

12-1999

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DOI: <https://doi.org/10.1142/S0219091599000291>

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Citation

TAN, Teck Meng; LEONG, Kwong Sin; and PANG, Yang Hoong. On business education in Singapore: The past, the present and the future. (1999). *Review of Pacific Basin Financial Markets and Policies*. 2, (4), 527-554. Research Collection School Of Accountancy.

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On Business Education in Singapore: The Past, the Present and the Future

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Introduction

Like many other countries in the Asia Pacific Basin region, business education in Singapore owes an intellectual debt to its western originators. In Taiwan, management degree programs have been largely influenced by similar programs offered in the West, in particular, the United States (Yen, 1999). Business education in Singapore, on the other hand, has had a rather different beginning. This can be attributed to its historical beginnings as a British colony, and later as a member of the Commonwealth. However, like the case of Taiwan universities, business programs in Singapore universities in the last two decades have also been significantly influenced by the curricula in the best-known universities in the United States.

This paper provides an overview of the developments in business education in Singapore, and the future directions for its development.

Development of Management Education in Singapore

Like many other Commonwealth countries, the development of management education in Singapore is closely tied to its historical roots. The first institute of higher learning using English as the medium of instruction, was the former University of Singapore (now known as the National University of Singapore). It had its beginnings in 1905, although management education only became

a part of the university offerings in 1965, with the launching of the Bachelor of Accountancy and the Bachelor of Business Administration programs.

The Nanyang University, on the other hand, was established in 1956 in response to the demand for higher education using the Chinese medium. The demands for graduates knowledgeable in business came from the Chinese business community, which provided the initial funding for setting up the university. The first courses to be offered were Arts, Commerce and Science. Accountancy and Business Administration courses were offered soon after.

While graduates from the University of Singapore were much sought after in industry, graduates from the Nanyang University faced problems of recognition by employers, although the university had instituted the same system of appointing external examiners as in the University of Singapore. In 1978, this problem of industry recognition was overcome through the establishment of the Joint Campus scheme. Under this arrangement, first year students enrolled in accountancy and business administration from the two universities would read common courses and sit for common examinations prescribed by the University of Singapore.

The two universities eventually merged to form the National University of Singapore in 1980. The faculty of Accountancy and Business Administration was established, with accountancy and business administration as two separate schools. In the same year, the School of Postgraduate Management Studies was established within the Faculty to offer graduate programs in Management. The MBA program was established in the same year.

In order to enhance the quality of the teaching faculty at the Schools of Accountancy and Business Administration, young faculties were sent for further studies in Australia under the Australian Asian Universities Co-operation Scheme (AAUCS), which was established in February 1976. Faculties from Australian universities also came on one-year or shorter-term teaching or research appointments. As a result of this development, the Australian influence on academic development in Singapore is significant even today. By 1985, when the scheme was terminated, 10 local staff had completed their masters or doctorate programs at Australian universities. The staff exchange program under the AAUCS scheme also led to the establishment of the Financial Database and the School of Accountancy and Business Research Center (SABRE). The Database is a vital part of the research activities of staff and students at the School of Accountancy and Business today.

From the mid-1980s, young faculties with outstanding academic results were recruited as senior tutors, and sent under the NUS Overseas Graduate Scholarship scheme to pursue their doctorate degrees overseas. To broaden the academic exposure of the School, these senior tutors were sent to prestigious universities

School of Accountancy and Commerce) in July 1987. The new commerce degree had a strong focus on banking and insurance. Following a major re-structuring of the curriculum in July 1991, the commerce degree was renamed the Bachelor of Business (BBus). At the same time, NTI was officially renamed the Nanyang Technological University (NTU), with the power to award its own degrees (prior to this, NTI students were awarded NUS degrees). The School of Accountancy and Commerce was also officially renamed the School of Accountancy and Business (SAB).

The BBus program differs from the Bachelor of Business Administration (BBA) at the NUS in that the BBus program offers students a choice of seven specializations: Banking, Insurance, Actuarial Science, Financial Analysis, Marketing, Industrial Management and Human Resource Management. In contrast, the BBA program at NUS is a general management program. At SAB, accountancy students may opt for a minor in any of the business specializations offered in the School, and business students could read a minor in accountancy or any other business specialization in addition to their major. In 1994, Applied Economics was introduced as a new business specialization, Quality Management was introduced in 1995, and Hospitality and Tourism Management in 1996.

Over time, it has become apparent that the philosophy adopted at the two business schools at NUS and NTU are significantly different. The accountancy and business programs offered at NTU differ from the BBA program offered at NUS, not only in terms of their curricula, but also in terms of their industry orientation. The BBA program is a three-year program, and outstanding students may read an additional year to obtain an honors degree, which involves the completion of an honors dissertation. The programs at NTU, on the other hand, are highly industry-oriented. In line with NTU's mission to be an "industry university", emphasis is given to providing students with practical industrial experience prior to their graduation. In this regard, two major features were incorporated into the accountancy and business programs:

- A mandatory 10-week industrial attachment upon completion of the second year (this was subsequently reduced to eight weeks). Students specializing in Hospitality and Tourism Management undergo a 34-week practicum instead of the eight-week industrial attachment.
- A final year project, which requires final year students to work, in groups of three, on a piece of industrial research under the supervision of a faculty member.

The two differing approaches to business education adopted at the two universities is similar to the two models of business education in the U.S.:

in the United States, Canada and the United Kingdom, though the majority of these senior tutors opted to go to the most prestigious schools in the U.S. The building up of this pool of local faculty with PhD training, as well as the recruitment of PhD holders from overseas, provided the impetus for the launching of post-graduate degree programs, particularly MBA programs, in the 1980s. These programs were, and still are, very much influenced by the U.S. training received by the returned faculty. By the middle of the 1990s, more than 40 faculty members at the School of Accountancy and Business had completed their doctoral degrees.

