

ACCOUNTING FOR INTANGIBLE ASSET (IA) – A STUDY WITH SPECIAL REFERENCE TO HUMAN CAPITAL

* Dr. G. Ganesan

** Dr. A Mohamed Jaffar

1. Introduction

Accounting for intangibles has gained prominence in the past few decades due to changes in the way the business world operates. The technological revolution and in particular, the information age, has brought intangible resources to the fore of the business environment. According to the Financial Accounting Standard Board (FASB), an internally generated IA is proposed to be defined as a past event that has a measurable effect and that presents a future benefit. The FASB Special Report states that there is no a need for different rules of recognition for internally and externally generated IA. The FASB clarifies that internally generated IA is simply an Asset without a physical presence, nor does have to it be an external acquisition.

2. Issues

The principal issues involved relate to the nature and recognition of intangible assets, determining their costs, and assessing the amortization and impairment losses that need to be recognized. An item may be recognized as an intangible asset when it meets the definition of an intangible asset and meets these recognition criteria namely, it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and the cost of the asset can be measured reliably.

Accordingly, there are two questions regarding the accounting for IA:

- Should the Generally Accepted Accounting Principles recognize as financially relevant and accurate events that arise from IA?
- How should GAAP account, process and present these IA related events?

* Dean, School of Commerce, Bharathiar University, Coimbatore-641 046.

** Reader, Department of Commerce, HKRH College, Uthamapalayam

The paper intends to explore the current range of thinking relative to IA and how such resources should be valued, recognized and presented in the financial reporting of companies. The method of this paper consists of discussing the three criteria which are used to assess the alternatives to accounting IA namely, valuation, recognition and presentation. Each of these criteria is measured on a scale from 0 to 100 (alternatively, from 0.0 to 1.0) to show the extent of the departure of the alternative from the currently accepted method, usually the Generally Accepted Accounting Principles. Although the IA such as Human Capital or Patents exist in GAAP, they are often either unaccounted for or simply replaced by a generic Goodwill entry on the books.

3. Intellectual Capital (IC): A business entity uses three types of capital: physical, financial and Intellectual capital. IC is defined as an intangible asset that is not financial or physical and that has been formalized, captured and leveraged to produce a higher-valued asset. The raw material, captured and formalized in the process of capitalization of IC, is knowledge. Knowledge resides within an individual, a group of individuals or entity-wide. Knowledge that is structured in a formal manner is just data. When it is purposeful and useful, data is considered information. Information made use of is knowledge which can become an IC.

In the discussion of IC, several disaggregation of IC exist. For the purpose of this discussion, the following categorization would suffice as all inclusive. This paper does not intend to be exhaustive in its definitions. It can be shown that other examples of IC can be found without diluting the effect of the issues at hand. The classification proposed in this paper uses the following examples of IC namely, Human Capital, Intellectual Capital and Structural Capital.

Human Capital (HC) is arguably the most elusive from accounting for in financial or quantitative terms. Some argue that HC is the most active value driver in the business world today. Intellectual Capital has been at times presented under different names, too: Patents and brand names.

For GAAP purposes, three tests are applied to allow recognition of an event as an Asset:

1. The event is a past-event,
2. It is measurable and
3. It contains probable future benefit.

4. Accounting Treatment of Intangible Assets

Treatment by an accounting method is based on Measurement, Recognition and Reporting dimensions. In order to present these dimensions, this paper would attempt to survey the range of possibilities and plot them on three dimensional coordinate axes of possibilities: 0 being the most conservative point and 100 being the most daring in terms of relevance and accuracy. Thus, the treatment of IA can create a multi-dimensional view of the accounting classification, reporting and even auditing. Imagine a three dimensional cube with an X, Y and Z axes. On the X axis spreads are the ideas about recognition of IA. On the Y axis we shall plot the various measurements that are proposed for IA. Finally on the Z axis will lay the proposed solutions for the presentation aspects of IA.

4.1. Measuring and Valuing Intangible Assets

Current analysis indicates that IA and, in general, non-financial events are measurable. The main conflict is deciding on which model to rely on, and moreover, which model to use as a standard measurement. The problem with measuring IA is that such measurements are too specific to an industry and perhaps to a particular entity. Research yields plenty of data showing how measurements can be conjured up to measure certain non-financial, intangible events. However, the FASB Special Report states that making such proprietary measurements useful for general purpose accounting and financial reporting is not likely. The problem with value models or future-inflow metrics is that they are estimates.

