INDUSTRY REQUIREMENT ANALYSIS FOR MALAYSIAN IT GRADUATES

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To my beloved mother, father, husband and daughter

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ABSTRACT

The study involves two main parts. The first part is focused on conducting an online initial study by gathering data in relation to industrial requirements of IT graduates, which are produced by higher learning institutions in Malaysia. Therefore, in order to fulfill this, three sets of online surveys were created to capture data from the IT graduates, institutions and industries. These surveys were posted online and the data sampling were collected for a period of time. The data collection from this part is later used by the second part of the project in which the results of the study are displayed. This second part is the development of a website which shall be used by the IT graduates, institutions of higher learning and industries as a point of reference, in a way that it could be used both as providing data and information as well as getting data and information. In this part too, the sampling data collected from the first part are analyzed by the developed system to produce various results reflecting the IT sector. Based on the results of the analysis produced by the system, various drawbacks between IT graduates, institutions and industries are identified and discussed. The main drawback indicates that there is no collaboration involved among the three entities which resulting in no cooperation and sharing of information. Therefore, in order to resolve these drawbacks, it is suggested that various strategies are identified and outlined in order to achieve collaboration among the IT graduates, institutions of higher learning and industries. The website can be identified as a meeting point to achieve collaboration among the three entities by which it provides data to the institution and IT graduates on what industry requires and at the same time it ensures that industry recruits the IT graduates with the relevant skills.

ABSTRAK

Kajian ini merangkumi dua bahagian yang utama. Bahagian pertamanya tertumpu kepada suatu kajian secara pengumpulan maklumat 'online' berhubung dengan keperluan industri bagi para graduan teknologi maklumat daripada institusi pengajian tinggi di Malaysia. Bagi tujuan tersebut, tiga jenis kajian 'online' telah di hasilkan untuk mengumpul maklumat daripada para graduan, institusi dan industri. Kajian tersebut telah di paparkan secara 'online' dan maklumat telah di sampel dan dikumpul bagi suatu jangka masa tertentu. Maklumat yang terkumpul ini telah digunakan untuk bahagian kedua dalam projek kajian ini dimana keputusan kajian tersebut dipaparkan. Bahagian kedua ini ialah suatu pembangunan laman web yang akan digunakan olen para graduan, institusi dan industri sebagai panduan, di mana ia boleh digunakan sebagai pemberi dan penerima maklumat. Dalam bahagian ini juga maklumat sampel yang terkumpul dari bahagian pertama dianaliasa oleh sistem yang telah dibangunkan, untuk menghasilkan pelbagai keputusan yang mencerminkan sektor teknologi maklumat. Berdasarkan keputusan analisa dari sistem tersebut, berbagai kepincangan di antara para graduan , institusi dan industri telah dikenalpasti dan dibincangkan. Kepincangan yang paling utama ialah tidak wujud kerjasama di antara ketiga pihak tersebut mengakibatkan tiada kerjasama dan perkongsian maklumat. Oleh itu, untuk mengatasi masalah ini, telah dicadangkan pelbagai strategi dikenalpasti dan digubal untuk mewujudkan kerjasama antara para graduan, institusi pengajian tinggi dan industri. Laman web ini juga boleh dikatakan sebagai tempat pertemuan bagi mencapai kerjasama diantara ketiga-tiga pihak tersebut, dimana ia mengeluarkan data kepada instituisi dan para graduan tentang apakah keperluan industri dan pada masa yang sama memastikan pihak industri melantik kerja para graduan yang berkemahiran.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

The Malaysian IT industry is widening in an unpredictable manner day by day. Therefore, issues relating to the supply (in terms of skills and attributes) and demand (in terms of types of competencies, preference on type of universities and needs of the industry itself) should be identified to reduce or close the gap between the IT graduates and the industry.

The purpose of the study is to provide information on the IT skills which the industry requires and the university produces as well as the trends of skills required currently and in the future.

The study will derive some data collection based on the requirements of IT graduates, Industry and Institution. And, these information will be will suggest some strategies that can be utilized by the three entities (IT graduates, industry and institution) to collaborate and share information so that each one of them will benefit from each other stay competitive.

