Exploring the intellectual capital and financial capital interface: An artefact-based criteria approach to the recognition of 'organisational' assets.

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Abstract:

Design: Normative, conceptually based

Purpose: The paper presents asset recognition criteria based on the idea that an asset should be functional, separable and measurable and that financial recognition should be triggered by the recognition of an artefact. We apply these criteria to four organisational assets, that is, those intangible assets that are unlikely to be reported in the accounting domain.

Findings: We do so in order to show how one may expand the basis on which assets can be reported financially to elements of intellectual capital as well as financial capital.

Originality: The criteria have never been applied to organisational assets

Key words:

Asset recognition, separability, artefacts, organisational assets

Introduction

In the accounting domain 'asset measurement', notably, transactions-based measurement, drives the 'asset recognition' process based on the reasoning that if one can reliably measure an intangible asset (IA), de facto, one has simultaneously recognised it^[a]. In the intellectual capital (IC) domain, though, this logic is rightly reversed otherwise one cannot be too sure of what one is measuring. So, an equivalent opposite stance in the IC domain refers to structuralisation (Johnson, 2002): the a-priori process of turning the unrecognisable, intangible, tacit knowledge in a person's brain into a recognisable, tangible, explicit form. In this paper we present artefact-based asset recognition criteria as a form of structuralisation. Artefact-based asset recognition criteria could be a conduit through which intellectual capital could enter the accounting domain, a domain dominated by the maintenance of financial capital, not intellectual capital.

[[]a] An often quoted and humorous analogy used to refute the need to recognise an intangible asset, other than on the basis of a measurement, is that if a thing has some of the characteristics of a dog, for instance, it barks like a dog, then it must be a dog. One does not need to see or physically touch it to be able to recognise it as a dog! However, this is a far from satisfactory way of recognising a dog, let alone the type of dog. What is required is a more precision so that the separable recognition of a dog, according to some criteria, cannot be confused with, say, the separable recognition of a wolf. Worst still, what if it turned out to be a man-made recording of a dog and there was no animal at all. One cannot imagine, for example, the medical profession adopting a similar stance: the illness has some of the characteristics of influenza but then it turns out to be meningitis! The medical profession is able to support operational definitions and assessment criteria for the diagnosis of illnesses through scientific testing, however, in accounting such procedures appear to be less well articulated.

An implication of the introductory paragraph is that the terms IA and IC are interchangeable whereas actually the delineation is unclear - see Figure 1.

Insert Figure 1 here

Nevertheless, we have chosen the IA pathway because we wish to only adopt the money metric of the accounting domain in respect of the asset recognition criteria presented herein.

The epistemological foundation of financial accounting is mostly grounded on definitions and rules of which the definition of an asset is a central feature (ASB, 1999, para4.7-23; FASB, 1985, para6.25-33; IASB, 2001, para49, 53-59), the latest revision being:

"An asset of an entity is a present right, or other access, to an existing economic resource with the ability to generate economic benefits to the entity" (IASB Update, December 2007 at www.iasb.org.uk)

On this basis, IC could be regarded as "...an existing economic resource...". However, as Weetman (1989) rightly points out, the need to define a resource simply replaces the need to define an asset. The point is that the above definition is capable of wide interpretation and, therefore, facilitates similarly wide accounting discretion as to what will or will not count as an asset (see Samuelson (1996) and Schuetze (1993) for critiques, historically).

Gerboth (1987) argues that the existence of definitions hardly matters at all in deciding most issues of real-world consequence and in this vain we detach ourselves from the definitional approach to advance instead the case for the use of artefactbased^[b] asset recognition criteria as presented in the fourteen descriptors (rows) in summary in Table 1.

Insert Table 1 here

There is no single source that could be said to inform on the content of Table 1 though the starting point for its construction was grounded on Honoré (1961). So, the construction of Table 1 is a product of the authors' invention over many years of exposure to multi-disciplinary literatures. Many of the constructed criteria refer to rights but rights are empty without some physical and legal evidence that they are a business entity's rights, otherwise, anyone could potentially claim them. Thus, we refer to the need for a supporting artefact. Our epistemology is criteria-led, as opposed to the definition-led stance outlined above. However, what about the related ontological positioning? The existing definition-led stance, above, is socialconstructionist in nature and benchmarked against a claim that the construction is "representative of real world economic phenomena" (IASB, 2008) – a clear economic stance as evidenced, for example, in the definition of an asset previously. In contrast, the ontological stance of this paper is also social-constructionist but any representation of financial reality is both self-referential and grounded on physical and legalistic evidence, which is why we advance the case for artefacts for intangible asset recognition purposes. In this case, the ontology draws upon Wand and Weber's (1995) "fundamental premise" to their work on information systems, specifically, that "a physical-symbol system has the necessary and sufficient properties to represent real-world meaning". Also, that "an information system is an artifactual representation of a real-world system as perceived by someone, built to perform information processing functions". In this regard, we break free from any

abstract notion of "economic phenomena" (whatever that means?) and replace it with one that is physically and, in our case, legally grounded through the medium of artefacts.

