A framework of intangible valuation areas (FIVA)
Aligning business strategy and intangible assets

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Abstract
Purpose – This study investigates the adequacy of existing intangible asset models and defines and codifies common principal valuation drivers of intangible assets for use in enterprise balanced scorecard valuation practices of information technology (IT) firms.

Design/methodology/approach – Existing intangible asset balance scorecard valuation models and value chain models are evaluated to extract their value components and align them with performance-based activities of the business enterprise to define a common taxonomy of value drivers of intangible assets. Chief executive officers (CEOs), chief finance officers (CFOs) and “other executives” of IT firms validate the taxonomy.

Findings – IT firms that use a standard and consistent taxonomy of intangible assets could increase its ability to identify and account for more intangible assets for measurement and valuation.

Research limitations/implications – This study is limited to the Washington Metropolitan Area, is a single sector study (IT firms), the target audience is CEOs and CFOs; and emphasis is on the Score Card (SC) type model as classified by Sveiby. Future studies could expand the geographic circumference, the scope to other industry sectors, and the target audience to other decision makers

Practical implications – The framework of intangible valuation areas (FIVA) allows a business to identify and link performance measurements/indicators to its intangible value drivers. It supports the capture and subsequent evaluation of leading and lagging indicators in the achievement of a knowledge management strategy.

Originality/value – FIVA provides a framework to have command of and access to effective utilization of business resources and knowledge, to develop, sustain and enhance its mission effectiveness and/or competitive advantage.

Keywords Intangible assets, Intellectual capital, Management strategy

Paper type Research paper

Introduction
Intangible assets, the strategic key to a business enterprise’s future, are invisible with respect to traditional bottom-line thinking and corporate practice (Rivette and Klein, 2000). Current accounting methods do not convey the relevant and timely information that is critical to the survival and success of today’s business enterprises (Lev, 2001). Prior to the knowledge era, businesses lived in a world of tangibles, which work well with current accounting practices; however, things are different in today’s world of intangibles. A major difference is the significance of intangible assets in the market valuation of the business enterprise and the methods used to account for the value contributed by them (Sullivan, 2000; Edvinsson and Malone, 1997; Reilly and Schweih, 1999; Sveiby, 1997). Business valuations are currently viewed via a double-entry accounting method that is based on tangible asset valuations. These
accounting methods do not recognize intangible assets, which prevents most businesses from knowing their true value (Brooking, 1996). There are numerous intangible asset models being developed to supplement traditional accounting methods (Shand, 1999; Sveiby, 2001; Bontis, 2000; Hurwitz et al., 2002). However, these valuations models service only one organization – usually the one that it was designed for or that designed it (Bontis, 2000). Current intangible asset models tend to focus on one or two classes of intangibles for specific firms (Hurwitz et al., 2002). Current intangible asset models are primarily anecdotal (Bontis, 2000; Shand, 1999) and they are based on individual organizations or researchers who have established intangible asset initiatives that are documented and developed from previous models without advancing or testing them (Bontis, 2000). There is a business need to view intangible assets within the context of the business enterprise and to value them on a common set of dimensions (Stewart, 2001). The accounting of intangible assets needs to be defined and standardized. The significance contributions of a defined and standard approach to intangible assets valuation are:

- The identification of a discrete set of common value drivers of intangible assets.
- The presentation of intangible asset management (IAM) within the context of the business/enterprise value chain.
- The establishment of a common taxonomy that contributes to the accountability of intangible assets of a business enterprise.
- The definition of an evolutionary path that serves as a base case by which a business can measure its IAM position and progress.
- The identification of leverage areas that provides a business with strategic focal points.

Knowledge-centric intangible asset valuation
The post-industrial economy or information age would be better described as the knowledge economy (Litan and Wallison, 2000). The term knowledge economy reflects the major component – knowledge – that is the key driver of value for the fastest growing companies in the information wave or knowledge economy (Litan and Wallison, 2000). Knowledge management (KM) drives the knowledge economy and “knowledge” within the business enterprise is used to affect the performance of a business enterprise positively (Sullivan, 1998). “Knowledge”, or the collective intelligence of people within a business enterprise, is believed to be the largest intangible asset in a business enterprise (Sullivan, 1998).

Although “knowledge” is identified as the largest intangible asset in an organization (Sullivan, 1998), it is not inclusive of all intangible assets within a business enterprise. The business enterprise must also capture the dynamics of an intelligent business enterprise in a changing competitive environment (Edvinsson and Malone, 1997). Emphasizing only new technologies and focusing only on information disregards the social periphery – context, background, history, common knowledge, and social resources (Brown and Duguid, 2000). The social periphery, the communities, organizations, and institutions are vital to how people live and work (Brown and Duguid, 2000). Intangibles include the people and the social periphery that surrounds them:

Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experience and
Intangible assets are aligned with organizational success and are a by-product of “organizational design” (Sullivan, 1998). IAM is the capture and conversion of “knowledge” to profit within the business enterprise (Sullivan, 2000; Edvinsson and Malone, 1997; Reilly and Schwehs, 1999; Sveiby, 1997). Subsequently, KM and IAM are compliments as KM is the leveraging of “knowledge” and IAM is the establishment of tools and indicators to manage “knowledge” and increase earnings within the business enterprise (Sullivan, 1998).

