

Chapter 17

Re-Engineering Higher Education: The Seamless Knowledge Management System for the University

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ABSTRACT

The University System is confronted with a changed environment which necessitates re-engineering of higher education. The new framework is that of a new Pedagogic System that is to be embedded in the Knowledge Management System, in seamless manner, through pervasive computing. This paper argues that the University system is under great pressure from industry (society) to deliver such finished products (graduates) from its system so as to be directly absorbed into industry and that too at a mass scale and in a short period of time. The objective is to propose a complete change in the philosophy and methods and outline the re-engineering by which this can be done, in a seamless manner, through these strand of re-engineering: 1. e-learning and blended learning; 2. pervasive computing; 3. distance and open learning; as well as 4. an outcomes approach to pedagogy.

INTRODUCTION

The University System is confronted with a changed environment which necessitates re-engineering of higher education. The new framework is that of a new Pedagogic System that is embedded in the Knowledge Management System that is at the core of the re-engineering of higher education. The purpose of this paper is to understand the gap between the needs of society and the capability of

the University system. In the process we study and identify the shortcomings of the traditional learning system and discover the potential of the e-learning system to transform the learning experience of the student. The aim is to discover the tools, techniques and method of e-learning that can contribute to the new e-learning/blended learning experience that is capable of drawing out the best in a student and more importantly make her ready for being absorbed by industry. Most of all the objective is to propose a complete change in the philosophy and methods in the University System and outline the

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re-engineering by which this can be done. All this needs to be done in a pervasive environment and in a seamless manner so that the learner naturally takes to learning from the environment. The focus should be on making the learner independent and this has to be achieved through targeting the expected learning outcomes.

PLAN OF THE STUDY

The opening Section 1 gives the general background and debates in the area of Knowledge Management. In Section 2 we discuss the expectations of society from the University system. Section 3 lays out the concepts of the Knowledge Management System (KMS) in the University. Section 4 exposes the traditional pedagogic system in the University and discusses the strengths and weaknesses of the traditional learning system. Section 5 highlights the same of the e-learning/blended learning system and shows the various modes of learning. Section 6 develops the theme of re-engineering of higher education and the relevance of e-learning as a tool and more for transformation and re-engineering of the University System. In the process it highlights the need for formalizing the KMS and the new Pedagogic System. The next section is on 'Seamless KMS - externalizing and internalizing pedagogy'. Section 8 is about 'Future trends - Pervasive computing and re-engineering higher education'. The last Section summarizes the conclusions.

BACKGROUND

The motivation of this paper lies in trying to understand the new role of the University and evolving a strategy to re-engineer the University System. For abiding by this premise the necessary condition is to agree that there is a need for change. The debate on what the role of the University is rightfully belongs to the domain of

applied philosophy. But to propose re-engineering of such a fundamental and old institution (not a company) we really need to have a deep enough insight that can only arise from philosophy. The debate about the role of the University is as old as the institution itself¹.

Earlier the debate was about the fundamental role of the University. The question usually was about the choice between the University's role in furthering basic research versus its role in innovation meant for industry². Bhanu Murthy (1995) has argued about the nexus between 'skills, technology and basic science' and has shown how the University can play a role in providing 'manpower development' for industry. Florida (1999), on the other hand, argues that we would be undermining the value of research universities if we regard them simply as sources of technology.

In more recent times the whole context of the knowledge economy has come up. There is shift in the debate now and the focus is on the relationship between the University and the challenges that the knowledge economy poses to the University system. The new emphasis is clearly on re-engineering:

"Although the knowledge economy should be good news for higher education, universities now confront a variety of technical, legal, and cultural forces that threaten to relegate us to the periphery. Avoiding that fate will require us to redefine the university on a scale not seen since the emergence of the research university". (James Hilton, 2004, p.1).

It is still strongly believed that the University system is slow to adapt.

"University systems can be categorized on a spectrum of strikingly non-adaptive (succumbing to an entrenched bureaucracy that inhibits change) to the more flexible systems that can absorb and reconstitute potentially threatening ideas..." (Charles Henry, 2008, p.1).

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