

## ACCOUNTING FOR THE RECOGNITION OF INFORMATION AS AN ASSET

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### Abstract

*Tangible assets as property, plant and equipment continue to be important factors in the production of both goods and services. However, their relative importance has decreased through time as the importance of intangible, knowledge-based assets has increased. This shift in importance has raised a number of accounting questions critical for recognizing the information as an asset in nowadays financial statements. Attempts to recognize "information" as an asset in the financial statements has lead to an increased awareness of why these invisible valuable recourses are not yet recognized. This paper aims to develop a model based on a three-circled set of criteria for the pre-measurement phase of an asset recognition process. This model should be applicable to all types of assets but we mainly focus on information as an intangible based asset. The three-circled set of asset recognition criteria presented in this paper breaks free from the narrow definitional and rule based perspective of accounting epistemology to offer an alternative view based on the recognition of artefacts.*

*Key words: Information, intangibles, asset-recognition process, knowledge, Intellectual capital.*

### 1- INTRODUCTION

During the last three decades, the business environment has progressively moved into a knowledge-based, fast-changing and technology intensive economy in which investments in human resources, information technology, research and development, and advertising have become essential in order to maintain the firm's competitive position and ensure its future viability (Canibano et.al , 2000). Canibano et.al (2000) cited Goldfinger (1997) who suggests that the source of economic value and wealth is no longer the production of material goods but the creation and manipulation of intangible assets. In this case, businesses need to make investments in intangibles on which the future success of the company is essential. These investments are not reflected in the balance sheet due to the incompetence of accounting criteria for the recognition of assets. As a consequence, financial statements may become less informative on the firm's current financial position and future prospects as they may provide more reliable information on the expense of its relevance for estimates of the value of companies. (Canibano et.al ,2000, Egginton, 1990). Egginton (1990) argues that the accounting for intangibles becomes problematic and the most problematic part of asset recognition is to recognise something that is invisible such as intangibles.

The increasing importance of asset recognition has led to considerable debate within the accounting communities. Accounting for un-recognisable assets for financial reporting issues has remained a problematic issue as evidenced by a considerable wide of literature (Munter and Ratcliffe, 1980; Schuetze, 1993; Egginton, 1990; Napier and Power, 1992; Tollington, 1998; Booth, 2003; Walker, 2003; Walker and Jones, 2003; Erhard, 2004; Johnson, 2004b; Bullen and Cook, 2005; Gore and Zimmerman, 2007; Miller and Bahnson, 2007). It was not until recently with the announcement of a new joint project between the IASB/ FASB to revisit the Conceptual Framework (CF) for financial reporting with a view to complete, update, refine and converge into a common improved CF (Bullen and Cook, 2005). There are three existing aspects for the asset recognition process: first, should an

asset be identified to be recognised in the financial statements (meets the asset definition)? Second, should an asset meet the recognition criteria for the inclusion in the financial statements? Finally the use of a particular valuation method to measure the asset in question. In 2006, the IASB/ FASB issued the first working definition of an asset with a view to overcome the shortfalls in the existing definition. While until 2010, the asset recognition phase has not been announced yet while the debate for the measurement bases is still under consideration by the IASB/ FASB project. The apparent absence of a proper accounting for intangible recognition process has been the main motive for this research. In this paper two aspects in regarding information asset recognition will be considered. First, generating a theory that can deal with asset recognition criteria and the second aspect is to apply this generated theory on 'information' as a valuable resource that does not appear on the entity's balance sheet. Thus, we address the following two questions:

RQ 1- What are the relevant features for a pre-measurement phase for the accounting of asset recognition?

RQ 2- How should the information be recognised in the financial statements based on the generated pre-measurement phase theory?

The remaining of this paper is organised in three sections. In the next section, the debate around the overlap between data, knowledge, information and intellectual capital will be discussed. Section three will explain how a theory for asset recognition was generated from the empirical data. The final section is to use the generated theory to explain how information can be recognised as an asset in the financial statements.

## **2- DATA, KNOWLEDGE, INFORMATION AND INTELLECTUAL CAPITAL: DEFINITIONS**

During the last few decades and with the evolution of the knowledge based industries, data, knowledge, information and intellectual capital have been used interchangeably in research. Meadows (2001, p. 108; cited in Stenson, 2006) examines the nature of data by equating it with energy:

*".. the basic unit of data is the bit. To create a bit requires a certain amount of energy. We can therefore equate the energy in the universe to an equivalent number of bits. In essence, this means that we can think of the universe as being made up of data, just as correctly as we can think about it as being made up of mass or energy"*

Data is the building blocks of information:

*"Data form the basis for constructing information" (Meadows 2001, p.110; cited in Stenson,2006).*

Information is data that makes a difference and are relevant

*"[Information] could be defined as: data with attributes of relevance and purpose. Normally information is understood as a message, usually having the format of a document ..... Information is, all over, context-based." (Joia, 2000, p.69)*

Sveiby (1997) has noted that knowledge has an economic value that is increasing and the value is more visible in companies that lack traditional tangible values.

*"Knowledge is linked to the capacity for action; it is intuitive, therefore hard to define, as it is linked to the user's value and experience" (Joia, 2000, p.69)*

Edvinsson and Malone (1997, pp.16-17) has defined intellectual capital as follows:

*"Intellectual capital is the possession of knowledge, applied experience, organization technology, customer relationships and professional skills that provides a competitive edge in the market".*

Ariely (2003) has distinguished between information, knowledge and intellectual capital. Information is the raw material and knowledge is its final product. While if knowledge is part of human capital,

then managing knowledge is part of structural capital, so that successful knowledge management is in itself, part of the organization's intellectual capital. The intellectual capital is therefore the pursuit of effective use of knowledge as opposed to information.

