Valuing Knowledge-Based Initiatives: What We Know and What We Don’t Know

Hind Benbya, GSCM-Montpellier Business School, France

ABSTRACT

The objective of this paper is to provide an overview of the current state of theory and practice on valuing Knowledge-Based Initiatives (KBI). Drawing on the literature concerning IT and business value, this paper summarizes what is known about valuing IT-based initiatives, discusses the specificity of KBI and outlines main challenges that continue to limit research in this area. This paper also examines how managers deal with these challenges and what metrics they use to assess knowledge value. These managerial insights are derived from interviews as well as empirical analysis of several Silicon Valley firms. This paper gives an emerging approach for valuing KBI and illustrates its implementation with a case study from IBM.

Keywords: Knowledge-Based Initiatives, Knowledge Management Systems, Metrics, Productivity, Value

INTRODUCTION

Over the past decade, researchers and managers have investigated methods for improving organizational performance by providing employees with better ways of accessing one another’s knowledge (Davenport, 2005). Such Knowledge-Based Initiatives (KBI) often result in the development and implementation of a range of supporting technologies referred to as Knowledge Management Systems (KMS). They are generally recognized as strategic enablers for value creation and organizational transformation. Nearly, all large organizations have invested in some kind of KBI to support at least one critical business process and many have more comprehensive programs. The underlying assumption behind these investments is to create value for knowledge workers and the organization overall.

This assumption though while largely held has been hard to empirically demonstrate for a variety of reasons. Determining value of KBI requires managers to choose performance measures that account for the intangible and complex nature of knowledge goods. Existing data and data sources often circumscribe this opportunity. Traditional objective measures of financial performance are not really adequate for valuing KBI (except when dealing with cost-avoidance issues). Subjective measures such as perceptions and storytelling provide a richer and broader perspective on value but remain controversial and open to bias.

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The tendency in the majority of companies studied is to rely on a few objective indicators, combine them with anecdotes and user stories to show how value has been created. Several organizations, however, have come up with concrete approaches combining measures (objective and subjective) at different levels of analysis over time to demonstrate the value created from KBI.

In the following sections of this paper we discuss the state of research and practice on valuing KBI. We first present our review of the literature on IT valuation and discuss the specificity of KBI (Section 2). We then report our findings with respect to valuing KBI in theory and practice (Section 3). Next, we discuss the necessity of combining measures at different levels of analysis over time and illustrate its application with IBM case study (Section 4).

2. THEORY AND LITERATURE

There are numerous conceptualizations of value in the literature. Contention over the definition and nature of this concept has been discussed and debated since Aristotle who first distinguished between ‘use value’ and ‘exchange value’ to address differences between things and their attributes (Aristotle 4th century B.C.). But the underlying discipline for this concept remains economics. Adam Smith (1776) brought the discussion of value and value creation into the development of economics and the study of market exchange. At this stage of the formation of the concept, value was defined as an ‘abstract object’, a general feature of commodities that are exchanged for one another. To arrive at an adequate concept of value it was necessary to discover the origin and source of this common property. And this was only revealed on the basis of further investigation, particularly of the category labour. Marx, like Ricardo, developed a “labor theory of value” where the point of analyzing value was the calculation of the amount of labor “embodied” in a commodity measured by socially necessary working time.

Today, business value subsumes goal attainment, relative scarcity (or effort) and economic worth. For value creation activities to occur, two important economic conditions are necessary (Lepak et al., 2007). First, the monetary amount exchanged must exceed the investor’s costs (money, time, effort, joy, and the like) of creating the value in question, at least for the single point in time when the exchange occurs. Second, the monetary amount that a user will exchange is a function of the perceived performance difference between the new value that is created (from the new focal task, product, or service) and the target user’s closest alternative (current task, product, or service).

In general, without these excesses, neither the user nor the creator of value would be willing to repeatedly engage in these activities over the long-term.

In the specific context of IT initiatives, value is often synonymous with ‘productivity’ and ‘performance’. Productivity refers to the definition of total factor productivity, an aggregate measure of performance used in economics. It typically measures total output, including quality, divided by total factor input, including price deflators. At the individual level, manual worker productivity has been studied for nearly a century since Taylor’s work on scientific management and is often indexed by the quantity of goods and services produced per hour of labor after accounting for input capital. But no equivalent approach exists for measuring knowledge work. Both inputs and outputs of knowledge workers are indirect and remain challenging to measure in the short run.

In the remainder of this paper, instead of productivity we use performance to refer to value creation from IT and KBI. Performance does not restrict value creation to economically derived gains but includes a broader diversity of effects such as cost reduction, flexibility, agility, improved quality, enhanced satisfaction, collaboration, creativity, and innovation among others.
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