

## **Chapter Six**

### **RECOMMENDED POLICIES**

It is necessary to formalise the points highlighted in the previous chapters into recommended policies that are pertinent to the organisation and its business objectives. These recommendations are based on the financial, human resources and technological aspects, with particular emphasis on the latter two.

#### **6.1 IS Development**

##### **6.1.1 Applications Development - Outsourcing**

KDU's core competency is lecturing. Its management must decide whether the development of the college MIS as well as other computerised support functions should be outsourced. This is because the college is not a software development sweatshop that can take in such projects by maintaining a team of programmers. As the economy improves, problems will arise when these programmers leave to take up better offers in the IT industry. The current programming staff may then develop their management skills by managing the outsourcing contract.

With regard to the decision to outsource the homepage development, one must first consider the strategic value of the college homepage. Since the homepage is an excellent avenue to promote the quality of the academic programmes in an innovative manner, it is a valuable marketing tool that serves a global audience. This fact alone makes the homepage a vital part of the college value chain that has the potential to provide KDU a competitive advantage.

Therefore, selective outsourcing, a combination of

- insourcing (completely developed in-house)
- outsourcing and
- cosourcing (partially developed in-house in collaboration with an IT vendor)

is recommended. Non-strategic activities, such as the MIS development function, should be outsourced or, at the very least, cosourced. Strategic activities that contribute to the business competitiveness, such as the homepage content development, should be either insourced or cosourced (Weill and Broadbent, 1998).

### **6.1.2 Hardware Acquisition - Leasing**

Leasing makes sense in that it allows companies to manage the acquisition and obsolescence of technology assets, while the financial advantage includes savings effected on the cost of capital. Furthermore, the latest technology may be obtained at a regular monthly expense, rather than sacrificing a huge capital outlay. However, there is still sufficient cause to persist with equipment acquisition under certain conditions (Greene, Martin V., 1998, p. 3). These conditions will be discussed in greater detail in the sub-section **6.3.3 Hardware Upgrades**.

## **6.2 IS Implementation**

### **6.2.1 College Homepage - Distance Learning through Content Management**

Certainly, there is an abundance of opportunities on the Internet. The major attraction it offers KDU is that there is no limit to the target market as it is a global marketing tool. Every single Internet "surfer" becomes a potential customer. In this respect, an IHL must recognise that web-based distance learning is the key to attain competitiveness.

In order to deploy this technology effectively, the college must decide what

types of programmes may be conducted on the distance learning platform. Skills-based programmes like Engineering and Computer Science need regular practical exposure in a teaching laboratory, and therefore will not be suitable. Management-type programmes like Hotel Management and Business Studies are ideally suited for such an approach. Moreover, it is important to ensure that an existing programme be chosen for publication on the web. This will provide a good comparison as to the effectiveness of certain teaching approaches utilised in the traditional and the cutting-edge media.

Further considerations would include the proper identification of registered students. There would need to be accurate authentication of each user that logs into the web-based distance learning academic programmes. Some of the important details may comprise student identity (name, student number and password), fee payments and particular modules registered.

While there may be no constraint to the amount of time needed to complete certain sections of a module, it would be preferable to put in place a time-constrained assessment. This is to maintain a certain level of academic standard throughout the duration of the programme.

However, it is necessary to bear in mind that the content must not contain any material that may pose a threat to the country's multicultural ethnicity, moral values and national security.

### **6.2.2 Mailing Lists - Privacy Rights**

With regard to the compilation of commercial lists, the college should state clearly in its application forms that the information provided by the applicant would be treated with the strictest confidence. It will therefore not be revealed to any third party for further income earning activities.

### **6.2.3 Responsibility - Individual Rights**

With regard to the email facility, it is necessary to remind users that the facility

is provided for work purposes. However, staff will invariably use it for personal correspondence. This is not wrong unless it involves spreading malicious gossip or rumours. Therefore, in order to protect the college from any queries from the relevant authorities, all staff with access to email facilities must sign an indemnity form indemnifying the college should they unthinkingly forward or initiate email containing sensitive issues pertaining to racial, moral or national security issues.

#### **6.2.4 Access Control and Accountability - Access Control**

As a precautionary measure, paper and computerised audit trails are required to reflect modifications / deletions / additions carried out on existing information. The paper trails are the standard carbon copies filed by the respective departments for record-keeping purposes. The computerised ones need to be coded into the existing MIS so as to automate the recording of all changes effected. Furthermore, the staff that invoice the students must be not be the same as those that collect fees. If they are, abuses may arise in that the invoiced amount might be padded to effect higher-than-required fees collection.

In any case, all sensitive information must be located in secured areas accessible only to specific and qualified personnel. Such information includes staff personal details, students' personal and financial profiles as well as their grades. It is important to limit entry into the MIS with unique passwords that are changed regularly.

At the moment however, the convenience of a single sign-on has been sacrificed for greater security. Therefore, all staff need to inculcate better network etiquette so as to improve the security of the overall system.

