

# Staff Recruitment and Development: Looking Beyond the Boundary

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*This paper shares the experience of the Nanyang Technological University in building up a workforce since its establishment in 1981, amidst a phase of rapid growth and development and in the face of a tight labour market. It highlights some of the strategies adopted by the University in capitalizing on circumstances favourable to the University, and in seeking solutions, some of which lie beyond the boundary of the geographical borders and traditional thinking and approaches.*

## INTRODUCTION

WITH A population of barely 2.7 million and a physical area of only 626 square kilometres, Singapore is one of the world's smallest states. Overcoming great odds as a newly independent nation without natural resources, the small city-state of Singapore has been turned into a thriving and modern economy. In 1988, Mr Lee Kuan Yew, the then Prime Minister, commented during his speech on 'Singapore's Strategy in the 21st Century', that

We have no natural resources except our strategic location. Our only other resource is our people. But they are a resource that has been responsible for Singapore's achievement over the last 23 years of independence. Their desire to learn, capacity to work hard, and discipline and self-restraint in foregoing short-term gains for long-term benefits, and social and political stability, these are the reasons for Singapore's success. [1]

It is also most apt to say that as a 'labour-intensive' organization with manpower costs accounting for about 70% of its operating budget, the achievements of Nanyang Technological University depend largely on the quality of its human resource and how it is managed. The University has come a long way from a small institution (the Nanyang Technological Institute, NTI) with a handful of staff, to a large, modern, fully fledged technological university with a total staff strength (both teaching and non-teaching) of 2,148 of whom 830 are appointed to the Engineering Schools. Its human resource management policies and strategies are focused on the basic aims of recruiting high-calibre staff suited for the job, and continuously developing and motivating a responsible workforce that is effective and has the capacity to perform and contribute towards the

University's aims. These have been instrumental to the fulfilment of its vision of becoming a university of industry.

## THE EARLY YEARS: PROBLEMS AND CHALLENGES

When the NTI—the predecessor of the Nanyang Technological University—was legally established on 8 August 1981, it began operation with only 15 academic staff (including three deans) and a handful of administrative and support staff. With the first intake of students scheduled to be admitted in less than 10 months' time, and with aggressive expansion plans to produce the required number of practice-oriented engineers to support Singapore's restructured economy, one of the areas that the NTI accorded high priority was the selection and recruitment of high-calibre staff.

It may be said that the biggest single factor at that time for ensuring NTI's success—and also the major obstacle to overcome—was recruiting the right staff. The initial target was to recruit 30 teaching staff in 1982, with the number gradually rising to 300 by 1990. The NTI had then to face the challenging task of attracting practising engineers who could meet the stringent standards of the Institute, to join as faculty at a time when the country was faced with a shortage of engineering professionals who were also sought after by the flourishing industries. The fact that the NTI was a newly established organization was an attraction to some prospective candidates but a disadvantage to others: there were candidates who saw the challenge and opportunity of being able to contribute and build a new institute, but there were also others who preferred to work for well-established, prestigious organizations that had already proven themselves.

The problems faced by the NTI were further



aggravated by the fact that the development of the Institute had to be accelerated in response to the new demands of a rapidly expanding economy, putting more pressure on the recruitment of staff. The initial forecast for a student population of 2,645 by 1987 was soon revised to 4,000.

The Institute was mindful that good lecturers command a worldwide market. If the NTI was to attract good academic staff, it would have to cast its net worldwide and pay internationally competitive salaries. Comparative studies were made with the salary packages of different overseas universities, and this has been constantly monitored by the Institute. Another important aspect which has been closely monitored is the right balance of practice and academic orientation of staff, if the University is to strengthen its status as a university of industry.

The NTI has the advantage of strong support given by the Government which has emphasized the importance of investment in its people. Measured in terms of Singapore's national budget, investment in education is second only to defence. In 1986 Dr Tony Tan Keng Yam, who was then the Minister of Education as well as the Minister-in-charge of the two universities, offered reassurances that the National University of Singapore and the NTI were the two premier institutions of higher learning in Singapore and will continue to receive the funding they need in order to enable them to develop into centres of excellence [2].