In summary for the above definition, one can notice the following;

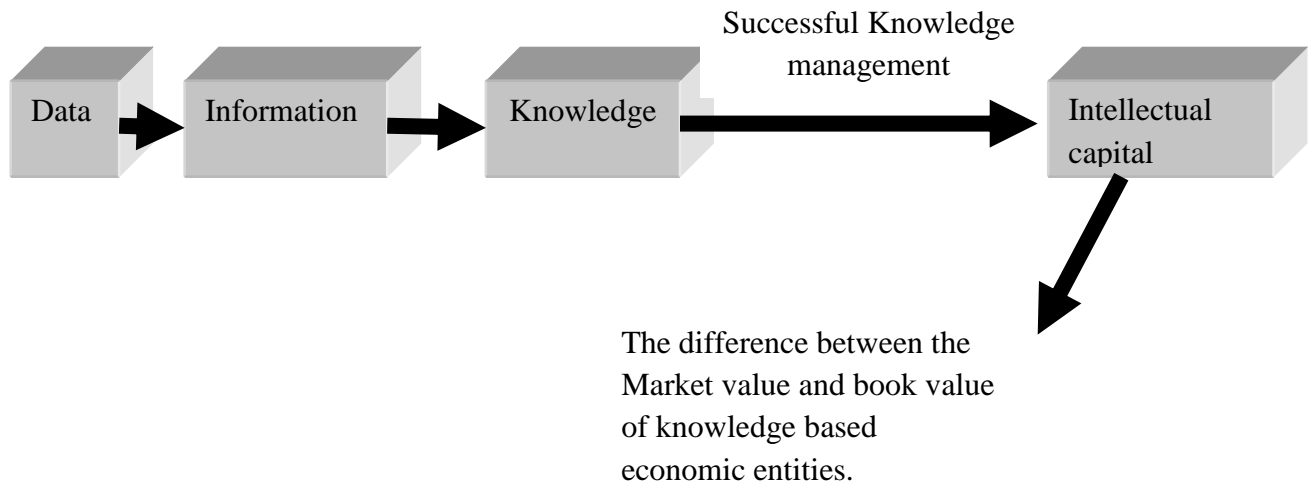


Figure 1: the difference between data, information, knowledge and intellectual capital.

The data collected in knowledge based economic entities is transferred into information. By the perfect utilization of the tangible assets with human brains of the human resources, the organizational performance and the outside relationships, all the factors lead to what is known as knowledge. Which in return creates the value inside the economic entity, and this created value asset cannot be purchased or sold as it must be internally created. This in turn will create the intellectual capital within the organization. This could be realized by the difference between the Market value and book value of knowledge based economic entities. Therefore, the motive for this paper is to understand how this information can be recognized in our financial statements as an indicator for future wealth of the organisation.

### 3- A GENERATED THEORY OF ASSET – BASED RECOGNITION PROCESS

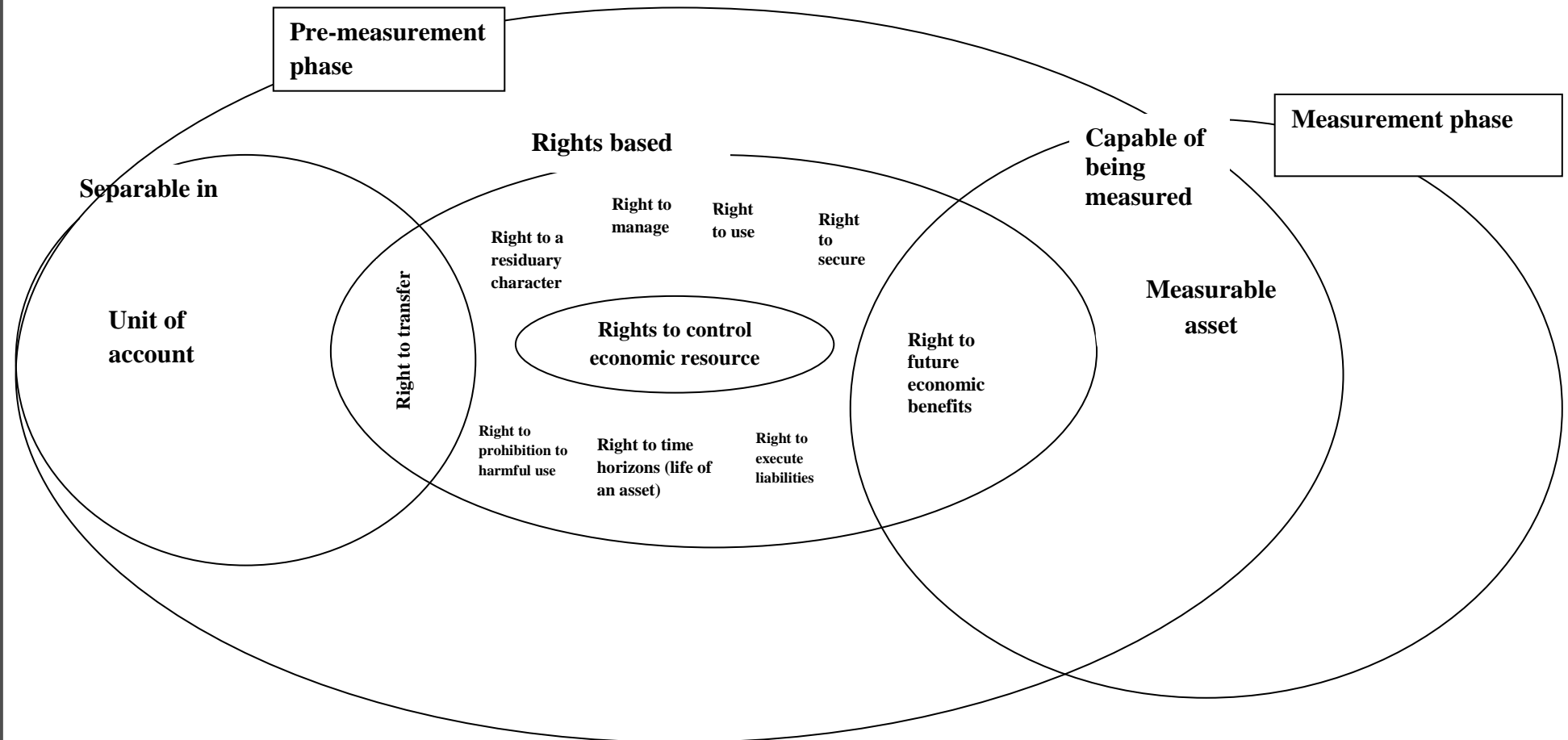
There are two phases for the asset recognition process: the pre-measurement phase (The proposed asset recognition criteria collapse aspects of the existing asset definition and recognition process into what is referred to in this paper as a 'pre - measurement' phase of a two phase asset recognition process. The second phase concerns asset 'measurement') and the measurement phase. The former deals with the asset definition and the asset recognition criteria while the latter deals with the valuation and choosing a particular measurement basis for measuring the asset.

