An Improved DSS for a Local Human Resource Development Emphasizing Basic TQM Practice

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ABSTRACT

Nowadays, it is very crucial to increase competency skills of unemployed fresh graduates in Malaysia so as to overcome the rising of unemployment rate. Hence, training schemes and development courses are fruitful solutions to fill up the gap between what students studied at universities and what exactly labor markets need. Therefore, in this paper we propose an improved Decision Support System (DSS) for a Local Human Resource Development (LHRD), which emphasized the Total Quality Management practice. Specifically, the output is the DSS for the incorporative LHRD model, which is further improved by the Web-based training process to enhance the overall delivery of various training and development schemes. The implementation of the model is able to increase knowledge, skills and capacities of fresh graduates, thus increase their productivity as employees along with job satisfaction.

Keywords: decision making; decision support systems; total quality management, human resource development, Web-based training

I   INTRODUCTION

In the past few years the unemployment rate in Malaysia has been risen from 2.4% in the year of 1996 to 3.5% in the year of 2003, whereas the unemployed fresh graduate rate increase from 4.6% in the year of 1997 to 7.4% in the year of 2002 (Baharudin, 2004). According to a report from Department of Statistics, Malaysia, the unemployment rate increase in October, 2010 to January 2011 from 2.9% to 3.4% (Department of Statistics, Malaysia March, 2011).

Moreover, much research focused on the reason why the Malaysian fresh graduates are not readily employed. Gurvinder and Sharan (2008) simplified that reasons for fresh graduates' unemployment are because of lack of soft skills such as communication skills, lack of self-confidence, low self-esteem, weakness in English and computer skills. In addition, Aminah Ahmad and Nithyaroobini Munian (2010) found that the labor market such as the service sector requires people who do not only possess the right technical knowledge, but also possess the right soft skills which comprised of interpersonal, communication, good judgment and maturity. However, it is difficult to get graduates nowadays with a combination of both skills. Therefore, one of the Malaysian government's efforts through Ministry of Human Resource has been sponsoring the unemployed fresh graduates for training schemes. The training schemes are offered to provide skills and development courses for the unemployed fresh graduates, such that it fulfills the gap between what they have studied at universities and what exactly the labor market needs.

However, the labor market in Malaysia is still unsatisfactory regarding fresh graduates' qualification and performance. Thus, the government, private sector and public sector companies and society in Malaysia need to work together to enhance the training process, especially for the benefit of unemployed fresh graduates (Woo, 2006; Abd.Rahim Abd. Rashid, Sufean Hussin & Abu Talib bin Putih, 2005). In lieu of the situation, this paper attempts to develop a Decision Support System (DSS) in the current training related process incorporating the concept of Total Quality Management (TQM). In providing the basis for our proposed DSS, which is further improved by the Web-based training elements, we briefly discuss some related concepts. Thus, following this introduction, the next section illustrates the contemporary human resource development (HRD) concept. The third section describes the approaches and models for training and development process. The concepts of TQM and DSS are discussed in the fourth section. The fifth section exhibits the Local Human Resource Development (LHRD) model and its prototype, which then followed by the results in

the sixth section. The paper concludes with a summary and discussion for future work.

II   CONTEMPORARY HUMAN RESOURCE DEVELOPMENT

In contemporary HRD concept, development and training refers to the gaining of knowledge, skills, and job qualified as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies. This can be referred trainings that follow beyond initial qualifications. There are three categories of trainings which are pre-service training, on-the-job training and off-the-job training (Shamsuddoha, Hossain & Nedelea, 2009).

Pre-service training is conducted to expose the newly employed employees on the nature of the job. This new staff will normally be given the chance to identify whether they like the job/task or identify the type of most interested task (Abiddin, 2006). Subsequently, the on-the-job training focuses on gaining of skills within the work environment generally under normal working conditions. On-the-job training typically includes verbal and written instruction, demonstration and observation, and hands-on practice and imitation (Mukherjee & Sanyal, 2010).

On the other hand, the off-the-job training involves the company sending the employee to another location outside the business to learn a skill or acquire important knowledge. Off-the-job training may include lectures and demonstrations, simulations, role-plays and games, self-study, and attending external courses (Harris, Simons, Willis, & Carden, 2003).

III   APPROACHES AND MODELS OF TRAINING AND DEVELOPMENT PROCESS

Training and development process involves a series of a continuous sub-processes comprised of program planning, outlining and arranging learning experiences in order to achieve the set goal through effective planning and implementation. Some of its approaches and models (Abdullah, 2010) are explained below.

A. Approaches of Training and Development Process

It is important to identify the training approaches so as to understand and improve the practice of training program and its design. There are several common approaches which are Classical, Naturalistic, Critical, Negotiating Interest and Web-based training approaches (Abiddin, 2006; Loannis-Pratikakis & Katerina-Vassiou, 2007).

However, among the five approaches, the Web-based training (WBT) is a new approach to distance learning in which computer-based training (CBT) is transformed by technologies and methodologies of the World Wide Web, the Internet and intranets. WBT is a media-rich training fully capable of evaluation, adaptation, and remediation, all independent of computer platform (Loannis-Pratikakis & Katerina-Vassiou, 2007), thus it has given the impetus for our DSS experimentation and improvement.