At the School of Accountancy and Business (NTU), emphasis has always been given to making the programs industry-relevant. To ensure that academic staff would be able to relate course curricula to industry practices, the School requires academic staff recruited to possess, in addition to a postgraduate degree, a minimum of three years' working experience in industry after graduation. Upon joining academia, staff without a PhD qualification are strongly encouraged to upgrade themselves academically by working towards a PhD degree. As of July 1997, the total staff strength at the School of Accountancy and Business was 203, of which over 50 percent had a PhD degree.

At the Faculty of Business Administration at the National University of Singapore, as the emphasis has been on academic rigor, staff recruited are not required to have relevant industry experience. However, they are required to possess a PhD qualification. As at July 1997, approximately 90 percent of its 185 academic staff possessed a PhD degree (compared to the university average of 80 percent).

In July 1987, it was decided that the School of Accountancy would be relocated to the Nanyang Technological Institute. The School of Business Administration, on the other hand, would remain at NUS. The Nanyang Technological Institute had been set up in 1981 as a technological institute of higher learning, offering degree programs in the fields of engineering. The move of the School of Accountancy to NTI would enable it to become a professional technological university (*FABA News*, August 1986), and in due course, a comprehensive university, in competition with the NUS.

At NUS, the Faculty of Accountancy and Business Administration was renamed the Faculty of Business Administration. In order to provide greater emphasis on graduate management education at the NUS, the School of Postgraduate Management Studies became a separate school, and was renamed the Graduate School of Management in 1996.

A new degree, the Bachelor of Commerce, was launched as soon as the School of Accountancy moved to NTI. The first batch of undergraduates for the Bachelor of Commerce degree was admitted to the school (renamed the

Table 1. Enrolment of Accountancy and Business Students at NUS & NTU

	NUS			NTU			Total			Grand Total
	B Acc	BBA	Total	B Acc	B Bus	Total	B Acc	BBA	B Bus	
1983	423	520	943	—	—	—	423	520	—	943
1984	427	494	921	—	—	—	427	494	—	921
1985	468	491	959	—	—	—	468	491	—	959
1986	534	528	1,062	—	—	—	534	528	—	1,062
1987	—	508	508	618	—	618	618	508	—	1,126
1988	—	660	660	711	—	711	711	660	—	1,371
1989	—	692	692	708	205	913	708	692	205	1,605
1990	—	521	521	733	584	1,317	733	521	584	1,838
1991	—	542	542	704	613	1,317	704	542	613	1,859
1992	—	564	564	718	663	1,381	718	564	663	1,945
1993	—	594	594	721	684	1,405	721	594	684	1,999
1994	—	611	611	743	726	1,469	743	611	726	2,080
1995	—	619	619	762	675	1,437	762	619	675	2,056
1996	—	616	616	788	681	1,469	788	616	681	2,085
1997	—	597	597	750	628	1,378	750	597	628	1,975

(SOURCE: Yearbook of Statistics — Singapore, 1993 and 1997, Department of Statistics, Singapore)
 Note: Figures are available only from 1983. Prior to 1983, no detailed enrolment figures were compiled officially.

the academic model emphasizing theory and mathematical rigor, and the professional model emphasizing a curriculum and approach to learning that is industry relevant.

Table 1 shows the enrollments of accountancy and business students at the two universities between 1983 and 1997. These figures were extracted from official statistics compiled by the Department of Statistics, Ministry of Trade and Industry. Figures are available only from 1983. Prior to 1983, the Department of Statistics only released total enrollment figures for each university.

Post-Graduate Programs

The British colonial influence is evident in both NUS and NTU's post-graduate research programs, which had been offered at the NUS and its predecessor since the 1960s, and at NTU since the late 1980s. Candidates admitted to a research program at both universities pursue an independent but supervised research in a chosen field of advanced study. Upon completion of his/her research, a thesis is submitted for examination. A degree is awarded upon successful completion of the thesis. At SAB, the Master of Accountancy

(M Acc) and the Master of Business (M Bus) were offered in 1989, and the PhD in 1990.

At the NUS, two research programs, the Master of Science (MSc) in Management, and the PhD program, were offered from 1980. The MSc (Management of Technology) through coursework, and the Asia-Pacific Executive MBA were launched in the 1990s in response to market demands for graduate degree programs in management.

While the MBA program has been in existence at NUS since 1980, the MBA by specialization was launched at NTU in 1991. The first MBA specialization to be established was the MBA (Accountancy). The distinctive feature of this program is that it enables an MBA (Acc) graduate to gain provisional admission to the Singapore Society of Accountants (subsequently renamed Institute of Certified Public Accountants of Singapore — ICPAS) immediately without the need for further examinations. Other specializations were introduced into the MBA program over the next few years. Like the undergraduate business programs, the MBA program at NTU differs from the MBA program at NUS in terms of its industry orientation. While there is no similar requirement at NUS, all MBA participants are required to participate in an overseas business study mission. This is aimed at providing participants with a global approach to business, so that the MBA graduates would have an entrepreneurial and innovative mindset upon graduation.

The period between 1987 and 1997 was a time of rapid expansion for SAB. In 1994, SAB became the first school in Singapore to launch a PhD program

	Undergraduate	Graduate
1987	B.ACC	
1989	B.COM (Banking & Insurance)	M. ACC, M.BUS
1990		Ph.D
1991	B.BUS (Actuarial Science) B.BUS (Banking) B.BUS (Financial Analysis) B.BUS (HRM) B.BUS (Industrial Mgt) B.BUS (Insurance) B.BUS (Marketing)	MBA (Accountancy)
1992		MBA (Banking & Finance) MBA (Hospitality & Tourism Mgt)
1993		MBA (Business Law) MBA (Mgt of Technology) MBA (Mgt of IT)
1994	B.BUS (Applied Economics)	Ph.D (Business)
1995	B.BUS (Quality Management)	MBA (International Business)
1996	B.BUS (Hospitality & Tourism Mgt)	
1997		MBA (Strategic Management)

Figure 1. Programs Offered at SAB

in Business by coursework and thesis. The program was a departure from the traditional PhD by thesis alone, and was developed along the U.S. model. Figure 1 presents a summary of the programs offered by SAB between 1987, when it was relocated to NTI, and the end of 1997.