Different data collection methods were adopted combining both qualitative and quantitative data. Qualitative data were collected through two sets of interviews. The first set was conducted with Canadian Accounting Standards Board members in May 2008 and International Accounting Standard Board members in June, 2008. The second set of interviews was conducted with more International Accounting Standard Board members, UK-Accounting Standard Board members and other experts within the area being studied. The concepts and categories raised from the two sets of interviews were then used to construct an on line questionnaire. The questionnaires were emailed to national standard setters in Canada, the USA, Australia, Germany and the United Kingdom. The responses for this questionnaire generated the quantitative data used in this research. Finally, a follow up with an interview with a UK ASB director was conducted to ascertain the theory saturation and to validate the reliability of the generated theory.

The generated theory demonstrates a three-circled set of criteria for the pre-measurement phase of an asset recognition process. This three-circled set of asset recognition criteria breaks free from the

narrow definitional and rule based perspective of accounting epistemology to offer an alternative view based on the recognition of artefacts.

**Figure 2: THE ASSET BASED RECOGNITION PROCESS**



Artefact basis

Asset social construction

Asset recognition process can be divided into two main phases; the pre-measurement phase (includes the traditionally known asset definition-led and asset recognition criteria based) followed by a measurement phase where the candidate asset is assigned a figure to then be recognised in the balance sheet.

The strength of this tripartite structure, is that, first, it is applicable to tangible and intangible assets alike and, second, it is not dependent on an asset definition, the accounting for asset based recognition should have two stages; a pre - measurement stage (as shown in the Figure 2), then the process of assigning a figure based on the criteria of choosing a suitable measurement basis (see the Figure 2).

### **‘Separable in nature’**

The first set of pre-measurement phase recognition criteria will confirm that assets recognised for accounting purposes should be ‘separable in nature’. The Companies Act 1985 Sch.4A, 9(2)) refers to the separable asset as being capable of being disposed of or discharged separately without disposing of a business of the undertaking. However, disposing of or discharging an intangible asset is clearly problematic without some evidence to that effect. Hence, there is a need for a surrogate artefact in respect of intangible assets, in particular. This view of separability though is recognition based. There is no mention of measurement here. However, one can see from the literature that there is the opposite notion of “measurement separability” based on the logic that if one can measure an asset then de-facto one has simultaneously recognised it (Napier and Power, 1992). **One first needs to recognise an asset before measuring it and not vice versa, otherwise, one cannot be assured what is being measured. The reverse argument is that if one can measure an asset, de - facto, one has simultaneously recognised it cannot be a compelling one for the reason given (underlined).**

There is a clear link between the separability and the unit of account issue, that is, where the business entity decides the level of aggregation to adopt for disclosure purposes. For example, is a machine separable from a production line and, even where it is separable, should the separable asset for disclosure purposes be the machine or the production line, particularly if the loss of the machine makes the production line obsolete? The IASB rightly confirms that, this is an asset recognition issue as well as an asset measurement related issue:

“The unit of account determines the level of detail/-aggregation at which assets are recorded. This can affect both initial recognition and measurement, subsequent measurement and derecognition as well as presentation in the financial statements” (IASB, 2006-c, p.2).

One has to say that the unit of account is an unresolved issue. In an interview conducted with an IASB member (1), as being representative of this conundrum:

*“I have been on both sides of the question as to whether they have to be separable or not. I don’t think the answer can be yes...Let’s assume that I’ve got four things and I use them as a unit. Maybe I could sell three of them separately, but I can’t sell the one. I don’t know whether it’s important? Maybe it’s just labelling. If I label this as four assets do I get a different answer? If I label it asset one, two, three and four? I don’t know whether this is all just a unit - of - account measurement issue, or whether it is definitional and recognition - based?”*

**What does emerge though from an asset recognition stance is that a separable unit - of - account is one that is capable of being transferred (see the above Figure 2).** Another IASB member (2) indicated:

*“...separability is important because there is a notion that when you have control over something you can transfer it”.*

