# CHAPTER 4

# CASE STUDY

## 4.1 Introduction

Chapter 4 provides detailed descriptions of the overview about the organization (HEIs), the existing curriculum process and the stakeholders. The purpose of this case study is to provide an overview of using KM approach in Faculty of Computer Science and Information Technology (FCSIT), at a research-intensive university in Malaysia to support its curriculum review process. It discusses the departments in FCSIT, its current curriculum and the problems or issues with the curriculum review process. Followed by that, the findings identify the importance of KM approach in HEIs to support curriculum review process. Based on the finding, the researcher will be developing a KM tool that fulfills these demands and enacting as a bridge of communication amongst industries, students and HEIs which support the curriculum review process to increase employability and satisfy the employers' need in the job market. The chapter concludes with the summary of the chapter.

As discussed in Chapter 3, the mixed methods used in this study were designed to gain a deeper understanding of the KM approach to support the curriculum review process. The adaptability of mixed method research may prove useful because it provides an opportunity to study phenomenon in its entirety rather than concentrating on narrow aspects of the phenomenon (LeCompte & Preissle, 1993). As discussed in the conceptual diagram in Chapter 2, the ultimate goal of this study is to produce competent graduates. As discussed in the outcome of the conceptual diagram, the study focused on how it could support the curriculum review process, support the student's skills and knowledge (competencies) and how it could improve the employability with the help of KM approach in HEIs. This chapter focuses on the first layer (participants) and the second layer (information) of the conceptual model discussed in Chapter 2.

## 4.2 Overview about Organization

In the public university that was selected for this study, more than 23,000 students and 2613 academic staff located in 20 faculties and academic centers. It aims to be one of the leading universities in the world in education, teaching and research. As discussed earlier in this chapter, this study focuses on Faculty of Computer Science and Information Technology (FCSIT). There are four (4) major departments (Artificial Intelligence, Information Science, Computer System & Technology and Software Engineering), two (2) units (Library & Information Science and Multimedia) and a research center (Malaysian Citation Centre) in FCSIT. However, this study focuses on the four departments and one unit associated with computing programme viz department of Artificial Intelligence, Information Science, Computer System & Technology, Software Engineering and Multimedia.

## 4.3 Stakeholders for the Study

Stakeholders are defined as a person, group, or organization that has direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives and policies. In this study, the stakeholders are divided into two groups viz direct stakeholders and indirect stakeholders. Direct stakeholders are the faculty, current students, graduated students and employers. On the other hand, the indirect stakeholders consist of the MDEC, UPU, MQA and MOHE. However, the focus of this study is direct stakeholders.

### 4.3.1 Academic Staff and Non-Academic Staff

Academic staffs are also one of the stakeholders in this study. As we know, the academic staffs engage directly with the syllabus in their daily life. This will allow them

to get to know better about the syllabus and curriculum. Besides that, the lecturers will be also dealing directly with their student. This will enable them to discuss the issues regarding the subjects and curriculum with their students. This gives them the opportunity to provide the valuable feedback to their department, faculty or university regarding the subjects and curriculum taught by them. In the faculty that is chosen for this study, the academic staff and non-academic staffs are required to benchmark their courses and programme in terms of context, assessment, cause with local universities and to deliver top match universities offering the course and programmes. Some of the information that the academic staff may provide to the study is on the relevancy of the syllabus and curriculum for today's market, KM practices in their faculty, policies and strategies, knowledge capture and acquisition, current curriculum review process and causes of unemployment. For the non-academic staffs, some of the information that they may provide for this study are such as the KM practices in the current HEIs, policies and strategies, knowledge capture and acquisition, impact of using KM practices, current curriculum review process and causes of unemployment.

### 4.3.2 Students (Current students and Graduated students)

In this study, there are two types of students it is focusing, viz the current students and the graduated students (Alumni). In the current faculty that is chosen for this study, the students are required to do course assessment every semester, which is at the end of every semester. They are also encouraged by their faculty to highlight if there is any issues in the current curriculum or how it could be improved. Some of the information that the current students may provide for this study is on the importance of KM practices within the HEI, their feedback on the existing curriculum, causes of employment among ICT graduates in today's job market and inform their competencies. Besides that, they

also could highlight the overall view on KM in HEIs. Some of the information that the graduated students may provide for this study is about their current job satisfaction, job relevancy and how they choose their job. Besides that, the graduated students may also provide information on the importance of KM practices within the HEIs, their feedback on the existing curriculum, causes of employment among ICT graduates in today's job market and inform their competencies. Besides that, they also could highlight the overall view on KM in HEIs.