Besides offering competitive salaries, the NTI also embarked on several development programmes to build a modern and progressive campus, create an environment conducive to academic work, and provide adequate funding and support for research. All these serve as important contributing factors to the attraction of good staff. For example, the development of the Institute's \$200 million futuristic complex in the campus, designed by Japanese architect, Kenzo Tange, provides an inspiring and conducive environment for staff, and ample space to accommodate the latest scientific engineering and computer equipment. Today, the NTU campus compares favourably with campuses of many prestigious universities in the world.

### RECRUITING LOCALLY AND OVERSEAS

The NTU has been successful in recruiting and retaining as its regular, full-time faculty members a core of dedicated, highly qualified professionals with sound industrial experience. In order to continue to build up a strong team of local staff, who in turn would contribute to the long-term stability and steady growth of the University, two staff development schemes were introduced, namely the Academic Staff Development Scheme (ASDS) and the Senior Tutor Scheme. Both schemes aim at attracting local candidates who have outstanding academic records and an interest in pursuing an academic career but who do not possess the requisite higher qualifications. The ASDS is aimed

specifically at those who also have at least three years of good industrial experience, while the Senior Tutor Scheme is aimed at fresh university graduates in business, accountancy and education. Staff under these schemes are sponsored by the NTU to pursue higher-degree programmes specific to the needs of the University one to two years after they join the University. These are important avenues for attracting local talent. Since the inception of the ASDS in June 1981, a total of 46 engineering staff had been recruited into the scheme, of whom 43 had completed their studies and were appointed to a faculty position of the University on their return. The remaining three are presently pursuing their higher degrees.

Recognizing the need to tap as much expertise as possible from among the best local talent, the NTI also initiated a scheme of adjunct appointments in 1983 to attract outstanding professionals in the private as well as public sectors who have interest in imparting their knowledge and wealth of experience to students in the NTU but could only contribute on a part-time basis. Under this scheme, the adjunct faculty spend about 8 hours each week teaching and interacting with staff and students or contributing in other academic activities. The criteria for the appointment of adjunct staff are in line with that for full-time academic staff, except that greater emphasis is given to the quality and type of industrial experience in the appointment. Contributions by the adjunct staff are especially valuable to practice-oriented engineering education at the NTU because of their expertise in specialized fields of engineering practice, familiarity with the latest technological development, and awareness of the needs of local and regional industries. Additionally, active participation by the adjunct staff provides an excellent working environment for the full-time academic staff to interact with industry. It also generates better opportunities for the industrial attachment and career placement of our students. So far, this scheme has attracted prominent professionals who have made very valuable contributions to engineering education in Singapore.

While on-going efforts have been made to recruit local staff, the NTU also strives to maintain a healthy balance of local and expatriate staff. The presence of expatriate staff is pertinent in encouraging cross-fertilization, and avoiding isolation and in-breeding in the University's academic development. In its overseas recruitment, the University has been advertising regularly in strategic overseas publications and, where necessary, sending recruitment missions/representatives to the UK, the USA, mainland Europe, Canada, Australia, New Zealand and other parts of the world to recruit staff. The University also makes use of the Government's efforts to attract overseas talents. As the Singaporean population is unlikely to increase sufficiently through indigenous growth alone, the Government has encouraged the immigration of talented people to supplement and complement its



human resources in the next phase of its economic development. The Government has maintained an efficient infrastructure in dealing with the attraction and recruitment of foreign talents and has set up overseas recruitment centres and missions in the major cities over the world. Through this, the NTU has been able to work out various arrangements to help attract overseas candidates and expedite the process of bringing them into the University.

### A COSMOPOLITAN CAMPUS

The full-time academic staff strength of the Engineering Schools has grown from 15 in 1981 to 458 as at 1 March 1994, giving a present staff:student (undergraduate) ratio of 1:13.

Of the 458 academic staff, 198 (43%) are Singaporeans and 260 (57%) non-Singaporeans. Among the non-Singaporean staff, 153 have taken up permanent residence in Singapore. The remaining 107 non-Singaporean staff (23% of total academic staff) comprise Malaysians and expatriate staff from various countries, mainly from the UK, the USA, Australia and Canada. It is interesting to note that the expatriate staff come from various parts of the world including Bangladesh, Brazil, Brunei, Greece, Hong Kong, India, Indonesia, Nepal, New Zealand, Pakistan, Poland, People's Republic of China, Russia, Sri Lanka, Sweden, Taiwan, Thailand, Tunisia and Turkey.

