

System Dynamics Simulation Model for Higher Education Strategic Planning

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Abstract. *Strategic planning is vital to higher education institution viability. Universities face challenges related to academic affairs, scientific knowledge development, programs quality, market tendencies among others, which make necessary to maintain a continuous learning cycle to check, assess, modify, redesign and restructure policies and procedures in order to meet national accreditation standards. A great portion of the existing research on university management problems does not have a quantitative foundation, primarily because such problems involve qualitative (human) elements that are difficult to quantify and model. A truly valuable approach to developing and directing strategy should therefore say something about earnings, not just explaining today's results but showing how to built performance through time. Many institutions do not meet their goals because the planning process uses tools that are particularly inadequate for present day environment of complexity and rapid change. The purpose of this paper is to present the conceptual framework for higher education strategic planning problem. This paper aim at matching the System Dynamics methodology with the Balanced Scorecard framework towards higher education strategic planning which is believed could significantly improve the planning process in a strategic learning perspective. The potential value of system dynamics for higher education strategic planning is in incorporating nonlinear and iterative view, hard and soft issues, strategic objectives, and changes in educational process. System dynamics approach offers rigorous, fact based explanations for performance through time, and confident insights for the future, easily communicated to colleagues and stakeholders.*

Keywords. System Dynamics, Higher Education, Strategic Planning

1.0 Introduction

In recent years, Malaysia has emerged as an unexpected contender in the world market for international students in higher education. Recognizing this sector as a potential new source of growth and export revenue, Malaysia aims to become a regional hub for higher education (Tham, 2010). In the new economy when changes are inevitable and competition is ever increasing, the existence of every organization depends on its ability to adjust quickly and keep pace with the change. Any organization that is not capable of responding to the transformation will probably not be able to develop in the long run. In the world today, higher education is a complex, demanding and competitive reality (Montez, 2004). Universities are driven to engage in a strategic planning process in order to survive and prosper in higher education provision.

A pioneer of strategic planning, Mintzberg (1978), defined planning as a formalized procedure to produce an articulate result in the form of an integrated system of decisions, with emphasis on process before product. Strategic planning is a discipline effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it; as well as the process of developing and maintaining strategic fit between the organization and its changing marketing opportunities (Kotler & Murphy, 1981; Bryson, 1996; Pacios, 2004).

Strategic planning assumes that an organization must be proactively adaptable and flexible to a dynamic, changing environment. Further, Stueart and Moran (1993 cited in Pacios 2004) stated that 'strategic planning deliberately tries to concentrate resources in areas that may produce a substantial improvement in future capacity and performance.' They also considered strategic planning as 'a framework and a way of thinking' rather than 'a set of procedures'.

In a university setting, strategic planning is the process of defining goals, the critical success factors, and establishing procedures to reach these goals; thereby providing an institution with mechanisms to control its size,