### 4.3.3 Industry

Industry is one of the stakeholders in the study. They play very important role in curriculum reviewing process by supplying the necessary information to HEIs. As shown in the conceptual diagram in Chapter 2, some of the information that the employer may provide to the HEIs is the skill information, knowledge information and the job vacancy information. The employer may also discuss about their general understanding on KM practices within HEIs, causes of unemployment among ICT graduates, how HEIs could improve the employability percentage in the job market and competencies required in the workplace. These information will be very helpful for HEIs during the curriculum review process.

### 4.3.4 Quality Management and Enhancement Centre (QMEC) and Quality Management System (QMS)

The Quality Management and Enhancement Centre (QMEC) is entrusted with the task of managing quality assurance and enhancement activities relating to the University's core processes. QMEC coordinates and monitors the implementation of the Quality

Management System (QMS) instituted since 2002. The QMS covers all its core processes. The University is certified with the international standard of MS ISO 9001. The centre also oversees and monitors activities relating to institutional and academic quality based on the requirements of the Malaysian Qualifications Framework (MQF). Among its major activities are coordinating internal audits under the QMS, coordinating self-assessments of the institution and programmes, management of customer's feedback as well as continual improvement projects. QMEC also coordinates collection and verification of data for rating and ranking exercises; and other purposes. Awareness programmes relating to quality frameworks also form a major activity carried out by the centre.

## 4.4 Curriculum Review

University courses includes of University Compulsory Course (basic courses set by the University) and University Elective Course (the courses can be selected from a list of Interfaculty Elective Courses, offered by other Faculties. Students are free to choose at least 2 credit-hours). Faculty courses includes of Programme Core Course (core courses set by the Faculty), Elective Programme I Courses (core courses set by the Department) and Elective Programme II Courses (courses can be selected from a list provided by the Department). Pre-requisite courses in this study refer to the first level course which is compulsory to be taken and passed by students before registering for the later course.

Table 4.1 shows the degree structure of Bachelor of Computer Science and Bachelor of Information Technology, based on the semester system. There are two majors with 125 credits and 4 major with 126 credits. The information was verified from the University Undergraduate Programme Handbook, session 2009-2010.

Table 4.1: Structure of Bachelor of Computer Science and Bachelor of Information Technology

| Structure | Credit | | | | Total Credit |
|---|---|---|---|---|---|
| | University Courses | Programme Core Courses | Elective Programme I Courses | Elective Programme II Courses | |
| Bachelor of Computer Science (Artificial Intelligence) | 18 | 70 | 27 | 11 | 128 |
| Bachelor of Computer Science (Software Engineering) | 18 | 70 | 26 | 12 | 126 |
| Bachelor of Computer Science (Management Information System) | 18 | 70 | 26 | 11 | 125 |
| Bachelor of Computer Science (Computer Systems and Networking) | 18 | 70 | 28 | 9 | 125 |
| Bachelor of Information Technology (Multimedia) | 18 | 69 | 30 | 9 | 126 |
| Bachelor of Information Technology (Management) | 18 | 67 | 29 | 12 | 126 |

Source: Undergraduate programme handbook: 2009-2010

When there is a changes required in the current curriculum, firstly the stakeholders will provide their viewpoint to the department members. Later, the department head will highlight this issue to the faculty. Then, the faculty members will be reviewing the curriculum and check the percentage of curriculum changes required. If the changes are lesser than thirty percent, they may do the necessary changes and update the curriculum.

However, if the curriculum changes are more than thirty percent, the faculty needs to get the senate's approval. The senate will check the curriculum accuracy and if it is found accurate, it will be forwarded to the University Unit centre (UPU**)**. UPU will be checking the curriculum accuracy which was approved by the senate. If the curriculum is accurate, they will forward the accepted curriculum to MQA (see section 2.6).

MQA will be checking the curriculum accuracy that proposed to be introducing in the university. If they find it accurate, it will be forwarded to MOHE (see section 2.6). MOHE will then be checking the accuracy of the proposed curriculum and if it is found accurate, they will approve the application and the new curriculum or the changes required will be introduced in the faculty. Else they will reject the application.