The University has benefited from its cosmopolitan faculty, who bring with them the special features of the culture and systems of work of their respective countries and universities. On the other hand, the University is aware of the accompanying problems of adjustment and the need for a careful integration of staff into the local community. The University has been careful in its selection of staff to ensure that the candidates are likely to be able to adapt to the local system. While the ability to adjust may vary from individual to individual, the problems have to be addressed at both the Schools and University levels.

Besides the provision of attractive fringe benefits, such as education allowances and medical benefits for staff and their family members, the NTU has built staff quarters within the campus as well as rented en bloc some flats close to the campus, and offered them to non-Singaporeans who may apply to stay at subsidized rents. As an additional channel to facilitate the adjustment of staff, the University has set up a Residents' Committee to represent residents of the staff quarters, and this works closely with the relevant servicing departments (such as the Estate Office) as well as organizing activities and functions to facilitate rapid social integration and promote the well-being of staff and their family members. At the Schools level, orientation programmes are set up to assist new staff to adapt to the working systems in

the Schools and be fully aligned with organizational goals.

The turnover rates of academic staff in the Engineering Schools have been consistently low at around 3% for the past few years. The turnover is largely due to the expiry of contracts of staff. As mentioned above, among the 260 non-Singaporean staff members, 153 (or 59%) have been granted permanent residence in Singapore. It is interesting to note that since the recruitment of the first batch of expatriate staff, 40 of them, mainly of Asian origin, have taken up Singapore citizenship.

### SYNERGISTIC APPROACH IN STAFF DEVELOPMENT

Staff development in a tertiary institution is a key factor to its success. With the rapid pace of change and new discoveries in the technological fields in different parts of the world, the standing of the NTU and the usefulness of its training programmes depend on the ability of staff to keep abreast with the forefront of knowledge and development in their respective fields of specialization. Besides having to work within the allocated funding, the University faces the dilemma that sending more staff overseas to gain first-hand experience and to work with overseas experts would mean further aggravating the tight staffing situation here. High among the priorities of the University is the urgent need to ensure that its teaching staff are in touch with the demands of local industry. Furthermore, as the NTU gains recognition in its status as a university of industry, it has the obligation to make available the expertise of staff to solve and assist problems of a specialized nature on request from industry and the community. In the face of these competing demands, the University has adopted a synergistic approach to integrate staff development into its various professional and academic activities.

One such approach to staff development is through collaboration programmes with prestigious overseas universities. For example, collaborative training and research programmes have been developed with Cambridge University and the Imperial College of Science, Technology and Medicine in the UK, with Cornell University, Massachusetts Institute of Technology and Stanford University in the USA, with the Fraunhofer Institute in Germany, and with the Mechanical Engineering Laboratory in Japan. Included in many of these programmes is a provision for joint research projects and for eminent overseas academics to be appointed as visiting staff of the NTU. While this serves as a very effective means to facilitate the University's aim of raising its level of competence to international standards, it has also provided opportunities for staff to work alongside eminent visiting academics, as well as to visit these universities to work on a solid agenda on joint projects and collaboration programmes.



The NTU sees joint projects with local industrial firms and the provision of consultancy services to industry as important avenues to a full understanding of the needs of local industry. Several research centres that have been established in partnership with local industries have embarked on practical projects to spearhead the growth of industry. To encourage staff to participate in outside consultancy work over and above their normal workload, the NTU has a consultancy scheme which enables staff to retain consultancy fees up to 60% of their gross annual salaries. Not only do the University and local industries benefit from this scheme, but staff also see this as an enhancement of their terms of appointment and experience. In 1993, a total of 120 companies had sought the services of NTU's staff to serve as consultants to their specific problems and projects.

With regard to formal schemes for academic staff development, in addition to the above mentioned ASDS, the NTU has implemented the Academic/Industrial Leave scheme which provides full-pay leave and, where applicable, financial assistance to enable tenured teaching staff to seek attachment to academic and research institutions to carry out research, or to engineering organizations, especially local concerns, to work or provide consultancy services. Such leave is granted up to 8 months after every five years of resident service with the University.

The academic support services of the NTU, such as the Library, the Computer Centre and the Centre for Educational Development, while providing an essential service for the training programmes, have the underlying role of enhancing staff development and productivity. The facilities and services of these departments bring about enormous opportunities for staff to keep abreast of new developments, and methods and ideas for improving engineering education.

