



Multi-layered assessment of emerging internet based business for construction product information

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ABSTRACT

Since the Internet has become widely available for construction product information (CPI) acquisition, Internet search engines and Internet based CPI providers have rapidly replaced traditional methods such as product catalogs, product manufacturer's distributors, professional magazines, and word of mouth. This paper provides useful knowledge about this emerging Internet-based business of CPI for the stakeholders in the A/E/C industry. This paper investigates the business from three different perspectives; a) the effectiveness of current CPI providers' websites, b) business operation models of this new industry sector, and c) critical factors for the successful operation of the Internet based CPI business using multiple surveys in the U.S. and South Korea. Lessons learned from the multi-layered assessment in this study has been actively applied and incorporated into a new web-based construction production information system which is currently developed through government support in South Korea. This study shows that reliable assessments of existing and rapidly growing CPI businesses in developed countries such as the U.S. and England can provide effective guidelines and strategies for successfully implementing this emerging market into different environments of developing countries.

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1. Introduction

Information technology has changed the way people exchange information and documents. Information technology is defined as “the use of electronic machines and programs for the processing, storage, transfer and presentation of information” [1]. The purpose of information technology is to facilitate the exchange and management of information. These recent technologies have a great impact on how the architectural/engineering/construction (A/E/C) industry operates. They allow the A/E/C industry to easily access, store, monitor and/or exchange useful information (data) and make it available through the use of the Internet to all participants in the construction supply chain [2].

Construction products constitute a large proportion of the total cost of construction. Construction products include all materials and manufactured products used to build construction projects. Some examples include, but not limited to, structural beams, concrete products, bricks, windows, doors and lighting systems, etc. Depending on the project type, construction products account for almost 30–45% of the total construction cost [3]. Thus, an appropriate timing and accuracy of obtaining the information of the products is important to

complete a project on time and within budget. In recent years, the range of construction products has grown so substantially that users are facing difficulties in selecting products that fit their projects' needs. Information about various construction products is required at different stages during the life cycle of a project by many project participants including the owner, architects, specification writers, interior designers, cost estimators, contractors, specialty contractors, cost engineers, etc.

Traditionally, construction product information (CPI) has been obtained through product catalogs, product manufacturer's distributors, professional magazines, and word of mouth. However, since the Internet has become widely available for product information acquisition, Internet search engines and Internet based CPI providers have rapidly replaced the traditional methods. Specifically, the Internet based CPI providers offer strong benefits to both CPI users and construction product manufacturers (CPMs). These benefits include one-stop access to various product information, comparison of different products of the same function, quick updates on information about new and existing products and the availability of statistics about the visitors of each product information page. These Internet based CPI providers have created a promising niche market in the A/E/C industry, a niche through which the CPI providers typically generate revenue by collecting fees from CPMs. In return, the CPI providers upload and maintain the product information of the manufacturers [4].

This paper provides useful knowledge about the Internet-based business of CPI for the stakeholders in the A/E/C industry. In this study,

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