Of course, one can have a separable bundle of assets and a separable individual asset, which are both capable of being transferred separately from the other assets of a business. Conversely, there are ‘assets’ like purchased goodwill which are inseparable from the other assets of a business. Also, there are immovable assets where only the rights to the asset are capable of being transferred. One is, in effect, dealing with a policy decision here. That said, the policy makers supported the idea of separability as a key recognition feature (although it is missing feature from the existing asset

definitions) However, once one accepts this policy led stance, numerous implications arise. For example, whether to bundle assets or not and, if not, the decision as to what constitutes an appropriate level of aggregation for the type of assets and the type of business. That is why I say it is an unresolved policy issue and one that is highlighted for further research. In this regard to the UK ASB director (underlining added), first, in further support for ‘capability to transfer’ as a core category, second, to show the unresolved problem of setting levels of aggregation associated with that capability:

*Well, this is one of the big issues with separability...but it's really discussed whether we mean something is in principle capable of being separately transferred, in which case the wheels from a bus are clearly separable assets and you could stick them on ebay and they'll have a scrap value if nothing else. Or do we mean it will be economically sensible to separate them? [Yes.] In which case it's quite likely that nobody in their right minds would ever sell them, so there are at least two very different senses...*

### **‘Right - based’**

The latest revision to the International Accounting Standards Board’s (IASB) definition of an asset is from:

*“A resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise” (IASB, 2001, CF 49, 53-59),*

to (working paper)...

*“An asset is a present economic resource to which an entity has a present right or other privileged access” (IASB, 2006-d, p.4),*

to (working paper)...

*“An asset of an entity is a present economic resource to which the entity presently has an enforceable right or other access that others do not have” (IASB, 2007, p.2).*

### **WHAT EXISTS VS. WHAT IS PROPOSED IN ‘ASSET’ DEFINITION**

What the Board retained from the old definition in the new definition?	Resource
What the Board omitted from the old definition in constructing the new definition?	Expected Past events (past time frame) Future economic benefits (future time frame) Control
What the Board added to the new definition?	Present (time frame) Enforceable right or other access

The epistemology here is definition-based and definitions are inherently limited. Consider what Gerboth (1987, p.2-3) has to say in that regard:

*“...the existence of definitions matters hardly at all in deciding most issues of real - world consequence. Their contribution is to add brevity to discourse. The attempt to make them convey essential knowledge is a two - thousand - year - old source of obscurantism. Other respected disciplines are not even concerned about the precision of their definitions.”*

Clearly, IASB are “concerned about the precision of their definitions” or they would not have considered the above revisions to the definition of an asset. However, there may be an argument here that Gerboth is correct and that **an alternative epistemology to one that is based on definitions**



could be one that is, instead, based on asset recognition criteria. We would argue that this alternative epistemology is more searching as to the nature of an asset because one can express that nature in terms of its component features which cannot be encapsulated in a single definition. So, the closest that the IASB comes in that regard is their reference to a “resource” in the above CF definition, but as Weetman (1989) rightly points out: all that happens is that the need to define a resource replaces the need to define an asset. The net effect is that **the definition approach is ineffectual in determining the asset status of expenditures in terms of their nature because that constituent nature is not specified other than in terms of what an asset does, that is, produce economic benefits**. I think Booth (2003, p311) got close to the constituent nature of an asset when he asked:

*“Are assets ‘rights’, from which an entity expects to derive future economic benefits, or are assets the future economic benefits per se?... A right is recognized as an asset if it is reported on, or incorporated in amounts reported on, the face of the financial statements of an entity.”*

The two key features of the latest asset definition (IASB, 2007) are “enforceable right or other access” and “a present economic resource”. There is a confirmation here between what the IASB is thinking and what emerged from the theory, except that in my case the rights are specified in the above figure. Booth (2003, p322) suggested that the asset definition should be characterised by:

*“(a) Rights; (b) Controlled by the entity; (c) In the conditions at the reporting date; from which (d) Identifiable future economic benefits are expected to flow to the entity”.*

In both cases, one can see the link between rights and either economic resource or economic benefit. But the point to be made here is that **what emerged from the analysis is that the accounting recognition of ‘rights’ is more broadly based than just in respect of its ability to produce economic benefits. Thus, assets may be recognised with a nominal value if they are, for example, used or just held in order to prevent competition or used only in compliance with legislation, as with pollution control assets.**

As regards to the ‘rights’, Oxford Dictionary defines ‘Rights’ as a moral or legal entitlement to have or do something, the authority to perform, publish, or film a particular work or event. ‘Rights’, as a noun, can be thought as ‘entitlements’ of the entity to an economic resource unless one is dealing with an intangible asset, in which case, the ‘entitlement’ is over human action, such as preventing competition or copying. ‘Rights’, here, means that they are your rights rather than another entity’s rights. Since, rights may be established by custom and practice they do not have to be owned (Foss and Foss, 2001), but the issue of enforcement may then be a troublesome one in the absence of a legal artefact. This can be applicable to all assets, but in case of an intangible economic resource (a tricky concept), it should be recognisable in terms of a surrogate artefact establishing a separable, physical and verifiable resource. For example, the artefact could be a diskette or a document: a physical carrier of, say, encoded software or a physical pictorial representation of, say, a trademark, respectively. However, in terms of the related economic benefits to an entity, they can be easily appropriated by another entity (downloading and scanning respectively) unless there is a possessive enforceable right to prevent another entity from doing so: copyrighting and trade mark registration, respectively. In most cases, this enforceable right should be a legal one in order to provide a firm basis on which to seek legal redress such that any appropriation may be rightfully redirected. **The problem for those who would deny the existence of a legally backed artefact for intangible asset recognition is that the “present right” or “enforceable right” in the previous IASB definitions of an asset then becomes the “resource” and vice versa in respect of intangible assets – a conflation. Either that or one is left with a right to an economic benefit from an indeterminate resource for which the only logical candidate is the right – again, a conflation. And, if one accepts this reasoning, then the latest revised definition of an asset (IASB, 2007) is tautological in nature as regards its application to the recognition of intangible assets: An asset of an entity is a right (if rights are resources) to which the entity presently has an enforceable right or other access that others do not have. In addition, the definition refers to “enforceable right or other access” without specifying what**



they are. This is why we argue the case for criteria - led approach rather than a definition - led approach to asset recognition.