B. Models of Training and Development Process

The training and development process model is a representation of training and development process that allows for investigation of the properties of the training programs and, in some cases, prediction of future goal will be achieved. There are several types of training and development process models have been used in human resource development, such as system model, transitional model, instructional system development model and training and HRD model (Rojewski, 1989; Vitale & Romance, 2004; Wirner and DeSimone, 2009; Abdullah, 2010).

Among these five models, the training and HRD model is deemed most appropriate since it provides learning and development opportunities, makes training interventions and plans training programs. It is essentially a strategic process, which is concerned with meeting both business and individual needs. The HRD intervention is designed and conducted using a four-phase approach: needs assessment, design, implementation and evaluation (Wirner & DeSimone, 2009).

Nowadays, new technologies have spread in the largest geographical spaces resulting in more informed customers. The business environment has

become more complex and the market place has changed from local to global. Continuous pressure is applied on the management to improve competitiveness by lowering operating cost and improving logistic. That means today's life needs high quality of human resources, whereby this situation has forced the company's HRD to incorporate TQM concept in order to improve its products and services as suggested by Padhi (2003).

IV   TQM AND DSS

Feigenbaum (1991) defined TQM as an effective system for integrating the quality development, quality maintenance, and quality improvement efforts of various groups in a firm so as to enable marketing engineering, production, and servicing at the most economical levels which allow for full customer satisfaction.

The key to quality management is maintaining a close relationship with the customer in order to fully determine the customer's needs, as well as to receive feedback on the extent to which those needs are being met. The customer should be closely involved in the product design and development process, with input at every stage; so that there are fewer likelihoods of quality problems once full production begins as agreed by Flynn (1994).

Meanwhile, a DSS is a computerized information system that supports business and organizational decision-making activities, which can be utilized to benefit the implementation of TQM as well as Web-based concepts. It can be designed as an interactive software-based system that analyzes business data and presents it so that users can make business decisions more easily. It has also evolved to be a management information system (MIS), which provides the ability to query a database for specific data, demands reports for ad-hoc information requests, and schedules reports for well-defined information needs. Hence, the DSS is a potential tool to achieve the contemporary human resource development's needs.

V   THE LOCAL HUMAN RESOURCE DEVELOPMENT MODEL

The concepts of TQM, DSS and Web-based training as previously discussed are incorporated in a local human resource development (LHRD) environment, where its benefits are as expressed earlier. The case

problem of a human resource consulting company located in the vicinity of Kuala Lumpur was considered for the implementation of the LHRD model that specifically emphasized the basic TQM concept and practice.

This LHRD model includes four phases, which are training needs and analysis phase, design phase, implementation phase and evaluation phase. The LHRD evaluation phase involves the assessment of ways of the training activity. There are four steps of evaluation phase which are selection of evaluation criteria, determination of evaluation design, conducting the evaluation of training program and interpretation of results. The proposed model was adapted from Wirner and DeSimone (2009) as exhibited in Figure 1.

Subsequently, we conducted analyses and designed the Web-based DSS prototype by using Use case diagram, Activity diagram and Class diagram. The implementation of the Web-based DSS has been performed using PHP, MYSQL and Dreamweaver web design and developer package.
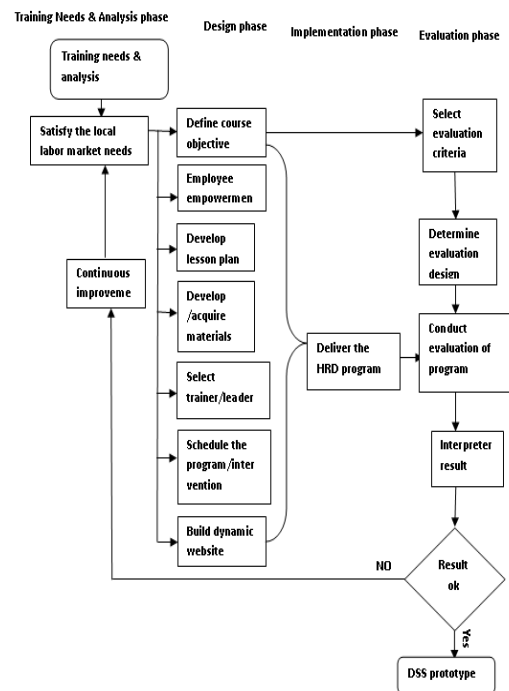

Figure 1. The Incorporative LHRD Model

VI RESULTS

The end result of the LHRD model is the improved DSS prototype, which strategically assists the company in decision making related to training and development. The DSS offers a search engine technique to allow the unemployed fresh graduate to enter his/her own search criteria (e.g., location of the local market he/she wants to work in, major, course session and budget) to obtain suitable training courses.

The functionality of the proposed DSS has been face-validated by the management team of the consulting company. In fact, during the development duration of the DSS, the team has given various useful inputs for the purpose of usability and improvement of the whole DSS.

VII CONCLUSIONS AND FUTURE WORK

The LHRD model for strategic training and development process was successfully developed based on previous training and HRD process model, basic principle of TQM, Web-based training elements and DSS components. As a result of this study, training course information demanded by specific local labor markets or specific training course information based on customers' or manager's criteria using search engine interface are available to assist them to make the right decision, in term of choosing and conducting the specific training course.

The implementation of the improved DSS for the incorporated LHRD model provides benefits such as increasing the employee's productivity thus, improving job satisfaction. Some work which can be done in future is such as to connect the DSS prototype with the company's data warehouse. The online analysis process (OLAP) can also be added to the function of DSS so as to give the manager capability of manipulating and analyzing data from multiple perspectives.

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