At the Faculty of Business Administration and the Graduate School of Business at NUS, the MBA program was extended so that participants could also receive instruction in Chinese. Graduate programs like the MSc (Management of Technology), the Asia-Pacific Executive MBA, as well as the MSc in Management, were introduced. The programs offered at the Faculty of Business Administration and the Graduate School of Business at NUS as of July 1977 are shown in Fig. 2 below.

Table 2 shows the number of graduate students enrolled in management programs at the two universities in July 1977.

BBA/BBA (Honors)
Graduate Diploma in Business Administration
Advanced Certificate in Management (taught in Chinese)
MBA (taught in English and Chinese)
M.Sc (Management of Technology)
Asia-Pacific Executive MBA (taught in English and Chinese)
M.Sc in Management (by research)
Ph.D (by research)

Figure 2. Programs Offered at NUS

Table 2. Number of Graduate Students as at July 1997

	NUS	NTU	Total
By research:			
M ACC, M BUS, MSC	65	49	114
PhD	12	11	23
PhD (Bus)	—	4	4
Sub-total	77	64	141
By coursework:			
MBA (all specializations)	—	523	523
MBA (English & Chinese)	423	—	423
MSC (MOT)	117	—	117
Graduate diploma	97	—	97
Sub-total	637	523	1,160
Total	714	587	1,301

Besides the above graduate programs, both schools at the two universities offer various executive development programs, as well as in-house programs for company executives. Both universities have also forged strategic alliances with top universities such as the Stanford and Wharton Business Schools, and the Sloan School of Management at MIT.

Research at NUS and NTU

Since their humble beginnings in the 1950s for NUS, and 1987 for NTU, both universities have come a long way in terms of management education. The two business schools today, in particular the accountancy program at NTU, attract the best candidates to their programs each year. During the developmental years of the 1970s and 1980s, both business schools at NUS and NTU made huge investments in their staff development programs by sending outstanding young staff for masters and doctorate programs to the best universities in the world. That investment has today borne fruit, and these faculties have returned well equipped to teach and conduct research at the two universities.

At the Faculty of Business Administration and the Graduate School of Management at NUS, research is conducted at the individual level, as well as through three research centers: the Center for Business Research & Development, the Center for Management of Technology and the Productivity and Quality Research Center. The Faculty/School also publishes six academic journals in various business fields.

Table 3. Research Output — Total Number of Publications

Year	NUS	NTU
1987	*	47
1988	*	101
1989	*	129
1990	*	176
1991	229	170
1992	273	267
1993	300	302
1994	353	395
1995	299	412
1996	281	512

*data not available.

Research at SAB is undertaken through six research centers, each specializing in niche research areas. Each center also hosts international conferences yearly, and many conduct executive development programs that are attended by participants from all over the world. The School produces three academic journals: the *Accounting and Business Review*, the *Asian Business Law Review*, and the *Journal of Enterprising Culture*.

Research output at both universities have increased significantly over the last ten years. Besides quantity, research quality has also improved significantly over the years. Staff publications appear in top academic journals, as well as well-known professional journals, chapters in books, books and monographs and international conferences. Table 3 shows the number of publications by staff of both business schools at the two universities between 1987 and 1996.

Current Status of Management Education at the Universities

The Faculty of Business Administration/Graduate School of Management at NUS has made significant progress since its inception in 1965. Through its well-qualified faculty, the Graduate School has achieved an international reputation for research and executive education, and its graduate management programs can be expected to expand significantly in the next decade.

In spite of its short 10-year history at NTU, the School of Accountancy and Business (also known as the Nanyang Business School since 1994), has achieved international recognition as a dynamic and progressive business school, particularly with regard to its MBA program. Its Business Study Missions to countries around the world has resulted in the launching of a bestselling series on *Doing Business in these countries*, published by Prentice-Hall. In the six years since its inception, the MBA program has attracted participants from over 23 countries.

In July 1998, NTU launched the prestigious Nanyang Fellows program. This is a partnership with the Massachusetts Institute of Technology (MIT) to offer a world-class MBA program for top Asian executives. It is a program that is structured based on the MIT Sloan Fellows program. Candidates will spend a year at NTU, followed by six weeks at MIT, and they will graduate with an MBA from NTU and an Executive Program Certificate from MIT. In launching the program, the Deputy Prime Minister, Dr Tony Tan, expressed the hope that this program will enhance Singapore's position as a regional education hub and an active partner in the development of human resources for the region (*The Straits Times*, July 30, 1998).

Developments in Management Education at the Polytechnics

It should be noted that the universities are not the only tertiary institutions where business education is offered. Other tertiary institutions in Singapore where business education is available are the four polytechnics. At the Singapore Polytechnic (SP), besides the accountancy program, which was transferred and upgraded to a degree program at the University of Singapore in 1963, other business courses were also offered. Today, SP offers a wide range of advanced diploma courses in the fields of business, computing, engineering, technology and maritime studies. Its business courses encompass areas such as business information systems, food technology and telecommunications.

In 1963, the Ngee Ann Polytechnic was established with the aim of training individuals for employment in the industrial and commercial sectors. It currently offers diploma courses in accountancy, banking and financial services, biotechnology, building and real estate management and business studies.

