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Research Paper

ACCOUNTING FOR KNOWLEDGE ASSETS: A THEORETICAL CONSTRUCTS

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ABSTRACT

The emerging concept of knowledge asset is a relatively new notion, among economists and practitioners of management. There is no uniformity with regard to the real meaning and the role of this kind of resource in an organization. It therefore leads to formation of some discrepancies in perception and measurement of its effectiveness. The paper highlighted important issues relating to the development of theoretical framework on accounting for knowledge assets and different aspects of it. Knowledge assets, identified with human capital, human resources, intellectual property, intellectual assets, in the age of knowledge-based economy plays a crucial role almost in every organization. In view of achieving this objective issues like transition from industrial capitalism to a new economy, various concepts in the matter of theoretical approach analysis—recognition of knowledge assets, measurement of knowledge assets including various models, accounting and disclosure of knowledge assets etc. have been covered. Ultimately, a theoretical constructs of analysis of knowledge assets and need for accounting have been focused. However, it should be pointed out that in spite of undertaken attempts, still there is no a comprehensive indicator which would fully reflect the value of the most precious resource of a 21st century organization, which is knowledge asset.

KEY WORDS: Knowledge Assets, Structural Resources, Internally Generated Knowledge Assets, Research & Development Cost, Intangible Assets.

1. BACKDROP

In the last decade of the 20th century, almost unnoticed revolution in the corporate world took place—the transition from industrial capitalism, where business was based on tangible physical assets, to a new economy, where the production of goods and services and value creation in general depends and relies on invisible intangible assets.

The portion of a company's reported net assets compared with its market value has in many cases become so small today that the relevance of a balance sheet has become questionable. According to Peter F. Drucker, knowledge-worker productivity is the biggest of the 21st century management challenges. In the developed countries it is their first survival requirement.

This requires a new model for the business corporation and new management systems that are better adapted to these new knowledge drivers of corporate value that the traditional financial-based management, accounting,

control and reporting concepts. It requires an enterprise organization that is able to support the systematic transformation of individual knowledge and relations with business partners into knowledge assets, which can serve as the basis to generate additional revenues.

Only in this way will management be able to create, accumulate, maintain and leverage knowledge assets in order to create value-added for both shareholders and stakeholders in the more challenging and demanding new economy with its higher stakes. But this requires a totally new approach to management and accounting.

The major objective of an accounting system is to capture, store and prepare data in such a way that can be used to provide investors, other major stake-holders, and management with a true, fair and consistent view on the actual economic status of the enterprise. Traditionally this happens through the profit and loss statement and the balance sheet. The economic profit concept focuses



on optimizing just one type of resource, financial resources—which clearly only takes accounting and financial data into account—it is not adequate as a management instrument today. The economic profit of companies can clearly provide a first indication of their economic status. But today in many companies human aspect, process, and relational aspect has become the unique resource, rather than financial capital and often successful value creation is also dependent on other market-related factors such as the successful realization of network utilization effect. All these aspects mentioned above are basically knowledge embedded. All most all companies are leveraging these aspects for future economic benefits. So accounting for knowledge asset is the talk of day.

Hence, it is needed is a comprehensive measurement system that spans the entire value-creation activity of an enterprise and an underlying accounting system that is able to capture knowledge embedded in process and document information on a company's investments and on its value-creating activities that are relevant for evaluating its actual performance and its future value creation capabilities.

2. KEY CONCEPTS AND ISSUES

Knowledge assets are the collective sum of human centric assets, intellectual property assets, infrastructure assets, and the market assets. Human centered assets comprise the collective expertise, creative capabilities, leadership, entrepreneurial and managerial skills embodied by the employees of the organization. It may also include psychometric data and indicators on how individuals may perform in a given situation such as high stress. Lot depends on this in respect of getting competitive advantages in the market. Intellectual Property Assets include know-how, copyright, patent, design rates, trade & service marks, and related assets. Infrastructure Assets are those technologies, methodologies, and process which enables the organization to function e.g. methodologies for assessing risk, methods of managing a sales force, database of information on the market or customer etc. In other words, the physical infrastructure and virtual infrastructure of the organization are also considered as knowledge assets. Market Assets represents an organization's potential due to market related intangibles e.g. repeat business percentage, value associated with goodwill, market dominance owing to market strategy etc.

