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Interesting places are shaped and driven by distinctive point of views and core values. Ten view points and values that I think are important for our School of Information Systems are listed immediately below, followed by a supporting explanation. If you take the time to read this, you will know a lot about the personality and spirit of our school.

1. Our laboratory for IT? The world of business!
2. Business and organisations think through IT and information processing
3. Energy through Fusion
4. Knowledge and Ideas can change the world
5. Transformation
6. Imagineering
7. Rarely “Either Or”
8. Beyond
9. Learning Outcomes and Learning-to-Learn
10. SMU really is a good setting for SIS

1. Our laboratory for IT? The world of business!

SIS is committed to making it easy for our students and faculty to get the real-world exposure, experience and collaboration they need for their education, project and research efforts.

We have extraordinary working relationships with business and government organisations and leaders locally, regionally and internationally. Through these relationships, our students have access to internships, projects, mentoring relationships and employment opportunities in every sector of the economy. Our curriculum has access to state-of-the art examples and case studies. Our faculty have access to the technology, applications and management experts in business and government organisations who can help them to identify and explore new and important problem areas for research and exploratory projects.

Through these working relationships, our faculty doing research in information systems technology or management can more easily obtain access to large-scale and realistic data sets and test beds which are so important to developing and validating new concepts, methods and system approaches for research.

Our research and educational efforts range over a wide spectrum. We do deep research on new types of information processing methods, problem solving models, and empirically based analysis and experiments that we believe can lead to new and useful ways of applying information technology solutions. At the same time, we are always working directly with industry and government on applications-oriented education and projects closely tied to current, emerging and future practice.

Across our spectrum of research and educational activities, we encourage our SIS faculty and students to explore linkages across IT related research, professional practice and business impact.

This includes exploration of the two-way linkages between our deep research thinking, analysis and
academic scholarship with potential real-world impact in the near or long term. We challenge our research faculty and Ph.D. students to understand how their research and publication results on methods, models and empirical demonstrations can be used to enable or understand change, transformation or value creation in a business or organisational setting, or across an entire industry. We say to our faculty, “The world of business is your laboratory for exploring how your research and projects can be used to expand the boundaries of information systems technology and management.”

When we educate our professionally-oriented undergraduate and master’s students to create, use and manage IT solutions, we do it in the context of business scenarios and processes. We get our students to understand how IT applications are interwoven into the fabric of business operations and services, and how IT can be harnessed for transformative change, innovation and value creation. That is why we say to our undergrads, “When we teach you about IT, we also teach you how business does business.”

2. Business and organisations think through IT and information processing

All too often, potential students as well as candidates for faculty or professional staff positions do not fully appreciate the deep and vital linkages between IT and the ability of any type of business or organisation to adapt to change, to compete, to innovate and to create value. This is because they do not fully understand or appreciate that business and government organisations rely on IT and information processing to think.

So often, when we interview potential applicants for our SIS undergraduate programme, we hear students comment, “But I did not think IT had anything to do with business.” or similarly “If I am interested in business, I did not realise I would gain a strong advantage by entering the School of Information Systems at SMU.” How misinformed and wrong these potential undergraduate applicants were (at least until they went through our SIS admissions interview!). They did not realise that the way a modern business organisation and even a global economy “thinks” is through information processing capabilities enabled by IT software applications and systems.

Think about changing nearly anything in a modern business organisation these days, or in the future. How could you make any meaningful change across the enterprise or across the value chain without changing some aspect of the IT and software systems? Essentially, every aspect of business operations and customer service delivery is dependent upon automated data collection and management and upon business rules and logic embedded in software applications. The way an organisation thinks and makes decisions is increasingly dependent upon software enabled analytic decision analysis and decision support applications. In addition, there are also the ever expanding IT systems for enabling data and knowledge integration across processes and organisational units, and for sharing information across the enterprise, business partners, customers and stakeholders. IT systems and related internet applications are essential in most organisations for managing information workflow and for electronic channels of content distribution and service interaction. Related to all of these different aspects of information processing, there are also the many issues associated with ensuring that people access and share information in a secure and trustworthy manner.

Even for today’s small scale local enterprise, it would be very difficult to make any substantive change without altering some of these aspects of IT-enabled information processing. For any company or organisation that functions across larger geographic areas, such as across countries on a regional or global scale, it is already impossible to implement any enterprise-wide change related to products, services or management operations without altering and improving their IT software systems and related business solutions.

In our teaching, projects and research, we do not focus on the hardware and commodity infrastructure aspects of IT (e.g. keeping the network up, keeping e-mail running, backing up databases, building better hardware, keeping the desktops working, installing and maintaining equipment), even though these “utility services” are very important. Of course, in our education and research, we have to deal
with some of these "low level" issues to some extent as required, simply as a matter of practicality. However, this level of IT is not what the SMU School of Information Systems is about.

In our research and teaching related to information systems technology, we are primarily focused on designing, creating and leveraging software applications and information services that can cope with or solve some of the problems encountered by business and government organisations. We delve into the methods and models within the software that provide the functionality, logic and intelligence to enable "organisational thinking". We explore how to use building blocks of software applications and information services to create larger applications and solutions which are "systems-of-systems". In our IS Management work, we delve into the economic, strategic and business issues associated with different alternatives for investing in, using, or organising these IT solution capabilities.

In essence, we focus on how IT software applications and information services can be used to enable and improve the information processing and thinking aspects of an organisation. We also focus on how these software methods, applications and services can be combined and assembled into larger scale building blocks and applied within the context of business settings. As we do this, we are always mindful of how to create and provide software based applications and services that can support change, transformation, innovation and value creation within business and organisational settings.