The process of improving or introducing a new course is shown in Figure 4.1. The curriculum process for new courses or for supporting of courses is validated with the head of department of the faculty that was chosen for this study. In Figure 4.1, there are five (5) direct stakeholders involve in the process of curriculum reviewing. They are the industry, lecturer, student, alumni and faculty. The indirect stakeholders are those whose contributions give importance in the process of curriculum improvement process. They are such as MDEC who involve in academic initiative as discussed earlier in this section. Once the direct and indirect stakeholders provide their feedback in the process of curriculum reviewing, it will be forwarded to the department.

In the department level, the head of department will review the request and forward the request to the faculty level. If the changes required is lesser than thirty percent (30%), the decision will be decided by the faculty itself. However, if the changes required are more than thirty percent (30%), it will be forwarded to the senate meeting. During the meeting, the person in-charge will review it. If it is approved by the senate, the recommended curriculum will be forwarded to University Unit centre (UPU). Here, the staff in UPU will check for the curriculum accuracy. If it is accepted, it will be forwarded to the MQA for accuracy validation. Else, it will be forwarded back to the faculty. In this stage, the members in Malaysian Qualifications Agency (MQA) will review the curriculum. If the curriculum recommended is accurate, it will be forwarded to the Ministry of Higher Education (MOHE). Else, it will be forwarded back to the faculty. Once the MOHE accept the proposed curriculum, the new curriculum will be