In order to meet the increasing demands of an industrialized society, two more polytechnics were established in the 1990s. The Temasek Polytechnic (TP) was established in 1990 to offer para-professional education through innovative instructional strategies and state-of-the-art technologies. TP is one of the most well connected information hubs in Singapore, and its School of

Table 4. Enrolment of Business Students at the Polytechnics

Year	Singapore Poly	Ngee Ann Poly	Temasek Poly	Nanyang Poly	Total
1983	157	628	—	—	785
1984	139	749	—	—	888
1985	116	993	—	—	1,109
1986	143	1,166	—	—	1,309
1987	345	1,213	—	—	1,558
1988	433	1,021	—	—	1,454
1989	683	1,227	—	—	1,910
1990	660	1,161	420	—	2,241
1991	810	1,515	426	—	2,751
1992	985	1,281	448	384	3,098
1993	1,038	1,475	548	433	3,494
1994	1,028	1,368	580	531	3,507
1995	1,318	1,421	681	559	3,979
1996	1,185	1,225	1,173	596	4,179
1997	1,018	1,158	1,206	657	4,039

(SOURCE: Yearbook of Statistics — Singapore, 1993 and 1997, Department of Statistics, Singapore)

Business offers courses that are market driven. For instance, the Diploma in Information Studies and Biotechnology was launched in 1996.

Nanyang Polytechnic was established in 1992 with the mission of providing quality education and manpower support for Singapore's national development. Besides diploma courses in technology, Nanyang Polytechnic offers programs in business management, manufacturing engineering, accountancy and taxation, banking and financial management, risk and insurance management and marketing.

Besides full time students, all four polytechnics offer part time courses that enable employees to upgrade their skills. Table 4 shows the enrolment of students in business programs in the four polytechnics from 1983 to 1997.

Other Developments in Management Education in Singapore

From Tables 1, 2 and 4, it can be seen that each year, approximately 7,300 students enroll in business courses at the two universities and the four polytechnics. However, this does not represent the complete demand for management education in Singapore. In July 1993, the Open University Degree Program (OUDP) was launched by the Ministry of Education for working adults who do not have a tertiary education. Under the OUDP, 10 programs are offered by the Singapore Institute of Management (SIM), in collaboration with the Open University in the U.K. Although the programs are mainly in the Arts and the Sciences, management and economics are offered as minor specializations. At present, approximately 3,000 students are enrolled in these programs.

In addition to the above programs, there are a large number of distance-learning (or twinning) programs offered by overseas universities in Australia, the U.K. and the U.S. through private educational agencies such as SIM. Today, it is estimated that over 35 of these twinning programs are available in Singapore.

To provide greater variety in the graduate education in Singapore, the Economic Development Board (EDB) has entered into agreements with 10 world class tertiary institutions to bring their graduate programs into Singapore. So far five tertiary institutions have announced plans to establish a permanent campus here. Of the five institutions, two are in the area of management education — INSEAD and the University of Chicago.

In its November 1998 newsletter, INSEAD announced its plans to set up a full-fledged campus in Singapore. When the campus is completed in the year 2000, the INSEAD campus will be the first permanent full-fledged campus to

be established by an international business school in Asia. Singapore was selected by INSEAD, rather than other sites in Asia because of its sophisticated international environment, an element that INSEAD sees as crucial for its objective of duplicating the complete INSEAD experience in Asia.

In January 1999, the University of Chicago, ranked the third best business school in America by *Business Week* magazine in 1998, announced the establishment of a city campus in Singapore to run an Asian version of its executive MBA program beginning mid 2000. This will be the first time that an American business school has a permanent campus in Asia. It will also be the first time that a globally integrated executive MBA program is offered on three continents taught entirely by its regular faculty at permanent campus locations. The Chicago Business School introduced a European version of its executive MBA at a campus in Barcelona, Spain in 1994. The University will confer the same executive MBA degree that is now offered by the two other business schools.

The Future for Management Education in Singapore

Broadening of education in Singapore universities

In line with the government's agenda to make Singapore the regional hub for graduate education and research in the 21st century, an International Academic Advisory Panel (IAAP) was formed in 1997. The mission of the IAAP is to advise the universities on the major trends and directions in university education and research. The experience and networks of the IAAP members also help local universities in Singapore to link up with leading universities and research institutions worldwide, thereby facilitating collaboration in research, staff and student exchanges.

Members of the Panel consist of thirteen distinguished, world-renowned academics and heads of world-class universities and industry from around the world. The Vice-Chancellor of NUS and the President of NTU serve as ex-officio members. The IAAP is chaired by Dr Yeo Ning Hong, a former Cabinet member and chairman of the PSA Corporation Ltd, Singapore. Members of the IAAP comprise the following:

- Mr G Leonard Baker, Jr, Managing Director, Sutter Hill Ventures, U.S.A.
- Professor Antonio Borges, Dean, European Institute of Business Administration (INSEAD), France
- Professor William R Brody, President, John Hopkins University, U.S.A.
- Professor Sir Alec N Broers, Vice-Chancellor, University of Cambridge, U.K.

- Professor Robert A Brown, Provost, Massachusetts Institute of Technology, U.S.A.
- Professor Dr Hans-Uwe Erichsen, President, Confederation of European Union Rectors' Conferences; Director, Institute of Local Government Affairs, Germany
- Professor Leo Esaki, Chairman, Science and Technology Promotion Foundation of Ibaraki; Former President, University of Tsukuba, Japan
- Professor Tsutomu Kimura, President, National Institute for Academic Degrees; Professor Emeritus, Tokyo Institute of Technology, Japan
- Professor Jeremy R Knowles, Dean, Faculty of Arts and Sciences, Harvard University, U.S.A.
- Professor Joseph S Nye, Jr, Dean, John F Kennedy School of Government, Harvard University, U.S.A.
- Professor Dr Konrad Osterwalder, Rector, Swiss Federal Institute of Technology, Zurich, Switzerland
- Admiral William A Owens, Vice Chairman, Teledesic LLC, U.S.A.
- Sir Ronald Oxburgh, Rector, Imperial College of Science, Technology & Medicine, U.K.