**Strategic alignment of intangible assets**

A business enterprise vision is one of its most important pieces of intangible assets. Vision is planned by strategy and executed by values that drive day-to-day decision making (Sullivan, 2000). The economic value of an intangible asset drives the decision to invest further, hold onto it, or dispose of it (Sullivan, 2000). An intangible economic value is the measure of the utility it brings to the business enterprise (Sullivan, 2000). Today’s businesses are unaware if they have people, resources or business processes in place to execute and succeed in their strategy (Bontis, 1998a, b).

Strategy is used to develop and sustain current and competitive advantages for a business (D’Aveni et al., 1995), and to build competitive advantages for the future (Hamel and Prahalad, 1994). Competitive advantage depends on the command of and access to effective utilization of its resources and knowledge (Porter, 1980; Barney, 2001; Hamel and Prahalad, 1994). This provides the business the capability of implementing cost and differentiation advantages (Porter, 1980; Barney, 2001) or both (Hamel and Prahalad, 1994). Strategy is the identification of the desired future state of the business, the specific objectives to be obtained, and the strategic moves necessary to realize that future (Boar, 1994, p. 2). Strategy includes all major strategic areas, such as markets, suppliers, human resources, competitive advantages, positioning, critical success factors, and value chains (Boar, 1994; Porter, 1980; Alter, 2002).

A paradigm shift is needed, such that a business enterprise is viewed to be a multi-minded, socio-cultural system, which includes employees who collaborate to serve themselves and their environment (Gharajedaghi, 1999). To establish this view, there needs to be a concept of something familiar and similar to represent the complex business enterprise (Gharajedaghi, 1999). The value chain provides a systematic way to divide a business enterprise into its discrete activities (Porter, 1985; Alter, 2002). The value chain is a concept that could be used to examine the groupings of business activities and to establish boundaries that align with drivers of value (Porter, 1985).

The value chain is a key component in the strategic planning framework (Boar, 1994). The alignment of the firm’s intangible assets with its vision and strategy is a powerful idea. Indeed, the idea of alignment underlies virtually all management theories, concepts, fads and fashions. The power of the concept of alignment is that companies can focus their resources and activities on a set of objectives for the purpose of achieving them faster or without unnecessary effort (Sullivan, 2000). The value chain of an enterprise is the critical path to delivery of its business products and services and provides the alignment of enterprise value drivers to its vision and its subsequent valuation components.
Value chain creation begins with a review of the business enterprise vision, strategy, and the roles for its intangible assets (Sullivan, 2000). The value chain supports the business in identifying all the ways its intangibles could or should bring value to the business (Sullivan, 2000). The value chain:

- Logic enables businesses to shift their resources to capture potential value (McNair and Vangermeersch, 1998).
- Provides a framework to view how a company can build and sustain a competitive advantage over its competitors that ensures long-term profitability and survival (Morecroft and Sternman, 2000).
- Is a “unique combination of activities that together create competitive value-added products or services for a company” (Koulopoulos, 1997; McNurlin and Sprague, 1998; Von Krogh et al., 1998).
- Consists of tasks and activities that are organized into workflow applications that eliminate waste – unnecessary and redundant tasks and automation of routine tasks (Koulopoulos, 1997; Alter, 2002).
- Components are interdependent and represent business components that are interdependent (Von Krogh et al., 1998).
- Is dynamic – it is re-created daily by its components and their relationships (Alter, 2002; Porter, 1980).

To increase the probability of adding value in the value creation process, a business enterprise needs to articulate the link between their strategy and what knowledge is needed to execute the strategy (Zack, 1999; Allee, 2000). The linkage between strategy, knowledge, and performance of a business is the strategic context of the business (Zack, 1999). Consequently, to define and manage intangible assets, it must be aligned with the strategy of the organization and understood what is to be done with them (Stewart, 1999). Currently, intangible assets are aligned with the business strategy (Sullivan, 1998; Stewart, 1999; Klein, 1998) and the value chain is aligned with the business strategy (Stewart, 1999; Sullivan, 2000; Boar, 1994; Porter, 1980). Incorporating intangible assets in the value chain of a business enterprise provides a first step to aligning intangible assets to value creation with its business strategy.

A major strategic challenge confronting the value creation process in a knowledge economy is the reconfiguring of businesses from a value chain structure to a more fluid value network model (Allee, 2000). The traditional value chain is an industrial age model that is gradually being superceded by the value network, a new enterprise model (Allee, 2000). The nature of value within the business enterprise has changed and new assets cannot be measured with old tools (Parker, 1996). Industry experts advise that the value chain model must be changed to reflect the new business enterprise, of which intangible assets is a major player (Parker, 1996; Bontis, 1998a, b). The network value chain (Allee, 2000) is a concept that could be used to expand the existing value chain concept to include intangible assets (Allee, 2000).