We organise our teaching and research around the following five areas:

1. Data Management & Business Intelligence
2. Information Security & Trust
3. Software Systems, Architecture & Integration
4. Intelligent Decision Support Systems
5. Information Systems Management

These five SIS areas are essential components of the "brains, vital organs and central nervous system" of the business enterprises. By grounding our education and research in these five areas, we naturally link to the world of business and the economy.

The five areas noted above are all essential for helping individuals and groups within business and government organisations to think. This thinking occurs through people using these types of IT technology and management capabilities:

- To sense the information in the environment;
- To analyse and make sense of the information fragments and patterns;
- To solve problems and to make decisions;
- To plan strategies and tactics for how to adapt and to change; or
- To plan, execute and manage innovation and change efforts to improve service offerings and capabilities, to increase value creation, and to increase productivity

### 3. Energy through Fusion

Fusion creates energy through combining elements. In our SIS world, we work hard to encourage and achieve fusion along a number of dimensions and interfaces which are described in more detail below.

We strive to encourage fusion across

- Our research work AND our education programmes.
- The world of theory and method (as reflected in our academic publications) AND the real-world problems and applications in complex business and industry settings.
- Our five SIS areas
  - Data Management/Business Intelligence AND
• Information Security/Trust AND
• Software Systems/Architecture/Integration AND
• Intelligent Decision Support AND
• Information Systems Management

• IT methods and their foundation building blocks AND larger-scale applications, systems and solutions
• IT applications AND industry domains AND business processes
• The technology side of information systems AND the management side
• Our work in the SMU School of Information Systems and work in the other SMU schools
  o Accountancy
  o Lee Kong Chian School of Business
  o Economics
  o Law
  o Social Sciences

• SMU SIS AND other research and academic institutions locally and globally that work in related areas and with a similar spirit and mindset
• SMU SIS AND Carnegie Mellon University, through our strategic partnership (started in 2003)

While fusion can release fantastic amounts of energy, it is not easy to achieve.

The power that can be achieved through fusion can only be realised through concentrating energy in highly focused and specially crafted ways.

The concept of fusion as described above is a metaphor for interdisciplinary work. We strongly support and encourage interdisciplinary work.

4. Knowledge and Ideas can change the world

Why should educators and researchers choose to work at a university, as opposed to other types of organisations that do education and research? Similarly, why should students invest time studying at a university when there are alternative ways and places to learn (like proceeding directly to the workforce)? We choose to be at a university because we strongly believe in the university's core mission of creating new knowledge (research) and of transmitting accumulated and new knowledge (education). We come to a university because we believe research and education create the intellectual and social capital that enables individuals and societies to improve. We also try to do as much as we can within the university because we think that immersion in research and education is intrinsically important and inspiring in its own right, in addition to its contribution to individual and societal improvement.

I believe we should immerse ourselves in the university's environment of knowledge creation (research) and knowledge transfer (education) because we really do believe that this knowledge, along with insights, applications and problem solving related to this knowledge, can change, transform and improve the world. We come here and do what we do in a university setting because we believe that in some way, to whatever small or large extent, we can influence the future in positive ways.

I strongly believe that our SIS faculty should not do research just to add publications to our resumes. Neither should our SIS students take courses just to get sufficient grades on their transcripts to get a job.

Like any other serious research university, our SIS research faculty have to actively and competitively publish. Like most other department heads or deans, I like to highlight when our faculty publish in the so-called “most-prestigious” academic journals or conferences. Yet, whenever I talk to a SIS faculty member about what they are doing, I am careful to make sure the conversation is not focused on the facts of where they have recently published or how much they have recently published. Rather, I
believe it is more important to focus the conversation on the ideas faculty members are working on, on the problems they are trying to solve, on the potential importance and applications of the work, and on what the Dean's office can do to support the work.

The advantage of this type of conversation (versus one that is focused on the conventional concerns of how many publications and where) is that it strongly enforces the core value that we are here at SIS to create new ideas and knowledge related to information systems technology and management, with the modest aspiration of contributing to the world's progress. Such conversations also help to shape and reinforce a culture and mindset that recognises that while publications are indeed important and essential and carefully evaluated, they are not an end in themselves. The real significance is not the fact that a paper is published (and therefore, all we have to do is to count publications). The real significance is in the content of the work contained within the publication and in the quality of that content. (Therefore, we actually have to understand what our faculty are doing in their research by listening to them and by reading the summaries and publications.)

There is a practical side to this point of view along with some extra costs. For example, one aspect of my behaviour that has become a bit notorious is that hallway, elevator and office conversations often get into the substance of what our people are thinking and doing, and might even get into brainstorming. Now, this is not as efficient as an exchange limited to the more superficial concern of “update me on how many you have published and where”. The extra cost involved is that I am sometimes (often?) late for meetings and appointments.

There is an analogous situation in terms of how I try and interact with our students. The conversations are seldom in terms of, “Will you get an A, B, or C in this or that course.” Rather, the conversations are focused on what they are actually doing in the course, what they think the course is about, and about what they are getting out of the course. These unplanned and ad-hoc hallway and elevator conversations with our SIS students are part of a bigger and more systematic attempt within our school to get the students to realise the linkages between their seemingly unending stream of assignments, projects and exams, and the “big and powerful ideas” that are related to the topics, methods and problems they are working on.