Seemingly, past-based and future based measuring cannot be consistent. It may be possible however to reconcile the projective nature of valuing IA and the required verification by historic cost in GAAP by creating an appraisal mechanism. Arguably, appraisals can be done by means of three approaches say, cost, comparable market or income.

4.2. Approaches used in Appraisals

4.2.1 The **income approach**: It is most fitting to the accounting use in terms of IA. Present Value analysis is available and established within GAAP as a model. Its application in an IA valuation depends on the class of IA.

4.2.2 **Proprietary Value Models**: Although research abounds with successful examples of special valuation model, the test of consistency is a challenge to these models:

- Consistency of measurement over time;
- Consistency between business units ; And
- Consistency with *GAAP*: although these measurements are all non-GAAP compliant.

These models often use non-financial reporting assumptions that put them closer to cost accounting than to financial accounting. IA can be attributed and recognized by measuring normalized operating income and subtracting the portion of income attributable to other classes of assets. This is a generalized value model that is based on fewer assumptions. It, too, can be located at $Y=100$.

5. Discussion relating to examining the range of measurements

On the axis of measurement, some possible points can be plotted: first, measuring cost is the GAAP derived method ($Y=0$). For example, historic cost of training, benefits and other outlays of resources can be aggregated to measuring the intangible value of Human Capital, as an asset. The historic cost measurement will be on the 0 point of the Y axis. In contrast, at the maximum point on the Y axis ($Y=100$). Appraisals are often hailed as the magic bullet for such metric setting and some might set that to be the magic $Y=50$ on the Y axis. Thus, appraising an IA receives a mark of 90 on the Y axis.

5.1. Recognition of Intangible Assets

Proper classification, processing and reporting structures designed to deter such improper reporting can be effective. Therefore, the recognition of expenses is inaccurate, and the capitalization of these outlays is required. In this paper, the X axis will become the

range of possible recognition treatments of IA. In general, several points of view are identifiable on this axis.

5.1.1. Recognizing only Marketable IA: This method allows for some latitude in recognizing certain IA, for example, patents, copyrights, and contractual leverage. Using this method excludes most internally generated IA because their effect is not legally binding. Recognizing IA based on their enforceability and to some degree, marketability gets placed at $X=50$.

5.1.2. Recognizing All Events: Some knowledge based essays argue that all events in a business entity are one of IA. As such, all otherwise not measured events can be considered intangible and once measured, recognized on the entity's books. Because it is the most relaxed method, recognizing all non-financial events in an index or model of fair value obtains $X=100$.

6. Valuation & Recognition

Valuation and Recognition of IA has yielded a two dimensional plain on which different methods are available. At the most conservative level, GAAP driven, is the point ($X=0, Y=0$) which asserts that measuring asset must be according to the past-event principle (historic cost) and that with the exception of Goodwill, no internally or externally generated IA are accounted for. Departing from this basis, on the valuation scale (the Y axis) are proposed method of measuring the value of IA (future cash flow, appraisal or real-option models) make an interesting combination. For example, assume the point ($X=0, Y=100$) on the X,Y plain is proposed and accepted. This means that only historic cost ($X=0$) is realized and yet, that future cash flow ($Y=100$) is used for measuring the value of these asset. Thus, any hybrid of such a nature (cell D in the Table I) of conventional measurement and unconventional recognition poses the challenge to the third axis in this paper.

Presentation of IA. Table - 1

	Recognition: X=0	X=50	X=100
Valuation Y=0	(A) IA not recognized* Historic Cost	(B) Select IA recognized, based on market, contractual. Historic Cost	(C) All events recognized, if not classified elsewhere they are IA events Historic Cost
Y=90	(G) IA not recognized Appraisal (cost, market, income approaches)	(H) Select IA recognized, based on market, contractual. Appraisal (cost, market, income approaches)	(I) All events recognized, if not classified elsewhere they are IA events Appraisal (cost, market, income approaches)
Y=100	(J) IA not recognized Proprietary Value Model	(K) Select IA recognized, based on market, contractual. Proprietary Value Model	(L) All events recognized, if no classified elsewhere they are IA events Proprietary Value Model

*Except Goodwill

6.1. Recognition and Disclosure

Valuation and Recognition can be plotted on a two dimensional plain. Overall, the X, Y and Z axis allow us to examine the problem at hand on a three-dimensional basis. The

intersection point of the Recognition alternatives in relation to the Disclosure alternatives follows:

