Capital markets valuation and accounting performance of Most Admired Knowledge Enterprise (MAKE) award winners

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ABSTRACT

Researchers have used the stock price reaction to firms' disclosures of investment in information technology to investigate the value of those investments. This paper extends that research to include knowledge management (KM). In particular, we test whether and how KM is valued by market participants by examining the stock market reaction and future performance of companies receiving the "Most Admired Knowledge Enterprise" (MAKE) award, which recognizes companies that excel at KM. MAKE awards are generated based on opinions gathered from experts using the Delphi method, a well-known group decision support tool. We find that MAKE winners: (1) experience positive abnormal returns around the award announcement, (2) report superior operating performance relative to their peers subsequent to the receipt of the award, (3) receive upward analyst forecast revisions following the award, (4) experience a positive upward stock price drift following the award, and (5) that the market has taken time to learn how to process and interpret information useful in valuing KM. Thus, our findings contribute to the literature by finding that market participants value KM and KM apparently positively influences accounting performance indicators. In addition, a unique feature of our study is that we investigate the market's response to information gathered using the Delphi method, an information source not previously investigated in stock price reaction literature.

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1. Introduction

While there is no single accepted definition for knowledge management (KM), a typical definition is processes and systems that allow the creation, storage, transfer and application of knowledge, typically to facilitate and support decision making (e.g., Alavi and Leidner [1]). KM activities commonly include the sharing of information and best practices within the firm, identifying internal experts, and facilitating the exchange of information among employees. Both academics Nicolas [30] and practitioners Quast [34] have argued that knowledge management positively impacts the quality of decision making. Thus, it is not surprising that expenditures on knowledge management grew from $400 million in 1994 to $34 billion in 2007, and were expected to exceed $150 billion in 2012 GIA [18]. However, skeptics label KM a potential management fad (e.g., [32,38,17]). Further, most analyses of impact of KM on decision making typically have focused on internal assessment of impact on decision making and are qualitative Nicolas [30].

As a result, we are interested in assessing value through an external and quantitative metric, the stock market. Previous researchers in information systems have used the stock market price reactions to determine the ultimate decision making value of information systems. For example Dos Santos et al. [15] explored the relationship between stock market prices and a firm's information technology investment announcements. Im et al. [22] used an expanded sample and integrated a number of control variables into the analysis, such as firm size, and found a relationship between stock market prices and firm announcements of information technology investments. Accordingly, the purpose of this paper is to determine if stock prices respond to information about firms that excel at knowledge management.

Rather than using firm-initiated information disclosures, we examine the effect of an alternative source of information. In particular, this study examines the stock market reaction to, and future performance of, companies receiving the "Most Admired Knowledge Enterprise" (MAKE) award. MAKE awards are generated based on using the Delphi method, a well-established group decision support tool (Gray [19]). MAKE awards are granted annually to acknowledge companies that excel in using KM to enhance organizational wealth APO [2]. The winners include public, non-public, and not-for-profit organizations. Examples of public companies winning a MAKE award include: Apple, Caterpillar, Google, Toyota, Siemens, and 3M. Examples of non-public and not-for-profit firms winning a MAKE award include: the BBC, the Hong Kong Police Department, the Korean Water Resources Agency, KPMG, and the U.S. Navy.

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We hypothesize that if the issuance of a Delphi-based MAKE award provides new information to market participants, and does not simply duplicate existing available information, stock prices will react positively to news of receiving a MAKE award. Thus, the MAKE award provides decision making information about the impact of KM using a key decision support tool, Delphi.

Our first test examines the abnormal stock returns of the winners during the five-day window surrounding the MAKE award announcement. Investigating changes in firm value during a short event window provides strong evidence on whether KM superiority is causally related to increased firm value. We perform our tests using all U.S. publicly traded MAKE winners from 2001 through 2008 with available data, consisting of 247 MAKE awards. Our event study test finds significant mean abnormal returns of 1.23%, consistent with the award providing new information to the market about the value of KM intangibles, and with the market not fully impounding the value of KM prior to the issuance of the MAKE award.

Our second set of tests compares the MAKE winners' future operating performance with their peers. We find that the MAKE winners outperform their peers during the year following the receipt of the award (after controlling for past performance), which corroborates our stock price tests and is consistent with KM improving shareholder value through superior future operating performance. Our third set of tests finds that analysts make upward revisions to their earnings-per-share forecasts following the MAKE award announcements, consistent with the awards conveying new information about future performance that was not previously impounded in analysts' forecasts. Our fourth set of tests finds that abnormal returns continue to be positive for the MAKE winners over the year following the announcement of the award. This upward post-announcement stock price drift is consistent with the award announcement not fully resolving all of the informational difficulties that investors have in trying to interpret the value implications of KM.