The Panel held its inaugural meeting in August 1997, and made the following findings and recommendations:

1. Undergraduate education should be broadened gradually. Exposing students to varied disciplines would prepare them better for a workplace that increasingly needs a multidisciplinary systems approach to problem solving.
2. More opportunities should be provided for further integration of disciplines and faculties in both teaching and research.
3. The two universities should engage in high quality research and teaching. This could be achieved through establishing world-class research institutes, which have strong links with the universities, industries and business.
4. Research funding is a basic ingredient in attracting sought-after research staff. A high proportion of research should be investigator-driven.
5. It is crucial for the universities to identify and attract high quality academic staff in their quest to be world-class. A stringent selection process is critical for the recruitment of such staff.
6. The undergraduate and postgraduate population must continue to be developed to meet the manpower requirements of Singapore's economy. This could be achieved by attracting students from the region and beyond, as well as setting up a third university.

In response to the IAAP's call to broaden university education, the curricula at the two universities are now being restructured. NUS will implement its

Core Curriculum, which seeks to expose students to different disciplines, ways of thinking and value systems. This will constitute 25 percent of the total undergraduate curriculum, and was implemented in July 1999. At NTU, students in both engineering and business will now be required to read subjects outside their fields of specialization. These subjects will constitute between 15 to 20 percent of their academic units in their degree program.

The IAAP held its second meeting in January 1999, and its report was released in the following month. In its report, the IAAP was pleased at the pace of implementation of its recommendations made at the inaugural meeting, particularly with respect to the broadening of education, the recruitment of international students, the increase in research staff and students, and development in research. The Panel made several broad recommendations and areas for follow up, namely:

- a) The broadening of university education in Singapore should continue, and should be made available at as wide a student population as possible.
- b) Efforts to promote continuing education should be intensified; in the longer term, Singapore should work towards a seamless integration of pre-employment education and continuing education, in order that more opportunities for university education could be systematized and provided.
- c) Singapore should adopt more comprehensive incentive packages, beyond monetary remuneration, to attract top-quality faculty to its universities.
- d) A more flexible approach should be adopted for university governance and funding.
- e) The adoption of a basket of requirements for university admission was supported by the Panel. Requirements such as reasoning tests, project work and extra-curricula activities would provide the requisite signals for the emphasis on the quality of graduates in the emerging knowledge-based economy.

The Panel will meet again in Singapore in January 2001 to further review university education in Singapore.

A New Private Management University

It was seen earlier that, by 1997, approximately 2000 students were enrolled in undergraduate management programs, and a further 1,300 in graduate programs, at the two universities annually, and 4,000 more at the four polytechnics. In addition, the numbers enrolled in the distance-learning programs, particularly in management, are increasing. In spite of this, the demand for management education programs does not appear to be adequately met by the existing

supply. A recent *Straits Times* report indicated that approximately 17,000 Singaporeans are enrolled in distant learning degree programs conducted by private organizations. In April 1997, the establishment of a third, private university was announced by the Deputy Prime Minister, Dr. Tony Tan (*The Straits Times*, 23 April 1997). This university would specialize in finance and business, and, being private, it would be free to determine its own fees and courses offered. Unlike the two state universities, the private status of SMU will mean that it is free to experiment with innovative and new approaches to education. The Deputy Prime Minister saw the setting up of this new management university as a "quantum leap" which would help meet the needs of Singaporeans for tertiary education in the next century. It was noted that, even with the places offered by NUS and NTU, approximately 3,000 students each year go abroad for further studies, and of these, a large proportion opt for business studies. It was also envisaged that, with the setting up of the new university, the proportion of people going to university each year would go up from just under 20 percent of a cohort entering primary one to 25 percent.

To ensure quality, the new university would start small. It has been decided that the new management university would accept its first cohort of approximately 300 students in the year 2000. This will not affect the annual intakes of business students into the Bachelor of Business (B Bus) program at NTU, and the Bachelor of Business Administration (BBA) program at NUS. The small cohort will enable the new management university to emphasize quality and academic rigor, and to ensure that only the best students enter the program each year. However, while the first intake will be small, it is expected to increase progressively each year. At the steady state, it is anticipated that the number of undergraduates will reach 13,000 with the introduction of other business-related degree programs, as well as programs in the arts, humanities and technology. It will then be the primary provider of quality management education in Singapore and the region.

As a private university, the new university, to be named the Singapore Management University (SMU), would receive the co-operation of the private sector. Although it would be run as a private university, its costs would be kept low, as the initial funding for the university, namely the building of the university campus, would come from the government. The government would also provide funding to meet the operating costs of the university. The implication for SMU as a private university is that it will have the flexibility of adopting different teaching pedagogy, assessment approaches for students and staff, as well as the expertise available among business leaders and corporations in the business district. However, as the government is providing the funding for SMU, it will determine policies that have wider national implications, such

as the national manpower and talent requirements of Singapore. For instance, the size of the annual intake of students into SMU will be determined by the government.

As SMU will receive funding from the government, SMU will be able to charge fees that are much lower than other private universities operating distance learning programs in Singapore. This would mean that, while SMU students may have to pay marginally higher fees than students at NUS and NTU, the cost of obtaining a degree at SMU would be much lower than obtaining a degree overseas or from an overseas institution operating in Singapore.

SMU would have a governing council/board of trustees composed of prominent members of the public and private sector. The Deputy President, Professor Tan Teck Meng, Dean of the School of Accountancy and Business at NTU from 1991 to March 1998, was appointed to SMU on March 4, 1998. Professor Tan had headed a government-appointed Task Force the year before to put up a proposal for the setting up and running of the new university. To ensure that the new university would be able to compete locally and internationally, a team of senior academics and program administrators from the two universities have also been recruited to form the planning team.