1.2 Background of the problem

The context of this study will be focusing on the societal aspects which emphasizes on the IT graduates in Malaysia. The outputs of IT graduates arise from a generalization of the different sectors under the larger umbrella of IT.

The ICT is a bustling new industry with employment growth forecast at 23 percent in 2004 Sunday (September 19, 2004-The Star Online). This rapid growth is driven by the Multimedia Super Corridor project and is expected to continue its high growth over the next decade as the Malaysian economy transforms towards a knowledge-based economy.

Some of the issues circulating the IT industry in Malaysia can be seen as there is no linkage between the IT graduates and the industry's requirements itself. Generally, the industry does not know what type of IT graduates are available and in addition what sort of skills do they have. Apart from that, the IT industry itself is not publishing or demanding their requirements in order for the graduates to grasp the knowledge required. Therefore, the match is never clear in the entire process of recruitment.

Another issue which can be raised is the trends in the industry itself. For instance what kinds of skills are popular in demand currently and also what will be coming in the future for instance in the next five years ahead. And, this will be helpful for the higher education centre to prepare and focus the future demands of industrial needs.

In addition, the syllabus of the learning institution is not transparent to the industry which leads to not fulfilling the job requirement in the industry. Learning institutions are also not updated with the latest requirement needed by the industry. Apart from that, the requirements are always not clear the demand is in which particular area of skills.

There is no record showing the estimation of IT graduates required for a particular job. In which no clear indication of number of jobs availability for any

particular skills. And, therefore institution keep producing graduates without any correct figures determining the demand in particular skills.

Therefore, with all these needs and requirement addressed – most likely IT graduates will be more marketable and this will also ensure that the country has a lower rate of unemployment and the industry will be more productive in their usage of man-power.

1.3 Statement of the problem

Lack of inter-relation between the universities and industries whereby the university produces IT graduates with certain skills that they are unable to market as to what the industry requires to perform task are not matched. Therefore, universities should work very closely with the industry to improve on the syllabus in order to reduce the gap and most importantly the IT graduates can match their skills with the industry requirement.

1.4 Project Objectives

The project objectives are described as follows:

- To study the requirements of IT skills required by the industry;
- To provide information on types of IT graduates (skills) produced by the university and the specific/special skills available by the IT graduates;
- To analyze, design and develop a web-based solution collaborating the three entities (IT Graduates, Industry and Institution);
- To display types of skills or trends required currently and in the future based on the data collected from the online survey (with the usage of SQL statements);

1.5 Project Scope

The project scope is described as follows:

- The study/analysis is done only for IT graduates;
- To develop a web-based system that enables IT graduates, industry and institution to answer an online survey and based on the survey various analysis can be derived;
- The study is also based on different type of industries on the job title (post) and skills required;
- The study on IT graduates based on data e.g. certificate/diploma/degree and their specialization;
- Questionnaires/survey to be distributed to Institution/IT Graduates/Industry;
- The methodology which is recommended is Waterfall Model;
- The web-based solution is developed using FrontPage and HTML for the interface, ASP is used to generate the HTML pages and the DBMS is designed using MS Access;

1.6 Importance of project

This analysis will be able to enhance graduates employability to meet the demands of the globalize economy in a way and therefore it will reduce the gap between the supply of skills and the demands from the industry.

The analysis also allows the IT graduates to secure a job and also help the industry to hire the right candidate with the right skills to perform the task.

The study will also reduce cost due to employers frequently not getting the kind of graduates that they need and consequently have to provide some form of retraining for the recruited workers for which they have to pay.

Currently, universities are trying to offer courses in tandem with market needs or demand but are lagging behind. Therefore, a regular forum is needed whereby universities and employers can exchange feedback and re-examine courses and syllabus to ensure that graduates learn skills that will enable them to secure jobs when they come out.

1.7 Chapter Summary

This chapter examines the entire ICT employment trends in Malaysia. In addition it also focuses on the issue concerning IT graduates, industry requiring IT expertise and institutions as a source of producing IT skills. And, it looks into an aspect which determines the gap between the three entities as a whole. Apart from that, a brief discussion on how the three entities can be collaborated and produce some kind of useful analysis to support and benefit everybody.

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