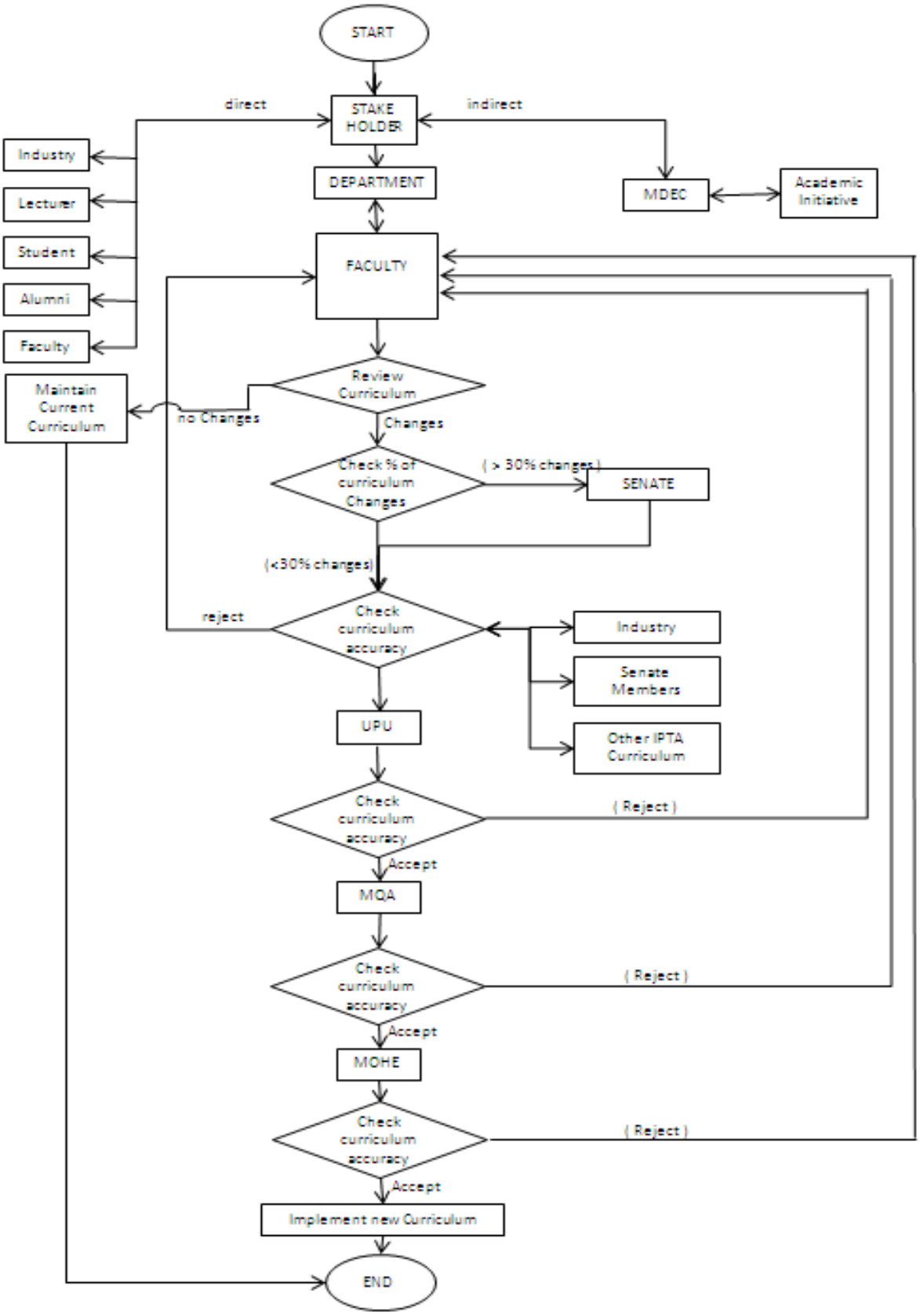


Figure 4.1: Flowchart of Curriculum Review Process

implemented. There are a number of issues identified in the current curriculum review process. The head of departments, academic staff, non-academic staff and Quality Management and Enhancement Centre (QMEC) officers involved in the interviewing and the issues are discussed below. The problems traced in the curriculum development process are further discussed in Chapter 5.

Figure 4.2 shows the relationship between subject learning outcome, course learning outcome, Programme outcomes and compliance to the stakeholders in the University. It also shows the University Continual Quality Improvement (CQI) Model. Some of the evaluations on benchmark standards include:

- ✓ Comment on the policies and procedures for regular reviewing and updating of the internal quality assurance activities of the HEIs.
- ✓ Assess the status of the quality assurance unit, department or other units in the HEIs.
- ✓ Assess how the HEIs drive the spirit of quality and encourage a shared vision of quality imbued learning environment among all its constituents.
- ✓ Evaluate the attempts made by the HEIs to have its internal quality assurance system accredited and recognized by a relevant, external and authoritative accreditation body.

Figure 4.3 shows the University Continual Quality Improvement (CQI) Model. The first stage is Continual Quality Improvement for assessment strategies. The second stage is the Continual Quality Improvement for curriculum design criteria and teaching and learning activities. The third stage is Continual Quality Improvement for programme outcomes and goals. The final stage of Continual Quality Improvement is for institution's educational goals.