The Knowledge Asset is based on an interpretation as the sum of two organizational resources: the Stakeholder Resources and the Structural Resources. This distinction reflects the two main components of an enterprise, its actors that can be either internal or external to the organization, and its constituent parts i.e. the elements at the basis of the organizational processes. Knowledge assets are also known as intellectual capital and knowledge resources. You may find some of these used interchangeably in the remainder of the paper.

Intangible assets became a significant issue driving worth creation within the fashionable global economy. Instead of this, several contradictions exist within the presentation of knowledge based intangible assets in money statements, typically underneath representing internally generated knowledge based intangible assets, in other word, knowledge assets as compared to purchased intangible assets. These inconsistencies in accounting treatments build comparisons each within the current period similarly as future amounts pronounced and material.

In 21st century economy, there has been a substantial shift within the nature of assets used by major businesses to get revenue and supply returns to the investors. Significantly, a wide range of industries like pharmaceuticals, software & IT, and financial service providers, generate a good deal revenue from investments in assets which basically intangible in nature and knowledge embedded. This trend has been noticed by several accounting information analysis agencies and regulatory authorities. The resultant effect is change in the account standards for intangible assets over the last two decades.

The core objective of this study is to demonstrate the necessity of adopting new concepts for the enterprise organization and for the enterprise management system in the 21st century. It is necessary to mention here that in case of purchased or acquired intangibles methods of valuing and reporting methodology is almost clear in terms of the accounting standard declared by the concerned competent authorities internationally as well as in India. But lot to be done in respect of internally generated intangibles which are mostly knowledge assets in nature. A part of this kind of internally generated knowledge assets has been recognized by the current accounting standard with lot of considerations like research & development cost. But what about other internally generated knowledge assets which creates future economic benefits to the organization. Despite the relatively high value of knowledge, determining a precise figure for the value of knowledge has proven very difficult. One of the reasons that precise measures for the value of knowledge are in short supply is that knowledge, being an intangible, is often lumped in with other intangibles in valuation approaches. Another problem stems from not being able to distinguish between the effects of different knowledge assets. Keeping in mind this the present study has made an attempt to enumerate the thoughts and development of such unplanned internally generated knowledge asset management, measurement and reporting in recent years.

3. SCOPE AND RELEVANCE OF THE STUDY

The issue of measuring the value of knowledge remains one of the enduring challenges in Knowledge Management. Organizations need to get a grip on measuring what is perhaps their most valuable asset—knowledge. During the last few years several methods have emerged that specifically focus on the measurement of intangibles. It has been noticed that in almost all the major works done in this field used intangibles, intellectual capital, and knowledge asset interchangeably. In fact, what term used is not the major concern; the most significant concern is the perspective of using those terminologies. Whatever terminology used, the core meaning is knowledge, whether human, process or structure and relational aspects. At the end the knowledge embedded is the most important consideration.

Our current accounting practice is due for a major change. Accounting and corporate reporting has to reflect the economic reality of today's companies in a better way so that they can serve as reliable instruments to support decisions made by investors. Hence, enormous scope and relevance is there for extensive study in this field.

4. THEORETICAL APPROACH OF ANALYSIS

Let us set the stage by dreaming about our tomorrow. Tomorrow's society will be knowledge society.

Tomorrow's markets will be knowledge markets. Tomorrow's wars will be fought not by the conventional weapons, but they will be fought in the knowledge markets with the new thermonuclear weapons called information and knowledge.

Keeping in mind the above we are placing a theoretical construct of analysis of knowledge assets and need for accounting. We have been divided the analysis into three parts viz.

(1) Recognition of Knowledge Asset, (2) Measurement of Knowledge Assets and (3) Accounting and Disclosure of Knowledge Assets. They are explained one by one, in brief, that follow.