Finally, our last set of tests repeats our stock market reaction and future operating and stock price performance tests after partitioning our sample on whether the MAKE was awarded in the first half (2001–2004) or in the second half (2005–2008) of our sample period. We perform these tests because the MAKE award is relatively new, suggesting that market participants may be learning how to interpret the information communicated by the MAKE. We find that, while the MAKE winners' future operating performance is superior to that of their peers in both halves of our sample period, the positive short window reaction to the MAKE awards occurs only during the second half, and the upward post-announcement drift occurs only during the first half. This means that during the first half of our sample period market participants do not react immediately to the announcement of the MAKE award, but that stock prices drift upwards over this period as the winners exhibit superior operating performance. In contrast, during the second half of our sample period market participants react fully to the announcement of the MAKE award during the short window, with no future upward stock price drift. Taken together, these results are consistent with the MAKE identifying superior performing firms during the entire sample period, but with market participants still learning this during the first half of the sample period.

Our study makes three important contributions to the literature. One is that we are the first to find evidence that KM leads to higher stock prices. This is an important finding because KM intangibles have not been previously studied, and while management investments in KM have grown rapidly in recent years, the benefits from KM are controversial (e.g., Fotache [17]). Second, we find that those same firms with better knowledge management generate superior future accounting performance (e.g., return on assets) when compared to their peers, establishing a relationship between firm performance and KM. Finally, the MAKE process chooses the winning firms using the "Delphi" method. As a result, our final contribution is we show that information generated by the Delphi method results in a positive

stock market reaction, which suggests that the Delphi method provides a decision making tool that is useful as a means of creating information for markets.

The remainder of the study proceeds in the following manner. Section 2 discusses the sample selection of MAKE winners investigated in this paper. Section 3 presents our analysis and results, Section 4 presents sensitivity analysis, and Section 5 summarizes our conclusions.

2. The MAKE Awards: sample selection, data and information conveyed

MAKE awards are issued periodically by Teleos, an independent international research organization of knowledge management professionals, to recognize companies that are global leaders in transforming enterprise knowledge into wealth creating ideas, products and solutions. The MAKE winners are chosen by expert panels using the Delphi method, a technique used to obtain consensus decisions from groups of experts. Prior research indicates that the Delphi method results in group decisions that are superior to the decisions of the individual members (Dalkey [14]). The panels comprise leading KM experts, Fortune 500 executives and organizational learning experts, from a balanced mix of publicly held, privately held, and not-for-profit organizations (APO [2]; Chase [13]). There are no more than four panelists from any one organization and the panels range from 750 to 3000 members. The objective of the Delphi method is to aggregate the divergent beliefs of the individual experts and converge on a collective decision.

The Delphi selection process consists of three or four rounds of the experts anonymously sharing views among themselves, where the experts' identities are not revealed to one another. In the first round, each panelist nominates one or more organizations (public, non-public, or not-for-profit) based on KM-related criteria that indicate superior KM, along with information to support their nominations. In the second round, the first round choices and supporting explanations are anonymously shared among the panelists and another set of nominations is made. Firms that are short-listed by 10% or more of the panelists are included in the third round and the panelists are asked to formally score each of the third round finalists on a Likert scale from one to ten based on eight criteria related to KM: success in establishing an enterprise knowledge culture; top management support for managing knowledge; ability to develop and deliver knowledge-based goods/services; success in maximizing the value of the enterprise's intellectual capital; effectiveness in creating an environment of knowledge sharing; success in establishing a culture of continuous learning; and effectiveness of managing customer knowledge to increase loyalty/value; and ability to manage knowledge to generate organizational wealth. The scores are equally weighted across eight criteria, and the firms with the highest scores are selected as the winners. The criteria upon which the MAKE winners are chosen include the judges' assessment of management's ability to use KM to generate organizational wealth. This is important for the purpose of our study because we test whether superior KM indeed leads to improved shareholder value. If superior KM does not lead to improved firm performance, we are unlikely to find a positive reaction to the MAKE winner announcements. For the remainder of the paper we will focus on the outcome of the Delphi process in the form of the MAKE awards, rather than the process.

MAKE winners are announced through emails to the members of The KNOW Network, followed by the issuance of a public press release. The winners are announced by geographical region periodically throughout the year, with no pre-determined announcement dates.[1] Winners include

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[1] MAKE awards are issued by various geographic regions (e.g., North America, Asia, and Europe), as well as an overall global award. Thus, firms may win more than one MAKE award per year if they win an award in their geographic region and a global award.