## **6.3 IS Equipment Management**

### **6.3.1 Computer Virus - Anti-virus Software**

It is important to recognise that anti-virus software is a fundamental component in any computer system set-up. There are increasingly more virulent strains and the KDU IT staff cannot be expected to download the anti-virus software every month and then updating the more-than-100 computers. This is definitely not productive. Therefore, it is recommended that the college invest in good anti-virus software to protect its investment.

### **6.3.2 Software Licensing - Periodic Renewals, One-Off Purchases**

It is necessary to maintain both methods of software licensing owing to the software requirements of the college. However, one way to ensure accurate tracking of software licenses is to deploy software license metering. This will measure the number of licenses that is being utilised at any given time. It may also be configured to limit the number of licenses that may be utilised simultaneously. This will serve to ensure that software licensing laws are not violated while maintaining sufficient working copies for all staff.

### **6.3.3 Hardware Upgrades - Lease, Purchase, Cascade**

The hardware upgrade and the software compatibility issues are closely related. The latter can be easily resolved by ensuring all staff use only MS-Office 97. However, should the hardware be constrained by the generation (486 vs. Pentium II) and speed (66MHz vs. 166MHz) of the microprocessor or the capacity (170MB vs. 2.1GB) of the hard disk, no amount of memory upgrade will make the particular computer suitable for an MS-Office 97 installation. Therefore, while it may appear to be economically justifiable to effect simple component upgrades, this may not be so when one considers the component upgrade in tandem with the effect it may have on the overall staff productivity. It may actually be wiser to effect new replacements instead.

In respect of hardware management, a combination of leasing and purchasing would work well in the KDU context. This is because only certain applications would need high performance equipment. Examples of such requirements include equipment for in-house programmers and the Computer Centre Laboratory machines that are used in lecturing. For most of the other staff, their needs, in carrying out word processing and email, are more modest.

Therefore, existing older purchased machines in the Computer Centre may be cascaded to lower-end users to cater to the less demanding staff computing needs. The Computer Centre may then lease cutting-edge computer equipment to satisfy the students' discriminating preferences. Over time, as all existing purchased equipment are transferred out for staff usage, only leased equipment will remain in the Computer Centre. As the college grows, new machines will need to be acquired for the increasing number of staff. Since their needs are not so sophisticated, these machines can be purchased outright to accommodate the growing number of staff.

#### **6.3.4 Contingency Planning - Backups, Quick Replacements**

It is important to protect business data by putting in place some requisite measures. Strict backup procedures should be followed to ensure that little vital data would be lost. Daily backups carried out at the end of the business day are highly recommended. The tapes should be stored temporarily in a secured location (e.g., safe) for the evening. They must then be transferred off-site the following morning. A possible off-site location would be a safe deposit box in a local bank.

It is also recommended that the college enter into a maintenance agreement with its hardware suppliers so as to effect a quick replacement of damaged hardware, should the unthinkable happen.

#### **6.4 IS Staffing Management - Recruitment, Motivation, Retention**

In respect of recruiting qualified IT staff, the college must increase its

investments in upgrading the overall facilities with particular emphasis on the IT infrastructure and Internet application development. This may include

- upgrading the lease line from the present 128Kbps to 2Mbps
- upgrading the Pentium 75MHz and 90MHz to Pentium II 300MHz
- launch the web-based distance learning on the Internet

These initiatives would indicate that the college is adopting an aggressive stand in capturing the market. These actions would reflect a growing and dynamic organisation, which, in turn, would attract like-minded IT staff.

Training is key to staff retention. Nobody wants to do boring, repetitive work. Skilled IT staff would feel that their intelligence had been insulted and would begin to wonder why they were wasting their time in the college. It is best to enrol them in training programmes that offers certification in a specific application platform, e.g. Oracle, so as to ensure that the staff have the requisite minimum level of expertise that is recognised by the industry. A study conducted by IDC (1996) reported that certified employees handled 40% more support calls per person per day than non-certified ones. In addition, companies that supported certification reported nearly 50% less downtime than those that did not. The study also pointed out that these companies also registered an increased retention rate for their top performers. Therefore, the college must seriously consider supporting industry-standard certification for its IT staff.

Furthermore, a long-term self-evaluation programme for the staff should also be drawn up. The pertinent areas should include the following:

- Current duties
- Significant achievements during the evaluation period, e.g. the current year
- Self-defined targets for the next evaluation period, e.g. the next year
- Resources and opportunities that must be provided by the employer to achieve the self-defined targets

Such programmes would prove the college's commitment to the IT staff's self-development. It would also show that KDU does recognise IT challenges and opportunities beyond the current time frame.

## **6.5 Summary**

The issues discussed are by no means exhaustive, but these are the main concerns that have impacted, and will be impacting, KDU. In effect, the direction in which KDU should proceed would seem clear from the recommended policies therein. In doing so, KDU should be confident that, in addition to its academic programmes and IT infrastructure, it also has an IT policy in place (see Appendix I for the proposed KDU IT Policy). This should provide some impetus to its efforts in earning a competitive advantage over its competitors. However, its success ultimately lies in the college obtaining accreditation from the Lembaga Akreditasi Negara which would lead to the much-coveted "3+0" approval from the Ministry of Education.