Students understandably have pragmatic interests, and they frequently want to know if a particular SIS course, or even the entire degree programme, will help them to get a good job. We are very fortunate that our SIS students are highly sought-after by industry. Our graduates are hired by a wide range of industries and take on a wide range of job roles spanning business, IT, and the IT - business interface. Our SIS students are also well paid for their employment (even more so than many of their peer graduates in other parts of SMU and in other local universities). While we reassure our SIS students that they will have many good options when they seek full time employment if they work hard and embrace the challenges we put in front of them, we do not need to dwell much on this. The evidence to date clearly demonstrates that if they have a passion for the programme and maintain their motivation, they will secure their first job (as an undergrad), or a better job or career path (as a professional masters student), or a job as a R&D researcher, a highly sophisticated IT user or innovator, or IT enabled change agent (as a Ph.D. student).

When talking to students, I work on getting them to realise something that is not always apparent to them; that our SIS educational programme provides them with a very strong foundation that gives them an advantage in any business-oriented professional capacity they might choose to pursue initially or in the future. This is because of the thinking, problem solving, logical analysis, complex business systems analysis, solution design and project management experiences we put them through. These experiences are incorporated into the way we teach about IT software applications, systems and management. It is also due to nature of the SMU curriculum which requires a combination of depth and breadth courses across a range of disciplines, and our strong insistence on the importance of second majors for undergraduates. These combinations will not only make it easy for our students to get a first job, but it will help them over a long term career.

Students, and in particular undergraduates, tend to see the purpose and applicability of a course in a relatively narrow context. For example, if they take software engineering, they are clear that it helps
with software engineering (of course), as well as with project management in the context of creating software solutions. Immediately after completing the course, most students do not realise that the very intensive experience they just went through to manage the resources, risk and completion of their project throughout a complex design-create-implement software project lifecycle will give them a strong foundation for managing any type of complex project throughout the rest of their entire professional career.

My challenge, as well as the challenge of all of us involved with SIS educational programmes, is to get students to understand and connect with the essence of what they are so busy doing in their courses. In addition to giving our students the capabilities to finish next week's assignment or the course project, we are also striving to get them to appreciate how the related ideas and knowledge can help them long term in their thinking ability and in their professional development. Eventually, most students “get it”, and see the important ways in which the SIS educational experience prepares them for both IT and Beyond IT. However, this takes time and cultivation, and it certainly takes a concentrated effort of talking to them beyond the superficial dimension of “how are your grades”.

5. Transformation

There are two important aspects to the way we use the term transformation. The first aspect is that we want to be the type of place that transforms the people who spend time here. The second aspect is to understand and demonstrate how information systems technology and management can transform the world around us.

SIS strongly encourages and supports the personal and professional transformation of our students, as well as of our faculty and staff. This belief in the importance of personal and professional transformation guides us in our dealings with students, as well as in our human resource policies for our employees.

We are running more than degree programmes for our students. We are attempting to transform the students’ state of mind and their abilities. They will gain confidence in their own potential and be aware of the professional possibilities. Similarly, for our faculty, we are not just paying them to design and teach courses, to do projects, to conduct and publish research and to also publish educational texts and cases. Rather, through our peer community and culture, we want them to go beyond the ordinary conventions of thinking about and doing research and education (e.g. counting publications, courses delivered, and committee assignments). The great challenge is to create a culture and environment where we drive ourselves to think of and do innovative and potentially transformative work as we produce our research, deliver our education and fulfill our professional service.

As Dean, the aspiration and challenge is to create a SIS community where all of our community members (students, faculty and staff) have a passion for using IT to transform and improve the world we live and work in. The belief that IT can and should be used for enhancing and transforming our personal and professional lives is the reason for the existence of our School of Information Systems. We do our best to select SIS educators and researchers who have a demonstrated passion to use IT to catalyse improvements and transformations in thinking and doing at any level in the vast expanse of the world of organisations and business. Information systems technology and information systems management can be used to directly or indirectly influence or create change within any level of the “world-of-business”. This world-of-business spans many levels, from the environment of an individual, to that of a work group, an organisation and an entire private or public sector enterprise. It can also span to an entire industry, across a cluster of industries which form a sector, or even across a whole domestic or regional economy. Hence, our community members have a very wide space of possibilities for experimenting with how the creation, use and management of IT can transform and improve the world we live and work in.

6. Imagineering

The term Imagineering is a combination (a fusion, if you will) of the terms imagination and
engineering. Imagination represents the ability to envision, articulate and demonstrate new possibilities and ideas, especially transformational ideas that are unconstrained by past or present limitations. Engineering represents the ability to make things work well in the context of the physical, human and economic forces and constraints that characterise the environment where the ideas are to be put into practice. I believe the concept and practice of Imagineering can and should be an important part of the culture of SIS.

The term “Imagineering” was popularised by the Walt Disney Company, with the formation of the Walt Disney Imagineering company in 1952, though the term was first reported in print by the American artist Arthur Radebaugh in 1947 (see the Wikipedia entry on Walt Disney Imagineering). The term is still used today by the Walt Disney Company as the name of the internal division that is the master planning, creative development, design, engineering, production, project management and research and development arm of The Walt Disney Company and its affiliates (more info here).

The ability to “imagineer” is a good descriptor of a core capability that we would like to see in all of our undergraduate and graduate students, as well as in our faculty and staff. We want our SIS community to have the capacity and passion for imagining how the world of business and organisations can make more creative and value generating usage of IT. Similarly, for imagining how new IT capabilities and solutions could be used within the context of business processes and ecosystems.