The generated theory also highlights the link between an economic resource and the right to it through 'control'. Indeed, as Booth (2003, p322) argues:

*"... the concept of the capacity to control is adopted as an essential characteristic in the identification and recognition of most rights."*

Thus, it is possible to comprehend the right to control an economic resource at the top of a hierarchy in relation to the other features firstly introduced by Honore (1961) for example, control over future use, control over transference etc. One can go further on the issue of control by arguing that **it is not a function of an asset per se, rather, control of an asset, is about the power to decide what to do with it** (see Fincham, 1992 on Power and Giddens, 1984 on the dialectic of control). This view of control, though, is people - based, not rights - based, and, crucially, it relies upon voluntary compliance. With a rights - based view of control it is vested instead in the artefact. In respect of the entity power, the respective distinction to be made here is between voluntary and involuntary control, unless one believes in slavery. This is one important reason why human assets are unlikely to appear substantively on the balance sheet because there is no *right* to future economic benefits, only that capability should the person decide to cooperate to that end. It may be argued, therefore, that any 'asset' that remains tacitly vested in the person is not an asset for accounting purposes because the right to control is not vested in an entity, but remains, instead, with the person(s).

"Involuntary" control means that the right to control an intangible asset has been separated from the person who created it. How does one know that it has been separated if the 'asset' itself is not physical? One makes it physical and legally separable through the creation of a surrogate artefact – see Johnson (2002) on the similar notion of "structuralisation". That artefact specifies *what* can be controlled, not necessarily *who* is currently doing the controlling. And '*what can be controlled*' by the holder of the artefact is a right to permit or prohibit a specific course of action, such as preventing anyone from copying a specific item.

#### **'Capable of being measured'**

According to Solomons (1995, p49):

*"Accounting measurements should be made consistently and should be comparable from year to year...Numbers that are aggregated should be truly additive."*

There is no mention here of measurement methods, rather, whatever method is chosen it should provide consistency, comparability and additivity. Any mixed measurement approach though is inherently non - additive, particularly where a choice between methods is presented to accounting practitioners for the same type of asset. However, one does have to be careful here. Consider UK ASB director's comment:

*I mean clearly if you add measurements expressed in metres with measurements expressed in inches the total means absolutely nothing. However, if you add oranges, apples and bananas together you end up with a number of pieces of fruit. That's a perfectly sensible piece of information. It's not as informative as the total number of apples, or the total number of oranges, and the total number of bananas, but it's a perfectly sensible measure.*

So, hypothetically, if one measurement method was applied to say, intangible assets, and another method to say, inventories, then, providing each method was a single measurement method and applied in exactly the same way for that asset type between companies, then each company could add them up to arrive a total assets figure that was consistent and comparable between companies – UK ASB director's "pieces of fruit". However, the use of transaction cost and valuation based method re intangibles, the existence of FIFO versus AVCO stock valuation methods, both respectively attest to the fact there is no additivity even with types of asset – UK ASB director's "...oranges, apples and bananas..." Nevertheless, we would argue that, whilst the pursuit of 'consistency, comparability and

additivity' might be an illusory one it is self - evidently improved through the adoption of a single measurement method for accounting purposes. One does not know whether this stance was, for example, in opposition to the IASB's fair value method or for some other reason **but that does not prevent me, within the grounded theory approach, from inducing an additivity requirement as feature of the overall theory even if the use of a single measurement method is unlikely to be applied at present.** Clearly, a consensus would have been preferred but it does not have to be in every case.

And, if one is referring to 'consistency, comparability and additivity', then **an observed measurement, rather than a predictive one, is preferred because it is presently verifiable.** But here again one has to be careful about what is meant by observation. A Canadian Accounting Standards Board report argued (IASB, 2005) that at the initial recognition stage of an asset it should be disclosed at its observable market price or at an estimated market price in the absence of an observable one or at its current cost (that is, replacement cost or observable reproduction cost or observable historical cost) failing the ability to estimate the market price or, where all else fails, at a value derived from an accepted model or valuation technique. There are four hierarchical levels of measurement here (a subsequent FASB report recommended three levels - see IASB, 2006c) which, as one moves down them, the focus of observation switches from being market focused to entity - specific focused, together with an increasing use of unobserved or predictive inputs to the measurement process and a greater risk of cooking the books (Ronen, 2008, p205). Milburn (2008) argued that these lower level 'techniques' may fall far short of being models (because 'models' imply some rigor and a scientific basis) that can be relied upon to reasonably replicate reasonably efficient market prices. But, of course, **such comments tend to assume that observable market prices exist for the asset in question, which is certainly not the case in respect of many intangible assets. Observation, though, can take on many forms including observable compliance with an accounting standard whose substance may be completely disconnected from market place. Thus, one needs to take a truly fundamental stance towards accounting as a discipline: whether the accounts are taken to be representative of real world economic phenomena (where the market value should dominate), or, whether the accounts, self referentially, represent what they purport to represent and nothing more (where the determination of value is made by a business entity with or without reference to the market place).**

Combined with this **epistemological basis for asset recognition** (the shaded part around all other elements), the artifact basis plays a vital role in the accounting domain. This artifact basis is a break free from the narrow view for the transaction basis. We, as accountants, are in need to broaden our view about the basis of recognition, especially in nowadays environment where the non-physical assets play vital roles in the surviving and growth of businesses. The notion of '**artefact**' is widely used as logo or picture in the marketing domain. But when it is used in the accounting domain, it means any documentary and/ or documentary basis. When an economic resource needs to be recognized based on this documentary and/ or physical basis, there should be any evidence to support this, not only based our recognition basis on a transaction but to broad the area of this recognition. In the above figure 2, we combine the asset epistemological basis and the artifact basis, as the shaded area around other elements of the generated theory for the asset based recognition process.