The framework of intangible valuation areas (FIVA)

FIVA proposes a framework for facilitating the systematic and repeatable identification of intangible assets. The FIVA methodology leverages the efforts of existing intangible asset models and existing value chain models. Included in the
A design approach to the FIVA methodology is the analysis of existing intangible asset balance scorecard valuation models and value chain models to discern their value components. The value components extracted from the models are aligned with performance-based activities of the business enterprise. The value components are synthesized to define a common taxonomy of value drivers of intangible assets (Table I). The value components were defined and validated by industry experts. The FIVA is constructed based on the analytic hierarchy process (AHP) model to facilitate a ranking of value components in relative order of importance based on defined strategic KM objectives. The AHP model represents decisions in a hierarchical form (Saaty, 1980). FIVA is a validated framework for organizing and studying the breadth of intangible assets that can be used to surface and organize intangible asset measurement and performance indicators.

The FIVA framework is designed to align the value drivers of intangible assets with KM objectives. The framework is designed to facilitate the ranking of the KM objectives and value drivers of intangible assets in relative order of importance (Figure 1).

The hierarchical structure of AHP provides a decision hierarchy to allow objectives, sub-objectives and alternatives to be compared on a pair wise basis with respect to the element in the next level of hierarchy using a ratio scale.

The design of FIVA uses a bottom up structuring that identifies the advantages and disadvantages of each value driver of intangible assets to identify the KM objectives (Figure 2). The results were four KM objectives (Table II).

The combination of the value drivers of intangibles (alternatives) and the KM objectives (criteria) are modeled as depicted in Figure 3. The FIVA model provides significant insight into the value components that contribute towards the achievement

<table>
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<tr>
<th>Value driver</th>
<th>Definition</th>
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<tbody>
<tr>
<td>1 Customer</td>
<td>The economic value that results from the associations (e.g. loyalty, satisfaction, longevity) an enterprise has built with consumers of its goods and services</td>
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<tr>
<td>2 Competitor</td>
<td>The economic value that results from the position (e.g. reputation, market share, name recognition, image) an enterprise has built in the business marketplace</td>
</tr>
<tr>
<td>3 Employee</td>
<td>The economic value that results from the collective capabilities (e.g. knowledge, skill, competence, know-how) of an enterprise’s employees</td>
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<tr>
<td>4 Information</td>
<td>The economic value that results from an enterprise’s ability to collect and disseminate its information and knowledge in the right form and content to the right people at the right time</td>
</tr>
<tr>
<td>5 Partner</td>
<td>The economic value that results from associations (financial, strategic, authority, power) an enterprise has established with external individuals and organizations (e.g. consultants, customers, suppliers, allies, competitors) in pursuit of advantageous outcomes</td>
</tr>
<tr>
<td>6 Process</td>
<td>The economic value that results from an enterprise’s ability (e.g. policies, procedures, methodologies, techniques) to leverage the ways in which the enterprise operates and creates value for its employees and customers</td>
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<tr>
<td>7 Product/service</td>
<td>The economic value that results from an enterprise’s ability to develop and deliver its offerings (i.e. products and services) that reflects an understanding of market and customers’ requirements, expectations and desires</td>
</tr>
<tr>
<td>8 Technology</td>
<td>The economic value that results from the hardware and software in which an enterprise has invested in to support its operations, management and future renewal</td>
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Source: Annie Green (2002)
of a specific KM objective. The design of the FIVA model supports a dynamic mix of value components based on the business environment.

FIVA is an initial step toward the development of a network and dynamic model to value and report intangible assets. FIVA leverages existing works to move the discipline of intangibles forward.

**Conclusion**
The FIVA represents a dynamic relationship between strategic objectives of KM and value drivers of intangible assets. FIVA provides a view of intangible assets within
the context of the business enterprise and supports their valuation based on a common set of business dimensions. FIVA provides a concept of something familiar and similar to represent the complex business enterprise. It provides a systematic way to divide a business enterprise into its discrete activities. FIVA is a concept that could be used to examine the groupings of business activities and to establish boundaries that alignment with drivers of value, both tangible and intangible. FIVA incorporates intangible assets in the value chain of a business enterprise, which provides a first step to aligning intangible assets to value creation with its business strategy.

Today’s businesses are unaware if they have people, resources or business processes in place to execute and succeed in their KM strategy (Bontis, 1998a, b). FIVA is a concept that allows a business to identify and link performance measurements/indicators to its intangible value drivers and subsequently capture measures to monitor and evaluate leading and lagging indicators in the achievement of its KM strategy. Understanding the value of its intangibles helps a business to develop,
sustain and enhance its mission effectiveness and/or competitive advantage. FIVA provides a methodology to have command of and access to effective utilization of business resources and knowledge, which supports the business’s capability to implement cost and differentiation advantages.

References


**Further reading**