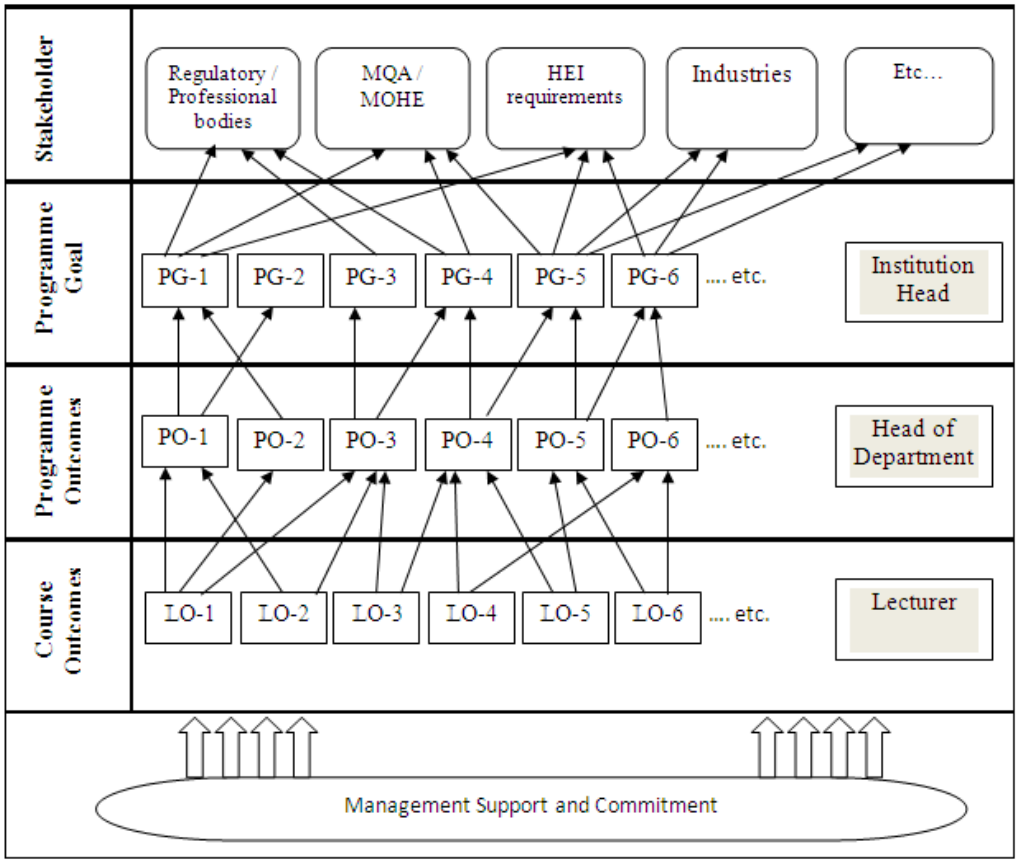


Figure 4.2: Relationship between subject learning outcome, course learning outcome, Programme outcomes and compliance to the stakeholders

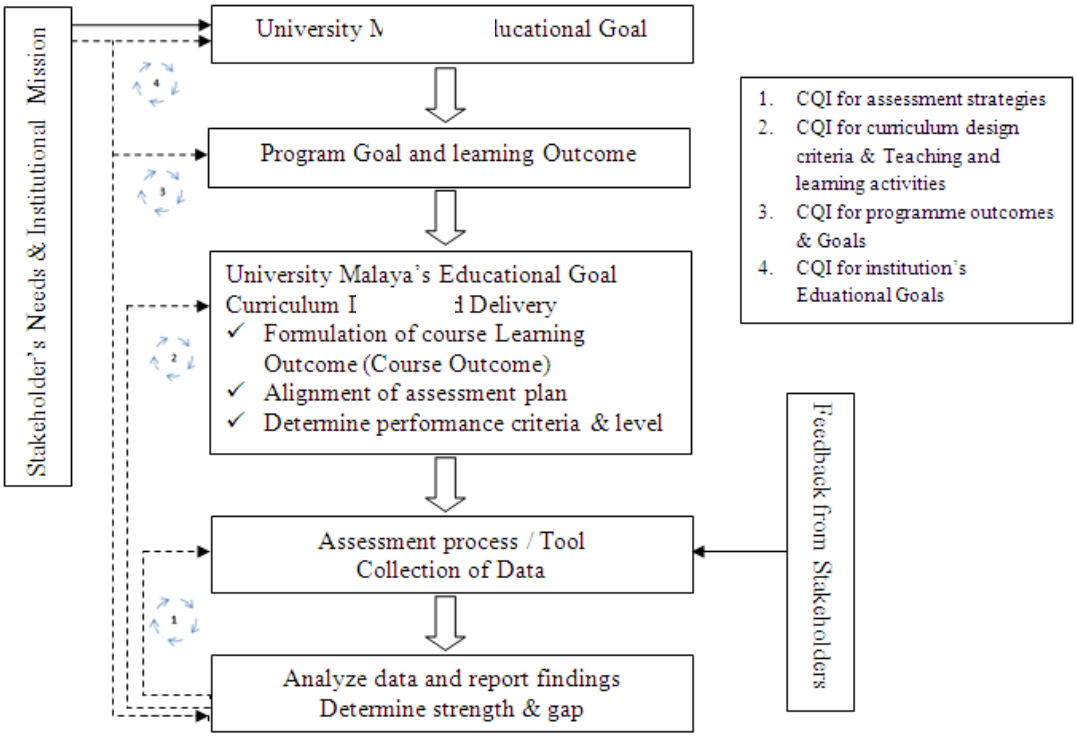


Figure 4.3: University Continual Quality Improvement (CQI) Model

## 4.5 Summary

The case study component in this chapter was primarily carried out to investigate in depth the stakeholders, current curriculum review process, information need and market needs. In Chapter 5, Data Analysis and Findings covers the analyzed details of all the data collected from the participants regarding the use of KM approach in HEIs to support the curriculum review process.