Table - 2

	Recognition		
	X=0	X=50	X=100
Disclosure Z=0	(M) IA not recognized No GAAP required Disclosure, only discretionary MD&A	(N) Select IA recognized, based on market, contractual. No GAAP required Disclosure, only discretionary MD&A.	(O) All events recognized, if not classified elsewhere they are IA events No GAAP required Disclosure, only discretionary MD&A
Z=50	(P) IA not recognized Tired (Padded) Financial Report	(Q) Select IA recognized, based on market, contractual. Tired (Padded) Financial Report.	(R) All events recognized, if not classified elsewhere they are IA events Tired (Padded) Financial Report
Z=100	(S) IA not recognized Full financial incorporation of IA - undefined	(T) Select IA recognized, based on market, contractual. Full financial incorporation of IA.	(U) All events recognized, if not classified elsewhere they are IA events Full financial incorporation of IA

Table 2: Intersection of measurement and reporting approaches for IA. Cells M-U describe the X, Z plain (the letter are assigned sequentially).

7. The problem of Intangible Assets revisited

Conceptually, the accounting for IA is at the heart of the framework that links the Balance Sheet and the Income Statement: at its core the balance sheet is a statement of resources while the income statement is an expression of the utilization of these resources. Coupled, the traditional balance sheet and income statement includes only tangible resources. However, the traditional Income Statement includes activities that stem from using all available resources.

7.1 Classes of Intangible Assets

IA can be divided to two classes: resources that are within the control of the organization and resources that are only partially within the control of the organization. To maintain a mathematic model, we can introduce OC, Organizational Control, such that:

For IA such as Customer Base and Customer Relations Index, Vendors' Credit and Trust, Internal Production or Service Procedures, $OC = 1.0$, i.e. there is complete control over the resource, which is an intangible asset;

For IA such as Human Skill Level, Employee Satisfaction and public Relation Index Public Image, $OC < 1.0$.

The following is an imaginary - yet possible - comparison of two companies that might have different levels of Organizational Control over their IA, classified according to their business type. Table 3 is an illustration of OC levels:

	"Tobacco and food conglomerate	"Northeastern Ice-cream Manufacturer
Organization Control Level = 1.0		
Customer Base	1.0	1.0
Vendor's Credit	1.0	1.0
Internal Production Procedures	1.0	1.0

Organization Control Level < 1.0		
Human Skill	0.8	0.6
Employee Satisfaction	0.8	0.8
Public Image	0.4	0.9

Table 3: The (determined) values of Organizational Control (OC) over Resources.

It is assumed that these values derive from internal yet consistent studies and valuation, one can see that for the first three the OC value remain 1.0. This simply indicates an existence of an IA (completely within the company's control). The second group of so called assets is not completely within the control of their respective entity. One can say, perhaps, that the ice cream factory workers need less training than the tobacco production plant workers but that they are equally satisfied. Further it is clear that the tobacco conglomerate has less leverage in their public image (OC = 0.4) than the ice-cream maker (OC=0.9). The important point about all these resources is that the entities are not controlling the value drivers.

The three sets of resource group can be summarized as follows: The most inner core of assets that are GAAP driven: Tangible Assets that are at the core of the Income Statement and Balance Sheet pair. These assets produce tangible activities such as cash (inflow) or products (output). The intermediate outer tier consists of resources that are fully under the control of the entity, thus they can be classified as Assets, albeit intangible: they too produce activity such as competitive edge and customer loyalty.

Finally, the outer tier is only marginally useful because of the lack of full control the reporting entity might have over factors such as public image. It will be interesting to see if the two outer tiers of resources will play out in future disclosure: the FASB is now encouraging companies to disclose elements of intangible assets in their financial reports. However, from a review of the two tiers it seems that disclosing resources in the intermediate tier can add to the reporting utilization of the entity's financial report, perhaps

if it is presented in a two tier Balance Sheet. Resources that are not within the complete control of the entity will most likely not be disclosed.

8. Conclusion

Measurement of IA is the area where the disparity is widest. The alternatives to historic cost are valuations based on proprietary models or based on certified models. Therefore, an allocation approach is suitable: computing the ratio of growth in equity to fixed, financial and intangible asset allows measurement of IA at least as a class of resources on the balance sheet statement. Further discussion and research is required in order to properly weigh the specific intangible assets within this class, and thus compute the financial value attributed to it.

The accounting profession should treat this type of financial event within its GAAP guidelines and not attempt to preclude it from recognition. Plainly, accounting for IA by including it in the financial statement is not helpful to the external user. Such recognition will simply inflate the value of corporations and will cause comparisons to be more difficult and the financial statement viewed more skeptically.

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