Students admitted to SMU would do a four-year Bachelor of Business Management (BBM) degree. In describing the new management university as "a milestone in Singapore's university education", the Deputy Prime Minister, Dr Tony Tan, sees the private status of SMU as providing it with more room for innovation and the testing of new ideas which, if found suitable, can be applied to NUS and NTU (*The Straits Times*, January 20, 1998).

Collaboration with Wharton Business School

To ensure that the new management university is world class, SMU has entered into a collaborative agreement with the Wharton School of the University of Pennsylvania. Ranked the best business school in America by *Business Week* in 1998, the Wharton School has been working with SMU in the design and development of the curriculum, teaching pedagogy and collaborative research.

The collaboration with Wharton will enable SMU to leapfrog its development academically, and to acquire international recognition within a very short time. As the quality of the faculty, and the curriculum are the two most crucial elements in making SMU a world-class university, the Deputy Dean of the

Wharton School has been appointed to chair the academic and staff recruitment committees at SMU.

On June 10, 1999, the collaboration with Wharton was furthered strengthened with the signing of a further collaboration agreement to set up the Wharton-SMU Research Center. The center will facilitate joint research between Wharton and SMU faculty.

On the same day, the first President of SMU was announced after a global search. The position would be filled by an eminent Wharton faculty, Professor Janice Bellace, who has recently relinquished her appointment as Deputy Dean of the Wharton School. She has taken up her appointment as President of SMU with effect from July 1, 1999. Professor Bellace will also serve as the first Director of the Wharton-SMU Research Center.

SMU's Mission Statement

The mission of SMU is "to be a world class university for education and research, with stimulating and diverse programs to develop entrepreneurial, knowledgeable and responsible men and women capable of leading in a dynamic global environment". The operationalisation of this mission statement would be through a new, innovative approach to management education, which would encompass the following:

- All candidates would be required to sit for the scholastic aptitude test (SAT) prior to admission to the university. Admission criteria will depart from the traditional approach adopted by the two universities, which is currently based on performance at the General Certificate Examinations (G.C.E. "A" level). At SMU, admission criteria will include, besides SAT and G.C.E. "A" level results, interviews, and work experience for mature students.
- A significant proportion of the student population would be international students, so as to provide international diversity and interaction among students (it is envisaged that, at the steady state, approximately 25 percent, or 4,000 students will consist of international and mature students). Student transfers from recognized universities would be permitted.
- In line with the IAAP's recommendations, the four-year degree program would be broad-based, but with specializations, so as to ensure that students would have a broad and entrepreneurial outlook, and be academically competent and socially responsible.
- The new university, to be cited in the city, would be an intelligent, virtual campus. It will have state-of-the art teaching and research facilities, and

the latest in Information Technology would be employed throughout the campus.

- Students would be strongly encouraged to study overseas for varying periods, so as to broaden their education and outlook.

The distinctive feature of the new university is that it would be a city campus, located right in the heart of the business district. Its city location will enable it to tap on the expertise of industry leaders and professionals working in the city area. When fully developed, it expects to have 13,000 undergraduate and 3,000 post-graduate students. It would then be the principal source of business graduates in Singapore, making it the biggest business school in Asia. It is envisioned that SMU would become a vibrant and comprehensive university, emphasizing high standards in teaching, research and consultancy. Being right in the city, students and staff alike would also have ready access to the arts and the new civic district.

The philosophy adopted for SMU is that, for teaching to remain relevant, staff and students alike must engage in research. Staff must also engage in consultancy so as to stay in tune with the latest developments in industry. As a management university seeking to make a difference in management education in the region, SMU will be global in its vision, but with an Asian focus.

Research conducted should, above all, be industry relevant, particularly for a management university situated right in the heart of the business district. It is envisioned that SMU would establish other research centers, besides the Wharton-SMU Research Center, that will be in line with Singapore's economic objective to become the regional hub for business and services. SMU's research centers will take on a regional as well as a global perspective in their research. The output from these research centers would be both industry relevant as well as cutting edge, and they would also engage in business consultancy and the provision of executive development programs. Besides industry-relevant research, a university is a place for knowledge creation, and SMU is no exception. Focused academic research will be conducted in research institutes that will be set up with strong links to overseas research institutes, industry and business.

The Bachelor of Business Management (BBM) — The Wharton Model

The BBM program aims to train professionally competent graduates who are entrepreneurial, creative, capable of critical thinking and committed to life-long learning. To do this, the proposed curriculum, which is based on the Wharton

model, features a combination of general and professional/business education. In designing the curriculum, a great deal of effort has been devoted to ensure that emerging niche areas (as stated in the Report of the Committee for Singapore's Competitiveness) are incorporated. These niche areas include logistics and transportation, business and professional services, media and communications, and tourism.

The distinctive features of the BBM curriculum are as follows:

Liberal Arts and Science Component

To ensure that students graduating from SMU will have a broader mindset, and to avoid having a narrow focus, the BBM program will have a liberal arts and science component, particularly in the first and second years. This is also in line with the Wharton model, as well as the government's aim to make university education a means of developing and educating future leaders of Singapore.

Student Exchange

Student exchange would be encouraged between SMU and other recognized universities, so as to provide a rich cultural and diverse environment. It is envisioned that international students will form a significant proportion (up to 25 percent) of the total student population.

Flexible Practicum/Overseas Study Mission

Students will be required to fulfill a period of industrial attachment or go on an overseas study mission in order to graduate. They will be permitted to arrange their own industrial attachments with the guidance and supervision of faculty. Those keen to do so will be encouraged to go on overseas study missions, or industrial attachment with a company abroad, so as to inculcate an entrepreneurial and global outlook.

Independent Studies

The curriculum allows for students to do up to three units of optional independent studies. Students essentially draw up their own curriculum for this course under supervision from faculty. This is to encourage creativity in students.