(1) Recognition of Knowledge Asset is the most desired thing in today's economy. Proper management of knowledge assets needs recognition. Basic skills are gaining importance and the new paradigm is skill-based competition. All most all the companies are technology based and they are asking as to what skills, capabilities and technologies should they build up, rather than asking a stereotype question, as to which markets should they enter, and with which products. We can see an enormous opportunity for India to become a global knowledge platform in the coming century, by partnering these companies in areas where we can cooperate, leveraging strategically those Indian niches, where we have a competitive advantage. Here lies the importance of recognizing the knowledge based assets. Skill and competencies is basically knowledge asset embedded in human aspect. The recognition of knowledge assets as the driver of productivity and economic growth will lead to a new focus on the role of information and knowledge professionals and the importance of technology and learning activities. Whatever the extent of technological development, everywhere there is at the backend human skill and competencies works. Technology can't be efficiently applicable without skill and competencies of human aspect. The structure and business processes are also important aspect for economic growth of the organization. But if we look into the matter deeply then it will be found that in fact everything is knowledge embedded. The structure and business processes are nothing but accumulation of knowledge and implementation on the basis of such knowledge. Another aspect is also important that is relationship. Relational aspect is nothing but assimilation of information regarding different stakeholders of the company. All these comprise the knowledge repository and which can be exploited for leveraging competitive advantage over the competitors. Hence, it is relevant to draw the conclusion that identification of knowledge resources within the organisation and beyond is the key to get success in business. Probably the term 'knowledge-based economy' stems from this recognition of the place of knowledge assets in the new economy.

After identifying knowledge based intangible assets, it must be determined if it is useful and appropriate to recognize the asset in financial statements. As mentioned previously, under current accounting standards most knowledge based intangible assets costs must be expensed except development, costs of computer software that can be capitalized. IAS 38 and Ind. AS 38 generally allow recognition of knowledge based intangible assets if

probable future economic benefits to the firm attributable to the asset exist and the cost of the asset can be measured reliably. However, only costs associated with the development phase are allowed to be capitalized for internally generated assets and are subject to several restricting requirements. In contrast, separately acquired intangible assets are always considered to satisfy the probability of future benefits requirement, and are valued at their purchase price. Additionally, it states that if acquired intangible assets are separable or arise from contractual or legal rights, sufficient information exists to reliably measure the fair value of the asset. This statement is inconsistent with the restrictive reliability requirements for internally generated knowledge based intangible assets. Though internally generated knowledge based intangibles or simply knowledge assets are the most important contributor for growth of the organization.

(2) Measurement of Knowledge Assets comes with the understanding that recognition of knowledge assets is inevitable in 21st century business operations. The toughest job in managing knowledge assets is measurement. The intangibility character of knowledge assets makes thing complicated for the purpose of measurement. In management, what we can recognize, we can manage is the buzz word. But even if reorganization ensured still something needs to be done for measurement. Several ideas contributed by scholars and institutional researchers across the globe putting light in this field which can create new horizon. To build up an understanding about the measurement of knowledge assets, we are referring here some important development took place across the globe.

One of the objectives of this article is to summarize what is currently known about assessing internally generated knowledge assets or intangible assets through trends and features of current intangibles measurement models proposed by scholars, organizations, institutes over last 3 decades. The most of the measurement models seems to fall under at least four categories of measurement approaches that are briefly discussed below.

I. Direct Intellectual Capital method (DIC)

Estimate the value of intangible assets by identifying its various components. Once these components are identified, they can be directly evaluated, either individually or as an aggregated coefficient. Using such method, Technology Broker Model by Annie Brooking (1996) and The Citation-Weighted Patents Model by Dow Chemical placed findings and reports for measuring intangibles. Which in due time followed by several researchers.

II. Market Capitalization Method (MCM)

Calculate the difference between a company's market capitalization and its stockholders' equity as the value of its intellectual capital or intangible assets or knowledge assets. Under this method, the most important contributor is Nobel Prize winning economist James Tobin. It is known as Tobin's q. Another approach may be mentioned here that is market-to-book ratio.