One area of staff development that deserves special mention is the development of good teaching. This has been embedded into the University's agenda for action right from the early years of its existence. Recognizing that most academic staff in the engineering disciplines have not had any formal training in instructional methods, the Centre for Educational Development was officially established in April 1982 with the primary aim of helping staff to improve their quality of teaching. Besides the ready accessibility of a range of carefully selected equipment well suited for engineering education, micro-teaching sessions are held for staff to improve their pedagogical skills, and seminars and workshops are organized on a regular basis for them to learn modern instructional methods and techniques. The strong commitment of the NTU to good tertiary teaching led to the introduction of the Diploma of Teaching in Higher Education conducted by its School of Education in 1993. This programme provides further opportunity for the University's academic staff to acquire pedagogical skills in greater depth and effective-

ness. This programme also admits a limited number of staff from other tertiary institutions in Singapore.

Other incentives are provided by the NTU to its staff to improve their teaching competence and performance. Besides giving this due weighting in the annual staff review, the University has various other schemes to reward good teaching such as the Teacher of the Year Awards made by the various Schools.

### SUPPORT STAFF RECRUITMENT AND DEVELOPMENT

The success of the NTU rests not only on the calibre of its academic staff but also on the ability and contributions of the team of administrative, technical and other support staff. Support staff are recruited locally. Despite the tight labour market in Singapore, especially in technical and clerical/secretarial personnel, the University has overcome this problem through its various productivity activities and strategies. Besides the widespread use of computers as labour-saving devices and conscious efforts to retain a core of good, dedicated staff, the University believes that staff development is a key solution to enhancing individual work competence and productivity in getting more work done with fewer employees. The University has set up a Non-Academic Staff Training Committee with representatives from the various Schools and the Personnel Office to identify training needs and arrange for staff to be trained on in-house courses conducted by the University or by courses offered by outside organizations.

Another important feature in the development of a committed and effective team of support staff is the strong emphasis given by the University to its productivity movement, particularly through its active promotion of NTU's Work Improvement Teams (WITs) programmes and the Staff Suggestions Scheme (SSS).

WITs, which may be more commonly known as Quality Control Circles, are groups of employees (about 4-7 in each team) doing similar work who meet regularly to discuss problems in order to improve their work performance and productivity. The WIT concept is based on the belief that by letting people make problem-solving decisions on their own job, they will have more interest and pride in their work. WIT activities also promote teamwork spirit and the sense of belonging to the University. The University holds an annual in-house WITs convention, during which some teams from various schools and departments present their completed projects. At present, there are 94 WITs in the University comprising about 800 non-academic staff members. This represents a high participation rate of 66% among the non-academic staff despite the fact that there are several work



units which are too small for WITs to be formed or where shift duties are involved.

The SSS is aimed at encouraging and rewarding staff for their efforts in promoting productivity beyond their normal course of work. Under this scheme, staff may submit suggestions for improvements either on their own or through their WITs. The suggestions are evaluated in terms of the time and materials savings and improvement to service quality that can be brought about by the suggestions, as well as their creativity in problem-solving. Cash awards are accordingly made for suggestions accepted for implementation.

Through such schemes, the NTU not only receives many good, concrete suggestions from staff to improve its operations, but more importantly, these schemes help bring about an attitudinal change in the staff to become more conscious of the quality aspect of their daily work and instil in them better teamwork, problem-solving skills, greater self-esteem, job satisfaction and sense of belonging.

## CONCLUDING REMARKS

During the 14 years since its inception, the NTU has devoted, rightfully, close attention to the building up of a dedicated workforce with the right mix of expertise in pursuing its vision of becoming the university of industry. After its initial years of rapid growth and development, the University is now moving on to its next phase of consolidation and further growth. With the rapid advancement of technology, the ever-changing demands of society, and an increasingly competitive economy, new and different problems will arise. The tight local labour market is also unlikely to ease in the near future. The University will continue to adopt a borderless view when seeking strategies and solutions to meet its challenges.

## REFERENCES

1. Speech delivered at the Forum on the Future of Singapore as an International City, held in Hokkaido, Japan, July 11, 1988.
2. *Straits Times*, 20 June 1986.

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