Specializations

While the first two years of the degree program will be broad-based, students are required to select one specialization. If they select the right combination of courses, they should be able to qualify for maximum exemption from the professional examinations in their chosen profession.

Honors system

Instead of the traditional honors system adopted at NUS and NTU, SMU would adopt the U.S. system of “Summa cum laude”, “Magna cum laude” and “Cum laude”.

The differences between the SMU BBM model from the BBus Program at NTU and the BBA program at NUS would be the following:

1) Practicum

At NTU, BBus students undergo an eight-week industrial attachment upon completion of their second year of study (at NUS, there is no requirement for an industrial attachment). At SMU, arrangements will be made for BBM students to be attached to a business organization for an equivalent period of 12 weeks, during which they will be exposed to the various aspects of doing business. During the times that students are not attending classes, they would be required to work in the organization, and a log book would be kept for assessment purposes. Alternatively, students will be encouraged to start a business either on their own, or through business development support schemes. It is hoped that SMU would become a business incubator for graduates, and that, through their working experience in the BBM program, SMU business graduates would be more entrepreneurial and innovative, and that many would start their own businesses, or would have already found employment, upon graduation.

2) Teaching Pedagogy

Instead of the traditional lecture/tutorial approach to teaching adopted at NTU and NUS, SMU plans to adopt an interactive mode of teaching, through group learning and case studies, and project-based courses. In order to ensure that courses are industry-relevant, established industry leaders would be invited as adjunct faculty. This will be made possible because of SMU's location in the business district, as well as the use of the latest information technology, such as video conferencing.

SMU will also employ the use of IT to enable students on overseas attachment to enroll in courses conducted at SMU, so as not to delay their graduation. Busy executives may also participate in executive development programs without having to leave their offices.

3) Alumni Links

Besides the stimulating and diverse programs, SMU also hopes to inculcate a family atmosphere among students and faculty. This will be nurtured through the interactive mode of teaching, joint staff-student business ventures, and cultural activities, which, being a city campus, are readily accessible. Through

such activities, SMU plans to establish a strong alumni from the very beginning. The alumni would become the means for graduates to continue their links with the university, and be involved with the university's development even after graduation.

The BBM curriculum can be summarized as follows:

Categories	Course Units
Business Foundation	2
University Core	8
Business Core	11
Business Concentration/Depth	5
Business Options	2
General Education	4
Global & Regional Studies	1
Technology	1
Career Skills	1
Mandatory Practicum/Study Mission	0
Total	35

(See Appendix 1 for detailed curriculum).

When SMU takes in the first cohort of BBM students, three specializations will be offered. Thereafter, additional specializations would be offered as the demand increases. Other undergraduate degree programs will also be launched very soon after the first cohort of students are admitted.

Executive Education and Graduate Programs

While SMU will begin operation in the year 2000 with an undergraduate business program, the Bachelor of Business Management, other programs will also be offered in due course. For instance, bachelor degree programs in arts and the social sciences are being planned, and may be offered from the year 2003 forward. Graduate programs, such as the MBA program, and research-based masters and PhD programs will be offered from the first year of inception. These research-based graduate programs were further enhanced with the signing of an MOU between SMU and Wharton in February 1999 to set up the Wharton-SMU Research Center.

SMU plans to capitalize on its location in the city by launching an executive development programs soon after it begins operations in July 2000. Being in

the city, business executives will find it more conducive to come to SMU for their executive education. By the same token, SMU will find it much easier to invite industry leaders and qualified professionals to teach in its programs, including its executive programs. The use of IT and video conferencing will enable these executives to teach or to learn without even leaving their offices. SMU's partnership with Wharton, and the planned collaborative agreements with other world-renowned universities, will help to ensure the success of SMU's executive programs.

What Roles Would the Three Universities Play in the New Millennium?

With the launching of SMU, it is expected that, at the steady state, SMU would become the primary provider of management education at the tertiary level in Singapore. It will also distinguish itself from the other two universities by the adoption of the Wharton model in terms of curriculum, as well as its pedagogical approach to learning. This means that students at SMU will receive a U.S.-based business education, rather than the more traditional U.K. approach to education at the other two universities. It will also be a city campus, so that students will experience a different campus environment from that of the other two universities. The business schools at the two state universities, however, will continue to offer undergraduate business programs but with reduced intakes. This will provide healthy competition for SMU, as well as offer more choices for candidates opting for a management education in Singapore.

It is anticipated that the two state universities will focus more on post-graduate management education, as well as their research programs in the future. With the academic approach to education at NUS, and the practice-oriented approach adopted at NTU, SMU, with its US-based model of business education, will provide not only a competitive environment for the other two universities, but also a complementary mix of business programs in Singapore.

Conclusion

Management education in Singapore is at the crossroads today. The government is committed to making Singapore the educational hub in Asia in the next century. This is in keeping with the Prime Minister's challenge in 1996 to make Singapore the "Boston of the East". In the area of education, the two existing universities, NUS and NTU, have been challenged to become centers of excellence in teaching and research. As Singapore strives to become a global

financial center, management education will take centrestage, and much is being invested in SMU to make this a reality. The future for management education in Singapore is indeed SMU, and the stage is set for SMU to become the center for business education in Asia.

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APPENDIX

Bachelor of Business Management (BBM)

1. Programme Philosophy

The Programme objective is to train professionally competent graduates who are entrepreneurial, creative, capable of critical thinking and committed to life-long learning.

The inculcation of the above qualities implies a curriculum that features a combination of general and professional/business education. In addition to business studies, the BBM curriculum will include courses designed to broaden the students' knowledge base, sharpen their analytical and critical faculties, and imbue them with a better understanding of themselves, society, and the world at large. The intention is to produce socially responsible graduates who can face the challenges of change and uncertainty.