We also want members of our SIS community to have the capacity to demonstrate the possibility of what they imagine. In conjunction with imagination, they also need the practical and deep skills to realise their ideas and concepts, and to engineer them to meet the needs, demands and constraints of the situation at hand.

Our SIS education, research and public service outreach should have a detectable and distinctive quality that stems from the combination of imagination and practicality that imbue the concept of Imagineering.

7. Rarely “Either Or”

Perhaps one of the ways this digital age has subconsciously affected the way nearly everybody thinks is that people often find it natural to ask some variants of “Is it either this way? Or that way?”. This implies that there may only be a dichotomous or binary choice between the essential alternatives. In SIS, we often have to work out creative ways of conducting our teaching and research to avoid many of the conventionally strict either-or trade-offs that often characterise academic education and scholarship.

When we interviewed the undergraduates, they frequently asked us, “Is this bachelor's programme more focused on business? Or on IT?”

At the outset of a course, undergraduate or professional masters students will often ask, “Will this course be theoretical? Or practical?” Even PhD students ask a variant of this question in the form of “Will this course emphasise pure theory? Or the use of theory in the context of application?”

Sometimes, when we interviewed prospective faculty members, they asked us, “Does SIS put more emphasis on research? Or on education?” Or they might ask, “Is it more important for SIS research to be published in good places? Or to solve real problems and be relevant?”

Underlying all of these questions is an implicit assumption that it must be “either or” and can not be some degree of both.

Now we cannot be wishy-washy with respect to answering the types of questions noted above. An institution of strength and excellence cannot attempt to be all things to all people or else it will not have focus or character. So we do indeed need to take a stand with respect to these questions. Yet, that being said, to the greatest extent possible, we try to avoid the extremes of “either or” and try to
reframe situations away from the limited set of "either or" alternatives. This often brings us face-to-face with the challenge of how to creatively construct alternatives that provide a workable balance of content or of excellence that SIS is seeking.

“Well, I suppose that is possible, but that takes extra effort.” is a usual reply from both students and faculty. Indeed it does. It is easier and certainly more efficient in terms of discussion and decision making to have a clear-cut and dogmatic stance towards “It is only this way and not that way”. It certainly takes more commitment and time, and more collaborative effort, to bring together what can ordinarily be conflicting requirements into a balanced design and workable execution that is well-aligned with our aspirations for quality in research, education, outreach and people development.

For example, since our creation in 2003, we have been working on designing and delivering educational programmes that achieve a real fusion between IT-grounded education or designing, creating and leveraging IT solutions in business settings and a business or social science related education delivered by the other parts of SMU.

To better achieve the integration across the IT educational component and the business or social science educational components, we strongly encourage our undergraduates to do the extra course work required for a second major. Some students even go beyond the second major and do the additional work for a full double set of bachelor's degrees. The additional courses required for a second major enable students to get the additional depth across the technology aspects, the business or social science aspects and the domain or application aspects. It also provides more time and opportunity to do more of the integrative project work where both business and IT are fused together. Similarly, this is why we advise, motivate and even push our undergraduates and professional master's students to build capabilities across our three SIS foundation pillars. The three foundation pillars span across Information Technology and Systems, specific industry domain expertise and selected business or social science disciplinary training.

By having students build curiosity, background and selective depth within and across these three pillars, it enables them to see that the world need not be viewed in terms of the dichotomy of "only business" or "only IT".

This also relates to why we take the time to carefully screen and select our students -
undergraduates, professional master's and Ph.D. - through the interview processes we have established over the years. We need to find students with an open mind and passion for bridging across the technology part of IT, the application part of IT and the business and social science contexts in which IT technology and applications are used. Students with a dogmatic “either or” mentality will not feel comfortable in our world. Students who are preoccupied with determining if the degree programme is “more this” or “more that” will not know how to take full advantage of our environment. Nor will they thrive after graduating to the same extent as their peers who graduate having fully embraced the interdisciplinary nature of the programme, and found various ways to fuse together the IT side with their business or social science side, within the context of some type of industry domain or organisational setting.

It is indeed a constant and ongoing challenge to take the time to refine our courses to provide what we believe is an appropriate balance between providing foundations in concepts, analysis and methods, and also providing strong experiential, hands-on learning experiences with real-world applications. We are always conversing with our faculty to think through how to improve the design and delivery of our courses. The never ending challenge is to create courses with what we believe is the appropriate methodological or foundation content, while at the same time having the appropriate degree of contextualisation with real-world, business-oriented examples. An additional challenge is to figure out how to strongly reinforce the content with experiential and interactive learning and practice experiences, and doing so in a way that links back to the concepts and abstractions. We also support many of our faculty, especially (but not exclusively) our practice faculty, to create the new types of textbooks and teaching materials needed to execute our desired approach for integrating problem solving foundations, application skills, real-world examples and interactive learning.

This mindset of not getting trapped in a corner because of the constraints of “either-or” thinking is why we designed our Ph.D. programme in Information Systems to produce graduates who will be capable of

- collaborating with faculty members from different research areas;
- designing technology solutions for real-world problems and applications; and
- while still producing top-rate academic publications

Is this easy or time minimising for either the Ph.D. students or the faculty members to create a programme that achieves strong results along all three of these dimensions? No! But we strongly believe that if we change our vision of the Ph.D. programme, and say that only one of the three items noted above is really important (for example, the third item), then the programme becomes less interesting and distinctive, and less well-aligned with the purpose and vision of SIS.

We expect our SIS faculty members to be high-quality research scholars and educators, as well as good academic community citizens. We do our best to nurture, enable and incentivize them to strive for excellence across research, education, as well as service. We strongly believe there is no either-or conflict between published research scholarship that can be important to a particular (or even widespread) academic community, and at the same time have practical problem solving relevance and economic potential.

