An Examination of Knowledge Asset Dynamics for Competitive Advantage in a Manufacturing R&D Department

Ming-Hong Tsai\textsuperscript{a}, Sheng-Tun Li\textsuperscript{b,}\textsuperscript{*}, Chinho Lin\textsuperscript{b}

\textsuperscript{a}Department of Information Management, Yung Ta Institute of Technology and Commerce, Pinton, Taiwan
\textsuperscript{b}Department of Industrial and Information Management, National Cheng Kung University, Taiwan

Received 24 February 2010; Received in revised form 30 November 2010; Accepted 14 March 2011

Abstract

The dynamics characteristic has been considered one of the crucial characteristics of the knowledge assets of a firm. However, many studies to date merely focus on stressing the existence of this characteristic, and very little attention has been given to why this characteristic exists or to find an appropriate way for describing it. The major obstruction, in our opinion, may be the lack of underlying perspectives. Clearly, describing knowledge asset dynamics should be based on some kinds of specific perspectives. Adopting different perspectives will lead to quite different descriptions. This article adopts two perspectives, durability and profitability, to describe knowledge asset dynamics. The profitability perspective refers to how knowledge assets impact the profits of a firm, and the durability perspective concerns how long can the profitability be sustained. The aim of this article is centered on developing a model in terms of durability and profitability to describe the dynamics of the knowledge assets of a firm. A model with three propositions to describe knowledge asset dynamics is proposed. In addition, a case study on the dynamics of major knowledge assets in the R&D department of a manufacturer was then conducted to verify the proposed propositions.

Keywords: Knowledge asset dynamics, durability, profitability, knowledge management

*Corresponding author. E-mail: sli@mail.ncku.edu.tw