### **A summary of the attributes of the pre-measurement phase of the accounting for asset recognition**

This generated 'theory' contains three sets of recognition criteria. The asset recognition criteria presented in this paper break free from the narrow definitional and rule based perspective of accounting epistemology to offer an alternative view based on the recognition of artefacts. As we stand from a social construction point of view, one can notice the epistemological basis for asset recognition, this asset recognition constitutes a social construction that purports to represent economic reality. The epistemological basis of asset within the financial accounting domain is dominated by rules. The theory, as stated earlier, presented in this paper uses the three central recognition features: separable in nature, rights-based and capable of being measurable.

#### **4- Application of the pre-measurement recognition criteria on information as an intangible candidate asset**

The generated theory shows how to recognise assets in the financial statements. As shown in above figure 2, the candidate asset should pass through different recognition criteria tests and if it passes these tests then it is consequently assigned a figure to this candidate asset thereafter it is recognised as an asset in the financial statements. Based on what emerged from the generated theory, one can see that if an intangible is a separable in nature, where the unit of account is known by deciding the level of aggregation for this candidate asset. In addition the entity should have the right to transfer it, then this asset passes the test of separable in nature. Followed by the Rights-based test, the entity should have the right to control this candidate asset, through which it has the right to use, right to manage, right to transfer, right to prohibition to harmful use, right to residuary character, right to secure, right to time horizon and / or right to execute liabilities, all of these forms of rights will consequently generate future economic benefits which the entity should have the rights to them. In that regards the future economic benefits that the asset would generate are different forms of functions for an asset. Then the rights- based test is passed. Finally whether this candidate asset is capable of being measured or not, this asset should have an observable measurement, additive and should be an entity specific. If this final test is passed then the asset now should be assigned a figure by using a measurement basis and finally recognised in the balance sheet as an asset. These three circled sets of recognition should be based on a documentary basis or an artefact basis.

In the following table the generated theory would be applied to see whether to recognise or not to recognise information in the financial statements with the supporting literature.

	Induced recognition criteria	Information asset	Supporting literature
Separable in nature	unit of account and level of aggregation	With regards to separating information as a unit of account, in principle, the information needs to be linked to the activities it informs about.	“Selling an information asset would, in many cases, mean selling an entire business. This requirement that an asset must be ‘separable’ and ‘controllable’ by the entity, that it be capable of being sold separately from the business” (Wilson & Stenson, 2008, p.174)
	right to transfer	Transference can occur independently of the other assets of the business entity.	
Rights based	right to control an economic resource	As regards to information assets, it is a resource- based intangible that the entity should the right to control and put it in a secure place in order to comprise future economic benefits. For information as an asset, control over its appropriating capabilities may be established through custom and practice and be accepted as such without challenge. And in all case the information should be documented to pursue the rights of the entity in that asset.	Oppenheim et al (2003) defined ‘information assets’ : “Information assets comprise resources that are or should be documented and which promise future economic benefit” (p.165)  Wilson & Stenson (2008) argued that the control plays a vital role on the nature of information ‘controllable’ by the entity, that it be capable of being sold separately from the business (p.174). If boards of directors were not paying attention to information, then there was, at best Hawley, 1995 mentioned : ...” a lack of consistency in strategic understanding, planning, budgeting, management and control, and at worst, the very existence of the organisation can be under threat”. (p. 237, cited in Wilson & Stenson, 2008)
	right to use	With regards to information, the right to use information can provide the business entity result in more valued asset. In some instances, there may be a ‘use it or lose it’ clause to the registration documentation – the artefact in this case. It follows in these circumstances that, unlike many other assets, one cannot just to hold on to an information asset with or without a view to the use to generate future gains.	Wilson et al (2000) mentioned that if information is exchanged and traded, the value from it can increase for all parties (Orna, 1999, p.141). The inter-changeability between information and knowledge gives rise to “The value of knowledge is not diminished by the knowledge being used (Orna, 1999, p.141). Information is a diffused resource, which enters into all aspects of the business (Davenport, 1993, p.79). The valuation of information as

<b>Rights based</b>	right to manage	if the business entity has the right to manage information, this would result in knowledge management which constitutes part of the organisation success in nowadays environment	<i>an intangible asset may provide organisations with assets which increase in value when used, which do not deplete no matter how much they are used and which are inherently present in everything an organisation does. To include such assets on the balance sheet would be a major recognition of their importance and an indicator of management's ability to identify and exploit them" (p.17)</i>
	right to secure	When information, is supported by a contract or some other artefact, may be used as a secure for a lending institution access to future appropriations.	
	right to transfer	Transference can occur independently of the other assets of the business entity.	
	right to time horizons	Information has time duration to generate future economic benefits out this intangible asset. otherwise it would be nonsense of using it. The entity should have the right to use this information during its validity to make use of it.	
	right to prohibition to harmful use	Information should be used to benefits the entity and not to be used to harm others. There are plenty of examples of harmful information, for example, computer viruses.	
	right to residuary character	the right to residuary character refers to the use after the expiry of the asset. In regards to the information, the entity may have the right to use if even after its expiry for example for a copy right of lectures and notes of a lecturer after resigning.	
	right to execute liabilities	If the entity has the documentary evidence to have the right of this information, this documentary evidence or the artefact can be used to settle a debt.	
	right to future economic benefits	Refers to the premium income appropriated by the information. This premium is the result benefits from right to control an economic resource in the form of use, manage, secure, settle a liability, transfer, time horizon, not to harm others or residuary character. The right to future economic benefits is strengthened by the existence of an artefact to perceive the entity's rights in the benefits obtained from rights to control the information.	<i>"If we consider that no information assets can bring no future benefits and that information whether self-generated or selected from public sources, is of value in pointing the way to commercial opportunity then information may give rights to future benefits and should be considered an asset" (Wilson et al, 2000, p.15)</i>