We evaluate our faculty under the guiding philosophy of “balanced excellence” along multiple dimensions (research, teaching, service), as well as being exceptionally strong in at least one dimension (research for tenure track, teaching or service for practice track). The fact that we consider multiple dimensions, with some flexibility for weighting across the dimensions in the evaluation of the faculty’s performance, gives us some degree of flexibility with respect to dealing with the harsh constraints and realities of the either or trade-offs with respect to research quality, research productivity, and education.

In SIS, we do our best to encourage our faculty to look at research problems in ways to see the potential for developing the analytic method or theory side of their work, as well as the application and impact side of their work. Similarly, to see the IS technology side of the problem, as well as the IS management side of the problem, even though they might only be focusing on one or the other side, given their particular expertise and research directions.
We invest a lot of time with faculty and staff during recruitment as well as on a sustained basis year after year to get them to understand our SIS strategy for research and projects, as visualised in this image.

We do our best to filter our faculty and staff who can only see the world in terms of one of the three (bottom to top) levels shown in the graphic (basic disciplinary building blocks, or system and applications, or industry domains). Similarly, we do our best to find and nurture faculty and staff who are deep in one of our five main SIS areas of Information Systems Technology or Management (the middle level of the image), but whose interests also straddle more than one of these five areas. This is all part of the effort to create a culture and environment that has a minimum degree of rigid or dogmatic “either or” thinking.
In summary, it is indeed possible to move away from a rigid or even dogmatic mindset tightly constrained by “either-or” thinking. But it requires a lot more time and effort on the part of our students, faculty and staff due to the need to achieve a more sophisticated type of understanding and also to achieve strength along more than one disciplinary dimension or type of capability. It also takes more intensive collaborative effort and interaction to work out balanced designs that meet multiple objectives.

People who join the SIS community in any capacity need to be ready to make this investment in time and effort in order to go beyond the constraints of either-or thinking. The benefit, of course, is that it leads to a much more interesting world, and to a much greater range of personal and professional possibilities.

8. Beyond

In some of our external communications, we use phrases such as “Beyond IT,” or “Beyond Business as Usual.” In talking to our SIS community, I often ask to look for ways in which we could “Go Beyond” the usual or the ordinary. I like the concept and spirit of “going beyond.” Here are some practical examples to illustrate ways in which I believe SIS should strive to go beyond the conventional and the status quo.

Beyond standard levels of commitment

We assume that all of our SIS community members go beyond standard (and especially minimal) levels of commitment. SIS is a high energy, high commitment type of environment. We have to be. How else can we

• bridge the world of academic foundations and scholarship, and the world of business settings, problems, and impact;

• produce students who have expanded career options as well as competitive advantage in the careers they choose. In addition, students who have very strong capacity to realise and execute their innovative ideas, and can make change happen in whatever profession they choose to pursue;

• nurture faculty who must excel in the academic realms of research, projects and teaching, and can also take time to learn about the complexities and implications of real-world industry problems;

• create the unique type of curriculum materials that we need for every level of our educational efforts, from bachelors, to masters, to professional education, and to Ph.D.;

• deal with the extra workload and complexity that is necessarily involved in creating and working with real software applications, systems and solutions across educational, project and research settings;

• accomplish what we manage to accomplish (e.g. since our establishment in 2003) across the realms of research output, educational innovation, real-world collaborative projects between our students and industry, outreach and service for business and the larger societal community; and

• grow as we have in terms of faculty, staff and students.

In short, SIS seeks out and requires people who are passionate about possibilities related to SIS research and education, imaginative, and highly committed to the SIS vision and to their own work. SIS people need to be doggedly persistent and hardworking in order to overcome obstacles related to challenges and to get things done.

This is not the place for those who may be innately talented, but who have lacklustre motivation or passion for what SIS is committed to doing or for their work.
Beyond conventional means of faculty evaluation: It goes beyond “just papers and citations” and “just teaching evaluations”

Both our research track and practice track faculty have to be strong across the full portfolio of their scholarship, teaching and service. However, there is a different relative importance for these two tracks. Research track faculty have to be very good in scholarship, and still be strong in teaching and service. Practice track faculty have to be very good in teaching, and still strong in practice oriented scholarship and service. At the same time, we allow some flexibility within each of these tracks, when a faculty member is truly outstanding on one of these dimensions, and still adequate and positively inclined towards the others.

Like any good research-oriented university, we are proud when our faculty have their works published in those academic outlets that are internationally recognised as being of very high quality and prestige.

At the same time, I do not automatically equate the placement of a publication in an “alpha venue” as significant work, nor do I automatically assume that work in the credible but lesser tier outlets is of minor significance.

I actually discourage our faculty from talking about their work primarily in terms of where it is published. Rather, as previously discussed above in the fourth item, Ideas and Knowledge Really Can Change the World, we strongly encourage our faculty to talk to one another in the corridors and in informal meeting places about the substance of their work, why they are excited about it, as well as why they and other colleagues and reviewers believe (or fail to believe) it is important or good work.

The critical point here is that at SIS, we are earnestly trying to foster an environment where our faculty and visitors care about the substance of the work they do, and want to talk to one another in ways that can influence and improve the quality of their ideas and efforts. While it can not be totally avoided in any university, we do our best within the school to consciously minimise the occurrence of a culture where faculty spend the preponderance of their informal conversation time either commenting about the placement of their publications, or obsessing about their inability to gain acceptance in a particular venue, with little or no discussion on the content of the work per se.