III. Return on Assets method (ROA)

Average pre-tax earnings of a company for a period of time are divided by the average tangible assets of the

company. The result is a company ROA that is then compared with its industry average. The difference is multiplied by the company's average tangible assets to calculate average annual earnings from the Intangibles. Dividing the above-average earnings by the company's average cost of capital or an interest rate, one can derive an estimate of the value of its intangible assets or intellectual capital. The Economic Value Added (EVA) method and Calculated Intangible Value (CIV) method are the most predominant methods which fall under this category

IV. Scorecard Method (SC)

The various components of intangible assets or intellectual capital are identified and indicators and indices are generated and reported in scorecards or as graphs. SC methods are similar to DIS methods, except that no estimate is made of the \$-value of the Intangible assets. A composite index may or may not be produced. Following this method, major initiatives has been taken. The most talked about report is Skandia Navigator by Leif Edvinsson and Malone (1997). Another two important contribution in this field which are Intangible Assets Monitor by K. E. Sveiby (1997) and Balance Scorecard by Robert S. Kaplan and David P. Norton (1992). Those initiatives are revolutionaries for understanding about intellectual or knowledge assets. Lot of research works initiated thereafter across the globe based on these reports.

(3) Accounting and Disclosure of Knowledge

Assets should be consistent with the recognition and disclosure principles as laid down in the respective accounting standards. Out of general understanding, when anyone wants to know about an organization the most important consideration is how well the business is doing, they tend to look for information on its assets. Assets are usually understood as those things which can earn future economic benefits. When it comes to the consideration of accounting for and disclosure of intellectual or knowledge assets lot inconsistencies arises. Here, in this article we are mentioning something about accounting and disclosure practice of intangibles in India.

There is a vast difference in the disclosure mechanisms and methodology followed by the Indian corporations. It has been noticed that some firms have been considering intangibles as an inseparable part of their total assets and disclosed it in their annual reports using the standard disclosure models. And, others publish those reports as a supplement to their annual reports, and some others

give the details of growth in their intangibles over the previous period in a separate section in their annual report. There is no doubt that in India, the growing awareness and attempts made by some leading software & IT and pharmaceutical companies who are disclosing in their annual reports. But the question still remains about other knowledge based intangibles to be disclosed for more relevant economic status of the organization.

5. CONCLUSION

It is evident that steps have been taken to assuage the problems of the valuation of knowledge assets or intellectual assets. But much needs to be done. As mentioned earlier, the worst problems associated with the value of knowledge based intangible assets will be overcome when knowledge management is more deep-seated in the minds of managers and other business constituents. This will happen as the field of knowledge management matures and becomes a more solid strategy. When managers are able to confidently pair a knowledge asset with a product or service, valuation will follow a lot easier. This is already beginning to happen, but many of the projects attempting this have failed due to difficulty of use. Organizations should identify and map the knowledge value chain. This can be achieved by following the main processes in an organization to develop an inventory of the more important knowledge assets. This allows the identification of the stages at which key knowledge assets are generated or utilized. This permits costs to be assigned to the knowledge assets identified in the chain and value added to be tracked as knowledge assets are used in the associated processes.

REFERENCES

1. Leif Edvinsson and Michael S. Malone, (1999), *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower*, Harper Business.
2. N. Bontis, (1996), *There's a price on your head: managing intellectual capital strategically*, Business Quarterly, Summer.
3. P. F. Drucker, (1991), *The New Productivity Challenges*, Harvard Business Review.
4. Rennie, Morina, (1999), *Accounting for Knowledge Assets: Do We Need a New Financial Statement?*, International Journal of Technology Management.
5. T. H. Davenport and J. E. Short, (1990), *The New Industrial Engineering: Information Technology and Business Process Redesign*, Sloan Management Review, 31, Summer.
6. Thomas A. Stewart, (2002), *The wealth of knowledge: intellectual capital and the twenty-first century organization*, Currency Doubleday.