faculty can attract some PhD students.

To ensure that almost all faculty can attract some PhD students, it is important to provide support or a fellowship for some PhD students. Thus, regardless of whether a faculty gets sponsored research projects, he/she can recruit PhD students. Some minimum level of support ensures that all faculty can have PhD students.

However, it is equally important for the university to not provide easy and unlimited support for PhD students; rather, faculty should be motivated to get sponsored projects to support more PhD students. This can help faculty remain active and avoid complacency.

7.4.4.4 Support for International Collaboration

It is known that international collaborations are a great facilitator of research. These collaborations can also help keep faculty members remain active researchers. If international collaborations are supported by a university, it helps improve the quality and quantity of research done by faculty and enhances the global reputation of the university. One way to encourage international collaboration is to provide support for faculty attending top international conferences—these are venues where often collaboration ideas are seeded.

Most disciplines have international conferences where the best researchers in the field meet; these are excellent forums to present one's work and gain global visibility, as well as establish connections and develop possible collaborations. In some disciplines, for example, computer science, the presentation of papers in conferences is now actually preferred over their publication in journals. Overall, support for presenting papers in international

conferences is crucial for a faculty to build an international profile. Attending these conferences, listening to top researchers and finding out about the latest developments in the field also help faculty remain motivated and aspire. In countries like India, finding support for international conferences is quite hard; generally, even sponsored research projects having a budget for travel allow only domestic travel, not overseas travel, unless there is a separate budgetary provision for it. It helps if a university provides some support to young faculty for attending international conferences.

However, it is indeed true that such travels tend to be quite expensive. It is also true that finding a conference that accepts even a shoddy research paper is not very hard. Hence, ensuring that travel support is used mostly for presenting papers in high-quality conferences helps ensure quality, as well as good utilization of funds. Suitable policies have to be built to ensure this, such as separating conferences into different categories or tiers. Otherwise, there is a risk of funds being wasted in attending and presenting works in average conferences, which does not have the desired effect of meeting with top minds, getting inspired or motivated or developing collaborations.

7.4.4.5 Teaching–Research Balance

It is expected that faculty spend approximately half their academic effort on teaching and half on research to contribute towards the two basic missions of a university: teaching and research. Allowing a balance between the two is desirable so that those who are more productive and active in research can contribute more to the institute through research, while those who are less productive in research can contribute more through teaching. In other words, for allowing faculty members to contribute according to their capability/interest, those who are more productive in research should be given a slightly reduced teaching responsibility and those who are less active in research should be given somewhat more teaching responsibilities. This also motivates faculty to remain active in research.

The teaching–research balance—balancing teaching and research contributions so that faculty members can contribute according to their strengths—is one of the most important and controversial aspects in a research university. If the teaching and research responsibilities and expectations are not properly balanced, it might be hard to sustain the focus on research, because some faculty members might not contribute much to research and contribute only as much as others in teaching, leading to dissatisfaction or even demotivation among those who engage deeply in research.

One possible approach to address this is to adjust the teaching responsibility based on research contributions. Having too fine an adjustment is not possible or desirable, but adjusting based on multiple years' output can help strengthen both research and teaching—reducing teaching for those who have contributed excellently in research over time, and asking those who are not much engaged in research to take on more teaching responsibilities and expecting them to perform better at teaching. For example, in IIIT-Delhi, there is a policy that if the research output of the previous few years is excellent, the course-teaching responsibility may be reduced (from three courses per year to one course per semester); if the research output of the previous few years is average, the course-teaching responsibility may be increased (from three courses per year to two courses per semester).

7.5 SUMMARY

Faculty is the main pillar of a research university; everything else revolves around it. Faculty have twin academic goals: good research and good education. This makes them a very talented pool, which is generally in short supply. Hence, it is extremely important to carefully recruit faculty and nurture them. This chapter discussed various aspects of faculty management.

We first discussed the key aspects of faculty work—research, teaching and service. For each of these, we discussed various aspects. Research output can comprise research publications,

sponsored research projects, PhD student guidance and technologies developed. Teaching includes classroom teaching, as well as guiding students, and activities that may promote education in the larger ecosystem. Service is the service to the profession as well as that to the university.

We also briefly discussed various types of faculty a university may have. Besides the regular faculty (Assistant Professors, Associate Professors and Full Professors), a university often also has visiting faculty, adjunct faculty, guest faculty, etc. While at the core are the regular faculty, other types of faculty are also valuable for achieving the university missions.

We then discussed faculty recruitment, with focus on recruitment at the Assistant Professor level, where most of the recruitment actually takes place. Recruiting someone at this level requires assessing the potential of the candidate, for which past record, letters from experts, interaction with faculty, interaction with selection committee experts, etc. are evaluated. We briefly discussed recruitment of senior faculty and other types of faculty.

Finally, we discussed the critical issue of managing the faculty. While appointing talented people as faculty is important, it is essential for the talent to be nurtured well. This requires suitable systems to motivate faculty to excel in research and teaching. We discussed a few approaches. Some of the most effective tools for helping faculty remain productive are holding a yearly review of faculty contributions in research, teaching and service, having a well-structured method of capturing their contributions and having a system of providing feedback. Faculty promotions must also be done suitably, with clearly articulated policies that support excellence in teaching and research. Finally, we discussed the critical issue of preventing complacency from setting in and discussed some approaches like the tenure system, yearly review, PhD programme, support for international collaboration, etc. which can help.

Interestingly, the national education policy of India (NEP 2019) also has suggestions regarding faculty, and many of the

recommendations are along the lines of concepts discussed in this chapter. It recommends that rigorous and transparent criteria and process should be followed for faculty recruitment and that the criteria should include contributions to research, as well as understanding of the discipline, teaching capability, ability to work in teams, etc. It also recommends that career progression be also based on the evaluation of contributions, and for research, the quality of research should be given importance and only publications in credible and reputed journals be given weightage. It also recommends that the faculty body be a mix of academicians and field practitioners so that good connections with practice can be established, and encourages recruiting some faculty laterally from among practising professionals. There is also a suggestion of a form of tenure system having a probation period of 5 years, with employment becoming permanent based on a rigorous and comprehensive assessment of contributions in this period. The NEP also recommends mentorship of young faculty by senior academics, who can be from outside the university too.

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