My desire is to help nurture an environment where all faculty, especially assistant and associate professors, have the courage, capability and peer support to pursue problems that they think are inherently interesting and important, and sometimes just outright cool and fun. The consideration of which journal or outlet will publish the effort, although a relevant and important concern, should not be the very first question asked. Nor should the desire to publish in a particular journal be the primary reason for pursuing research topics or problems that the faculty member is really not interested in, or does not think is important.

There is a similar issue with respect to evaluating faculty teaching effectiveness through student teaching evaluations. There are some well-known “tricks-of-the-trade” for increasing student teaching evaluations. For example, do not be too hard on students. Do not go too deep or too fast. Do not confront their ideas or critique their efforts too strongly.

What happens if based on convincing evidence, the faculty member or the school believes it needs to change some aspects of the course content? Suppose this type of change takes students beyond their comfort zone? Suppose for the first year or two after the change, students give all faculty involved in these restructured courses substantially lower evaluations? Does that mean the faculty are not doing as good at teaching? This is not necessarily the case.

Student teaching evaluations, including both the numeric scores and the qualitative comments are indeed important. They are useful data but the data have to be understood in context. If the only way to view the teaching quality improvement is the numeric result of the student teaching evaluations, faculty will be increasingly reluctant to push up expectations and standards for course performance. Also, they will be increasingly reluctant to make major changes in course content or delivery. This is clearly not a desirable situation.
Everyone involved in education knows there are no easy answers to evaluating the quality of faculty teaching, and it is perhaps even more challenging to evaluate the quality of student learning. Perhaps the most important thing is for all stakeholders - the Dean's office, faculty members, students, and evaluation committees - to appreciate the important differences among the student's assessment of the faculty member, the course content for a particular course, and the assessment of whether the student is learning effectively, and learning the right things.

Sometimes, it is indeed necessary to make changes in course content, delivery and experiences in an effort to change what is learnt and how it is learnt. In these transitional periods, there might well be higher variance or downward trends in how the students evaluate the teachers.

The point is that in SIS we are committed to going beyond the simple, fast and shallow indicators of faculty evaluation of research and teaching. This is not simple or straightforward. It gets highly judgmental, even with the best attempts to support and supplement the evaluation efforts with all appropriate data. Nonetheless, given the type of environment and culture we are creating, it is essential for us to go beyond the simple and standard ways of thinking and practice per faculty evaluations.

**Beyond conventional means of student evaluation: It goes beyond “just grades”**

SIS has been able to increase its undergraduate intake from an initial cohort of 93 freshmen in 2003 to a target cohort size of 213 freshmen in 2007, and a larger target of 250 freshmen in 2008. The reason is that industry leaders from many sectors of the economy have been asking for more and more of the graduates of our BSc (IS Management) programme.

Employers in industry are telling us that our SIS graduates are very solid performers, willing to work very hard and capable of dealing with complex and unstructured situations that are interesting or messy combinations of business and IT issues.

They note that our students are especially versatile in that they can deal with business personnel, processes, functions, as well as the various aspects of designing, creating, implementing and managing IT enabled business solutions. Somehow, our SIS students seem to be especially adept at contributing to the content and management of complex and highly pressurizing and strategic projects involving cross functional teams representing both business issues and IT solutions.

Industry players increasingly realise that our SIS educational programmes are very demanding and time intensive, and that we put our students through many novel and tough design and problem solving experiences.

We are increasingly successful in getting industry employers to realise that when it comes to evaluating our SIS students for internships or employment, they should not be too concerned if their GPAs are a few decimal points lower or higher. Rather, they should look at what our students have accomplished, at the design and problem solving examples in their course and project “portfolios of experience”, and also pay close attention to how students document their capabilities with respect to our SIS Learning Outcomes.

The ultimate proof of the recognition of the intensive and challenging nature of the programme is that even when private industry and individuals have given scholarships to SIS, the sponsors have always agreed to our recommendation that eligibility should not be based on grade point alone. As they know how we educate our students, they have also agreed that the minimum grade point cut-off for qualification for these different private industry scholarships should not be impractically high. An important reason for this is that we do not want our students to shy away from taking on more challenging, higher risk and more time intensive assignments and projects, even if it means ending up with a somewhat lower GPA due to the inherent challenges of a particular project or course. There is also the reality that our SIS students have to manage the challenges of doing several IS and non-IS courses in parallel. We do not want them to shy away from the programme because of the effort required for the IS courses that might impact their GPA in their non-IS courses.
In essence, because of the strength and quality of the programme, industry employers support our view that it is not “just about grades”. It is about capability, problem-solving ability, imagination, passion and attitude.

We continuously reinforce the message to companies we deal with that if an SIS student can demonstrate a high degree of motivation, has an impressive portfolio of projects and examples to show, interesting experiences to discuss, and can thoughtfully walk the industry interviewer through his or her Learning Outcomes assessment, then the employer should not be too concerned about the details of GPA (assuming the GPA is not really poor!).

Right around the Chinese New Year in February 2008, I met SMU alumni, a business school graduate, who has been working in Citibank for several years. He made it a point to tell me that he was very impressed with the SIS students he had hired because they work hard, hit the ground running, and have an expanded set of business and technology capabilities to contribute to the company. In fact, he said he wanted to hire more SIS students because of their expanded capabilities, ability to get things done, and positive attitude. That is a very strong testimony to the abilities of our SIS students, and is yet another example of our claim that our educational experience really does expand the career options of our students.