It is envisioned that graduates of the BBM Programme will possess the following attributes:

- (a) Be professionally competent with sound theoretical and practical knowledge.
- (b) Possess a broad spectrum of knowledge and be able to function in a multi-disciplinary context.
- (c) Able to function in diverse geographical and cultural environments.
- (d) Able to use information and technology effectively.
- (e) Able to think analytically and creatively.
- (f) Possess an inquiring spirit.
- (g) Able to express themselves effectively.
- (h) Possess excellent interpersonal skills.
- (i) Appreciate ethical and moral values and able to make discerning judgements.
- (j) Be socially responsible.

The intention is to cultivate the above attributes through a well-designed curriculum and appropriate teaching pedagogy.

2. Academic Policies

- (a) The BBM Programme is a 4-year degree programme. Unless exempted, students must complete a total of 35 course units (CU) and a mandatory 12-week practicum.

- (b) Candidates with good "A" Levels/Polytechnic or equivalent qualifications may be granted advanced placement up to a maximum of 5 CUs.
- (c) 1 CU = 3-hour per week course for 1 semester.
- (d) Workload per semester: 4 to 6 CUs.
- (e) Students must major in at least one business concentration.
- (f) Up to two independent study courses (one per semester) may be allowed for students with a GPA of 2.50 or above, based upon at least 20 CUs.
- (g) Maximum period of candidature: 6 years.
- (h) Grading System:

Grade Letter	Grade Points
A+	4.5
A	4.0
B+	3.5
B	3.0
C+	2.5
C	2.0
D+	1.5
D	1.0
F	0.0
Pass	NA

Courses graded on a pass-fail basis are not considered in computing grade point averages.

- (i) "F" Grades must be repeated and passed for the compulsory subjects.
- (j) Academic Probation (AP): GPA below 2.00. Students on AP will be given specified time to attain satisfactory standing.
- (k) Students must obtain at least 2.50 GPA in area of specialisation.
- (l) To qualify for the Dean's List, a student must meet the following requirements:

Dean's List (on a semester basis)

GPA \geq 3.50 for all courses taken since admission

or

GPA \geq 3.80 for the semester provided workload for the semester is at least 4 CUs

(m) The following Graduation Honours will be awarded:

Graduation Honours	GPA
Summa cum laude	≥ 4.00
Magna cum laude	3.50 to 3.99
Cum laude	3.00 to 3.49

- (n) Courses equivalent to 12 CUs may be taken at other universities for SMU matriculated students.
- (o) Transfer students from other universities must take at least 20 CUs at SMU.

**Proposed Undergraduate Curriculum
Bachelor of Business Management (BBM)**

	Year	No. of Course Units (CU)*	
		Individual	Total
1 Business Foundation			2
(a) Calculus	1	1	
(b) Introductory Economics	1	1	
2 University Core			8
(a) Business Processes			
(b) Leadership & Team Building	1	1	
(c) Communication Skills	1/2	1	
(d) Analytical Skills & Creative Thinking	Any	1	
(e) Technology & World Changes	Any	1	
(f) Government, Business & Society	Any	1	
(g) Ethics & Social Responsibility	2-4	1	
(h) Entrepreneurship & Business Creation	2-4	1	
3 Business Core			11
(a) Statistics	1/2	1	
(b) Business Law	1/2	1	
(c) Financial Accounting	1/2	1	
(d) Finance	1/2	1	

	Year	No. of Course Units (CU)*	
		Individual	Total
(f) Management of People at Work	1/2	1	
(g) Management Accounting	1/2	1	
(h) Marketing	1/2	1	
(i) Quantitative Methods	1/2	1	
(j) International Economics	1/2	1	
(k) Strategy	3/4	1	
4 Business Concentration			5
(Select 5 courses from chosen concentration)			
To be offered in year 2000:			
4.1 Finance	3/4		
4.2 Accounting	3/4		
4.3 Marketing	3/4		
5 Business Options			2
Any from other concentrations and other sections	2-4		
6 Global & Regional Studies			1
(a) Public Policy	2-4	1	
(b) Political Science	2-4	1	
(c) Corporate Governance	2-4	1	
(d) Intellectual Property Rights	2-4	1	
(e) Law & International Business	2-4	1	
(f) Managing Across Borders	2-4	1	
(g) Contemporary Regional Issues	2-4	1	
(h) Asia-Pacific: Tradition & Change	2-4	1	
(i) Economic Development in Asia	2-4	1	
(j) Political Economy of SEA/East Asia	2-4	1	
(k) Country Studies/Business Study Mission	2-4	1	
7 Technology			1
(a) Communications & IT	2-4	1	
(b) New Media Technology	2-4	1	
(c) Chemicals & Biotechnology	2-4	1	
(d) Competitive Manufacturing Strategy	2-4	1	
8 Career Skills			1
(a) Negotiation	2-4	1/2	
(b) Conflict Resolution	2-4	1/2	
(c) Work & Family	2-4	1/2	
(d) Interpersonal Dynamics	2-4	1/2	

	Year	No. of Course Units (CU)*	
		Individual	Total
9 General Education			4
Minimum 1 from each lists below:			
List A			
(a) English Literature	Any	1	
(b) Linguistics	Any	1	
(c) Geography	Any	1	
(d) History	Any	1	
(e) Philosophy	Any	1	
(f) Psychology	Any	1	
(g) Sociology	Any	1	
(h) Music	Any	1	
(i) Art	Any	1	
(j) Theatre Studies & Drama	Any	1	
(k) Foreign Language	Any	1	
List B			
(a) General Science	Any	1	
(b) Biology	Any	1	
(c) Applied Biology	Any	1	
(d) Chemistry	Any	1	
(e) Applied Chemistry	Any	1	
(f) Physics	Any	1	
(g) Applied Physics	Any	1	
(h) Computing	Any	1	
		Total	35

*1 course unit (CU) = 3-hour per week course for 1 semester. Unless indicated, each course = 1 CU.

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