Capable of being measured	measurable asset	In regards to information, it is capable of being measured. Any asset measurement should be both individual and additive so that, in principle, the measurement of 'the whole' disclosed picture of financial reality, however that is represented, is equal to the 'sum of its individual disclosed parts', whether aggregated or disaggregated. The measurable function relates to the right to future economic benefits within the artefact basis.	<i>"If information assets are to be included on the balance sheet of organisations, then they must be capable of being valued as assets in financial reports. A necessary condition for initial recognition or subsequent re-measurement of an asset for financial reporting is that an element or a change in an element can be measured with sufficient reliability"</i> (Davies, Paterson, and Wilson, 1997 p.100; cited in Wilson et al, 2000p. 17).
	observable measurement	As regards to information as an asset, its value on the balance sheet should be based on observation.	<i>"The preferred method is to look to future-oriented economic-based valuations and, in particular, to look at the capitalisation of future cash flows generated by the asset (Oppenheim, 1998, p.212). However, information typically has no such cash flows readily identifiable even though it may make up a large part of a company's ability to compete on the open market. The problem with identifying cash flows from specific information assets means that valuation is still very difficult"</i> (Wilson et al, 2000, p.24)
	entity measurement	it is an entity specific measurement where it decides on the valuation of information	
	additive measurement	Various measurement methods are employed (price premium, royalty payments, P/E multipliers etc) and therefore they are not additive.	<i>"In the case of intangible assets, especially information, it is extremely difficult to identify the date of acquisition required by historic accounting. Information is generated by efforts that often do not always have quantifiable costs and may have been acquired over a considerable period of time (Brockington, 1996, p.6). Alternative approaches include the value of the asset if sold today, or the best value of the asset if used in an alternative manner. The advantage of this approach is that it provides a current view of the asset and the</i>



			<i>potential of the asset. The disadvantage is that tangible assets are typically valued using historic cost accounting and the resulting mixture of the two methods is unsatisfactory” (Wilson et al, 2000, p. 23)</i>
<b>Artefact basis</b>		As regards to the inclusion of the information as an asset in the financial statements, we have to broaden the scope of the transaction basis to an artifact basis.	Wilson et al (2000) mentioned “ <i>This would be difficult in the case of information, as information assets are not transaction based. If information were accepted as an asset in accounting, it would be as an intangible asset, and there is a good deal of controversy surrounding this area in accounting”</i> . (p.16)

From the above table, it can be deduced that if the attributes of a piece of information are separable, rights-based and capable of being measured, then it should be recognised in the financial statements.

## Conclusion

The paper is an empirical study on how the international and national accounting standard members show their interest in recognising the assets based on their personal views based on the developed countries. This research also shows the most prevalent themes in the form of recognition criteria for a pre-measurement in asset based recognition where there is a lack of consensus on the proper accounting treatment of assets. Moreover, the theory generated shows how an information asset can be recognised based on rights based, how an information asset should be separable in nature based on the level of aggregation that the entity can see it suitable to be disclosed, it also shows the measurement criteria for a measurement basis where the entity should measure its disclosed information asset with. All of these themes and how they are grouped under the portrayal of an artifact documentary valuation based. The interplay, the interactions and the continuous comparison between incidents build up the 'theory' as a set of recognition criteria for a pre-measurement phase for asset based recognition process.

This generated 'theory' contains three sets of recognition criteria. The asset recognition criteria presented in this paper break free from the narrow definitional and rule based perspective of accounting epistemology to offer an alternative view based on the recognition of artefacts. The generated theory is considered a novelty in the research area where it enables some of the unrecognisable intangible assets to be recognised in the financial statements.

## References

- Ariely, G. (2003) "Knowledge Management as a Methodology towards Intellectual capital" 3rd European knowledge Management, Summer School p.p. 1-7.
- Booth B (2003), "The Conceptual Framework as a Coherent System for the Development of Accounting Standards". *ABACUS*, Vol. 39, iss 3, pp. 310-324.
- Bullen H, Crook K (2005), "Revisiting the Concepts: A New Conceptual Frame work Project". Available on line: [www.iasb.org/project/communications-papers.pdf](http://www.iasb.org/project/communications-papers.pdf)
- Cañibano, L., Garcia-Ayuso, M., Sanchez, P. (2000), "Accounting for intangibles: a literature review". *Journal of Accounting Literature*, Vol. 19 pp.102–30
- Davenport, T.H. (1993) *Process innovation: reengineering work through information technology*. Boston, Harvard Business School Press
- Davies, M., Paterson, R. & Wilson, A. (1997) *UK GAAP: Generally accepted accounting practice in the United Kingdom*. London, Macmillan
- Edvinsson, L. & Malone, M. (1997) "Intellectual Capital". New York: Harper-collins.
- Egginton, D. (1990), "Towards Some Principles For Intangible Asset Accounting". *Accounting and Business Research*, Vol. 20, No. 79, pp. 193-205.
- Erhard, L.(2004), "Chapter 3: The IASC's Conceptual Framework - an Obstacle to International Harmonisation?". Ludwig Erhard Lectures. Available on line: [info.worldbank.org/etools/docs/voddocs/458/1640/Ch3\\_IASC%20conceptual%20framework.pdf](http://info.worldbank.org/etools/docs/voddocs/458/1640/Ch3_IASC%20conceptual%20framework.pdf)
- Foss K, Foss N (2001), "Assets, Attributes and Ownership". *International Journal of the Economics of Business*, Vol.8, No.1, pp19-37
- Gerboth DL (1987), "The Conceptual Framework: Not Definitions, But Professional Values". *Accounting Horizons*, American Accounting Association, Vol. 1, No.3, pp1-8