Now this capability we build up in students does not come about easily or through magic. It requires dedication and hard work. We do not hide that fact.

Right around the January 2008, I received an e-mail from an SIS undergraduate sharing the concern that the courses in our BSc (IS Management) programme have a reputation for being difficult, and for not being easy for a student to get an “A”. The student thought this was a serious problem, since conventional wisdom holds that most sensible students would not want to take a course (or an entire degree programme of such courses) if it were not easy to get an “A”, and certainly not if there were any other programmes on campus where it was believed to be easier to get an “A” in their courses. We have also verified that there have been at least some instances where students in other schools within SMU have told their friends applying to SIS, “Why are you doing that? The SIS students have to work really hard, harder then we have to.”

Actually, our own students tell us all the time that when they compare the workload of their SIS core courses with the respective core courses workload of many of their friends in other schools, they are almost always putting in a lot more time due to the complex nature of SIS projects, and our intensive focus on design and problems solving.

The results speak for themselves. When our students complete the programme, they really do have the confidence that they can solve problems and lead change efforts in complex business settings. They know they can learn-how-to-learn, as well as accomplish the other skills that are part of the SIS Learning Outcomes.

Students in the other parts of SMU like to tease their SIS peers about the hard and challenging design-oriented project work that often “goes beyond” what they experience in their own programmes. These same SMU students also have tremendous respect for the SIS students because they know what they can do and what they can accomplish. There will be more and more SMU alumni across the university like the Citibank employee (and former SMU business school alumni) mentioned above who will specifically seek out the SIS graduates as fellow employees because of their strongly developed problem solving and project management capabilities and disciplined work habits, not to mention their ability to leverage IT in the context of business settings.

When that happens, things will have come full circle. Instead of the SIS undergraduates being teased “Why did you enter SIS?”, students in other parts of SMU will be thinking “Why didn’t we make the extra effort that the SIS students did during their bachelor’s days?”

**Beyond conventional career paths**

We are proud to say there is no “conventional” or limited set of career paths for our SIS graduates.
All of the data to date support our statement that the programme expands the career options of our graduates.

Let's look at some examples. A partial list of jobs secured by our BSc (IS Management) students after graduating is shown here. The list includes the information from those of our students who have kept the SIS dean's office updated on where they are working and what they are doing.

Note the wide range of company names (literally from Accenture through to Y3 Technologies). The range of company types, ranging from giant global multinationals to entrepreneurial start-ups founded or co-founded by our students. The range of industries, from Airlines to Financial Services, Retail, Media & Entertainment, Hospitality, Infocomm Services, Public Sector, and to service-related work in Manufacturing.

Our students have gone into pure business functions (e.g. consumer marketing, strategy consulting), business-oriented technology jobs (e.g. business analyst, solutions consultant, management associate), technology-oriented business jobs (e.g. operations analyst in various parts of banking, management associate), technology service & solutions delivery (e.g. software analyst, software designer, software architect, consultant), IT-related management (e.g. IT associate, IS specialist), and finally into pure customer service work (SIA flight stewardess).

Clearly, the graduates of our BSc (IS Management) programme are not lacking for employment opportunities or for diversity of job roles and career options.

Our Ph.D. programme only started in 2006, and it takes four years to produce the first graduate. So stay tuned to follow up on the future employment of our Ph.D. students.

One thing that has been good for industry, though not something we planned on, is that several of our students took on full-time jobs prior to completing the Ph.D. programme. Given that these employers include Standard Chartered Bank and JP Morgan, I suppose we can say that even our “Ph.D. drop outs” ended up with expanded career options.

Our Master of IT in Business (Financial Services) programme was launched in 2007, and the first cohort will not graduate until August 2009. Nonetheless, we have examples where students who entered the programme from outside the financial services industry have already secured jobs within the industry.

At all levels, we are demonstrating that the SIS educational experience expands a student's career options.

9. Learning Outcomes and Learning-to-Learn

Our journey with Learning Outcomes started back in February 2003, when we first started working out the blueprint for the SIS bachelor's programme. Learning Outcomes focus on the end result, and are used to define what the student must know and be able to do when they complete the programme. The well-developed set of Learning Outcomes for our BSc (IS Management) programme incorporates our evolving vision of the skill sets powering the capabilities of a professional who can lead transformation, innovation, productivity and value creation initiatives in business settings because of their deep ability to combine IT, business thinking and problem solving. The Learning Outcomes for all our educational programmes will continue to evolve over time.

When we designed the first SIS educational programme, our BSc (IS Management) degree, we looked at the curriculum composition of information technology programmes at a number of other universities around the world. We took an especially in-depth look at six IT and hybrid Business-IT programmes at Carnegie Mellon University as well. While we were doing this, we decided that as part of the process of designing the first SIS educational programme, we also needed to define and co-design the Learning Outcomes. The Learning Outcomes would guide us in deciding what we wanted
to accomplish with the undergraduate programme and what we wanted to be the hallmark capabilities of those who would complete our IS Management programme.

We realised that while the courses and curriculum structure of existing university programmes we looked at were reflections of the present, they also had strong roots in the past, including the longer term legacy past. Our Learning Outcomes for our new BSc (IS Management) programme, however, were guided by a vision of the future. The Learning Outcomes took shape from deep and ongoing interactions with leading business users of IT, leading creators of business-oriented IT solutions and leading deliverers of IT services to business organisations. These users and providers of IT were telling us what was being increasingly demanded of business-oriented IT professionals, as well as of IT sophisticated business professionals and executives in today’s workplace and in the evolving workplace of the future.

We strongly adhered to a simple rule when we worked out the course and curriculum blueprint for the BSc (IS Management) curriculum. If we had to choose between being more like the programme of some other schools (no matter how famous that other school might be) or being in better alignment with “real-world” inputs that were shaping our Learning Outcomes, we chose the latter. The safer and more conservative route would obviously be to make curriculum choices that would make us look more like the IT programmes at one of the well-known universities. Given the nature of the dynamics and speed of global competition, as well as the nature of IT research, tools and applications, we were convinced it made more sense to have a forward-looking orientation aligned with our emerging Learning Outcomes than a more historical-looking orientation reflecting historical choices of another well-known university. Our experience since our founding has demonstrated that this forward-looking orientation was a wise choice (and will continue to be so!).

The eight SIS Learning Outcomes for our undergraduate programme are listed immediately below.

1. Integration of business & technology in a sector context  
2. IT architecture, design and development skills  
3. Project management skills  
4. Learning to learn skills  
5. Collaboration skills  
6. Change management skills for enterprise systems  
7. Skills for working across countries, cultures and borders  
8. Communication skills

More information on these outcomes, including detailed definitions, are given on our Learning Outcomes Website. A full accounting of how these outcomes evolved over time, how they are woven into our curriculum delivery and improvement and how our innovative Learning Outcomes Management System (LOMS) came into being, is given in the supporting paper, Learning Outcomes for a Business Information Systems Undergraduate Programme.

While it takes some time for our undergraduates to understand and realise the importance of all eight of these outcomes, and how they inter-relate, students seem to immediately “get it” with respect to outcome #4 Learning-to-learn. Our students seem to thrive on developing this particular skill.

Is it because our students frequently encounter situations where they have to integrate and fuse know-how from one or more business disciplines, from several areas of information technology, and from industry? Or is it because our students get immersed early in fairly large and complex real-world projects through their internships, course projects, entrepreneurial and various extra-curricular activities and their IS Application Project done in Year 3 or 4 (a.k.a. Final Year Project)? Is this because of the dynamic and every changing nature of IT, and the ongoing need to learn about new technologies and applications? Is it because there is only limited time in class and we structure assignments in ways that require students to learn beyond what we teach them in class?

The result of all of these situations is that our SIS undergraduates have to “figure it out” and develop confidence in their ability to learn-how-to-learn. Perhaps this is why our SIS undergraduate students have developed a reputation across SMU for their ability to take on large degrees of responsibility and
leadership, as well as the ability to take on complex and demanding projects at the interface of business and technology.

The students are not the only ones learning-to-learn. SIS faculty and the programmes we create and deliver must also lean-to-learn. It is the only way we can continuously evolve and insure that our programmes continue to be forward-looking rather than reflections of the past.

In this spirit, we have continued to substantially evolve and improve our BSc (IS Management) course content and curriculum structure since we launched the programme. This is not an easy thing to do. It requires an enormous investment of time on the part of our faculty and staff. It also requires effort (and occasional discomfort) on the part of our students to adapt to these changes.

All SMU schools, including SIS, have the mission of being a first rate, globally recognised and respected research institution, as well as a place known and respected for innovative, interactive and relevant pedagogy. Of all the research-oriented information systems, IT and Computer Science programmes we are familiar with world-wide, as far as we can tell, we seem to put more emphasis on curriculum revision and continuous improvement than any other programmes we have become aware of. This undeniably causes some degree of extra work for all concerned. At the same time, it makes us all really live the experience of learning-to-learn. I believe that despite the extra effort it takes, our living experience of learning-to-learn helps all of us at SIS to realise our goal, whether it is to be a better researcher and scholar, a better educator or a better professional in industry.

Also in the spirit of learning-to-learn, we have recently created a Learning Outcomes framework for our Master of IT in Business (Financial Services) programme, which was launched in 2007. Over time, the Learning Outcomes framework for the masters curriculum will evolve to a comparable level of depth as it was for the bachelor’s programme. Eventually, a Learning Outcomes framework will be created for our Ph.D. programme as well.

10. SMU really is a good setting for SIS

If SMU was not an especially good setting for School of Information Systems, we would not be where we are today. Something must be working right.

From the outset, SMU's senior management has given SIS exceptional leeway and support to experiment with an alternative approach to education and research at the interface between Information Systems Technology & Management and Business.

SMU has given SIS the ability to do several essential things that have contributed to the success of the school. These include the ability to

- establish and maintain the strategic partnership with Carnegie Mellon University to advise and guide the evolution of the school;
- build a faculty under one roof that spans the SIS five areas;
- have both first-rate research as well as first-rate practice faculty who collaborate together on research, projects, teaching and service;
- have first rate instructors with deep industry experience who are totally focused on enhancing the quality of the student educational experience in areas related to software applications and information technology;
- have a full suite of educational programmes, ranging from bachelors, to masters, to Ph.D.;
- have exceptional access to any type of private sector business or public sector government organisation, as well as to the executives who run the organisation;
- have resources to provide strong support for research, as well as for innovative educational curriculum design; and
• have a relatively small (but not too small) SIS community size (now heading towards 40+ faculty, 800+ students), giving all of our students, faculty and staff a sense of connectedness and community.

In the years to come, SIS is planning for a faculty size of 50 to 60 faculty members, and a student body in the 1000 to 1200 range. Similarly, SMU is evolving into a medium-sized university community (going on 350 to 400+ faculty members and 7,000 - 8000+ students).

For these reasons and more, SMU has been a great place to create and nurture SIS.