- Goldfinger, C. (1997), Understanding and measuring the intangible economy: Current status and suggestions for future research. CIRET seminar. Helsinki.
- Gore R, Zimmerman D (2007), "Building the Foundations Reporting: The Conceptual Framework". *The CPA Journal* 77:8, pp. 30-34.
- Hawley, R. (1995), "Information as an asset: the board agenda". *Information Management and Technology* 28(6) pp. 237–239.
- Honoré A. (1961) Ownership. In Guest AG (ed) Oxford Essays in Jurisprudence, Oxford University Press, Ch.5.
- IASB (2006), Information for Observers: *WORLD STANDARD SETTERS MEETING, SEPTEMBER 2006, LONDON, AGENDA PAPER 1A*, [www.iasb.org](http://www.iasb.org)
- IASB (2006a), *Preliminary Views on an Improved Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and the Qualitative Characteristics of Decision-Useful Financial Reporting Information*, International Accounting Standards Board
- IASB (2006b), "Conceptual Framework Project: Measurement Phase Plan". International Accounting Standards Board, London, UK.
- IASB (2006-c), "First Steps Towards a Convergent Conceptual Framework". International Accounting Standards Board, pp.9-11.
- IASB (2006-d), *World Standard Setters Meeting: Agenda Paper 1B*, Conceptual Framework Project, International Accounting Standards Board, September, pp1-6.
- IASB (2006-e), Identifying the Unit of Account for the Fair Value Measurement of Reserves and Resources (Agenda Paper 4B), International Accounting Standard Board, [www.iasb.org](http://www.iasb.org).
- IASB (2007), Information for Observers on Phase B Elements: Definition of an Asset (Agenda Paper 3), International Accounting Standards Board, [www.iasb.org](http://www.iasb.org)
- Johnson WHA (2002), "Leveraging Intellectual Capital through Product and Process Management of Human Capital". *Journal of Intellectual Capital*, Vol.3, No.4, pp415-429
- Johnson, T. (2004,a), "The Project to Revisit the Conceptual Framework". FASB Report.
- Johnson, T. (2004,b), "Understanding the Conceptual framework" FASB Report.
- Joia, L. (2000) "Measuring Intangible corporate assets, Linking Business Strategy with Intellectual Capital". *Journal of Intellectual Capital*, vol1(1),p.p.68-84.
- Meadows, J. (2001). Understanding information. Munchen: K. G. Saur.
- Milburn JA (2008), "The relationship between Fair Value, Market Value, and Efficient Markets". *Accounting Perspectives*, Vol.7, No.4, pp293-316
- Miller, P. and Bahnson, P. (2007), "The Top 10 Reasons to Fix the FASB's Conceptual Framework". *Strategic Finance*, 89; 1pp.42-49.
- Munter, P. and Ratcliffe, T. (1980), "On the Attribute of an Asset". *ABACUS*, Vol.16, No.2, pp.116-123.
- Napier C, Power M (1992), "Professional Research, Lobbying and Intangibles: A Review Essay". *Accounting and Business Research*, Vol.23, No.89, pp85-95
- Oppenheim, C., Stenson, J. and Wilson, R. (2003) "Studies on information as an asset I: definitions" *Journal of Information Science* 29(3) (2003) 159–166.
- Orna, E. (1999). Practical Information Policies, 2nd edn . Gower, Aldershot.

- Ronen, J. (2008), "To Fair value or Not to Fair Value: A Broader Perspective". *ABACUS*, Vol.44, No.2, pp181-208.
- Schuetze W (1993), "What is an Asset?". *Accounting Horizons*, Vol. 7, No. 3. p.66-70
- Solomons, D. (1995), "Criteria for Choosing an Accounting Model". *Accounting Horizons*; March; 9, 1; pp. 42-51
- Stenson, J. (2006). The attributes of information as an asset. A published PhD, Loughborough University.
- Sveiby, K. (1997), "The New Organizational wealth: Managing and Measuring Knowledge-Based Assets" Available on line at: <http://www.sveiby.com.au/managingandmeasuringknowledgebasedassets/>
- Tollington, T. (1998), "What are Assets Anyway? Some Practical realities". *Management Decision*, 36/7, pp.448-455.
- Walker R, Jones S (2003), "Measurement: A Way Forward". *ABACUS*, Vol.39, iss3, pp. 356-376
- Walker, R. (2003), "Objectives of Financial Reporting". *ABACUS*, Vol.39, iss3, pp. 340-355.
- Weetman P (1989), Assets and Liabilities: Their definition and Recognition, ACCA Research Report No. 14, Certified Accountant Publications Ltd, London
- Wilson, R. and Stenson, J. (2008) "Valuation of information assets on the balance sheet: The recognition and approaches to the valuation of intangible assets". *Business Information Review* 25(3) (2008) 167–182.
- Wilson, R., Stenson, J. and Oppenheim, C. (2000) "Valuation of Information Assets". Business School, Loughborough University. Research Series Paper.