As one can see from the columns in Table 1, we apply those criteria to organisational 'assets': two intellectual property 'assets', that is, trademarks and trade secrets, and two infrastructure assets, that is, management processes and information systems, all taken from Table 2.

Insert Table 2 here

These four 'assets' are predominantly intangible in nature and arguably draw their identity from the IC domain (see Edvinson and Malone, 1997) rather than the financial accounting domain where they would be unlikely to be reported as assets (see Upton, 2001, p69 for list of separable intangible assets, also, Seetharaman et al, 2004, p525 for a list of separable and inseparable intangible assets – an alternative to Table 2 perhaps?). There is nothing to stop the criteria being applied to all of the

[[]b] An artefact is something that is given shape by man, in this case, the intangible intellectual creativity is given a surrogate tangible shape, typically though not exclusively, through documentation that assigns legal rights to an owner and/or user (see Honoré, 1961). In the legal domain, as with the accounting domain, the alternative basis of using definitions are useful for instruction but any attempt to reduce judgements to deductions based on them could easily lead to the occasional miscarriage of justice because there are always exceptions. Nevertheless, the desire for the logic and structure offered by definitions, in whatever domain, is deeply rooted in the human psyche. Consider, for example, those used in medical diagnoses, for as Holmes (1897) suggests, the logical method and form flatter the longing for certainty that is in every human mind. Yet, the quest for certainty in any defined social construction is illusory because it is always contestable. In this regard, artefact-based asset recognition criteria are no different to a definitions-based approach and can only be advanced on the equally contestable basis that they offer a 'better' social construction.

items in Table 2 and more. In that latter sense, it is unimportant as to whether Table 2 is comprehensive or not. So, for example, the criteria have already been applied to human assets in another paper (see Tollington and El-Tawy, 2010). We apply the criteria to four identified organisational assets here simply because they have not been assessed before now and the choice is an arbitrary one.

As you can see from Table 1, the artefact-based asset recognition criteria to be explored in this paper are presented in three groups based on the idea that an asset should be functional, separable and measurable. These three features are presented in the three circles in Figure 2, the intersections between them being where the Table 1 criteria are located in their three groups: separable function, measurable function, separable measurement.

Insert Figure 2 here

The square boundary in Figure 2 encompasses all assets and within it the three intersecting circles represents the separable assets that could or should be recognisable for financial reporting purposes. The space between the circles and the square boundary represents those inseparable assets the recognition and measurement of which are indeterminate for financial reporting purposes. In this latter regard Figure 2 should cause one to think about 'assets' that are not separable, for example, goodwill, or 'assets' that are probably not measurable, for example, leadership skills, yet, both of these assets (if they be so) may impact upon the bottom line. It follows that the construction and use of artefact-based asset recognition criteria does not imply that they are either exclusive (all the attributes of an asset can be classified) or exhaustive (the attributes of an asset belong only to that

element) in attempting to capture all the attributes of an asset (see Gröjer, 2001 where such approaches are regarded as a process of simplification).

To summarise this introductory section: Table 1 presents asset recognition criteria in three groups drawn from a tripartite structure presented in Figure 2 that will be explained and then applied later on in the paper to four of the organisational assets as extracted from Table 2.

The subsequent structure of the paper

The next three sections of the paper are based upon the three groups of criteria presented in Table 1 as explained and then applied to the four identified organisational 'assets'. The final section thereafter presents a discussion about the merits, or otherwise, of using artefact-based asset recognition criteria.

An intangible asset's *separable function* (Table 1, Figure 2)

An asset's *function* in the accounting domain is typically "...to generate economic benefits to the entity..." per the definition of an asset, previously. However, that function can change as society changes. For example, carbon-offsetting quotas are tradable intangible assets because society decrees that they should be so, but the principal benefit is environmental, not economic. There is no "...*existing* economic resource..." here until it is created by statute and insofar as an intangible resource exists (a contradiction in terms?) the resource actually comprises a legal right to pay, or be paid, to pollute according to fixed quotas. And herein lies a possible tautology in the definition of an asset previously: "An asset of an entity is a present right, or

7

other access, to an existing economic right" if the resource is effectively a right to pollute. One can extend this resource argument further by saying that the missing resource in respect of an intangible asset is, in effect, as much about preventing others from competing with you as it is about the individual, or company, being the controlling beneficiary of their own intellectual creativity. 'Rights' are the pertinent issue here because the above 'economic benefits' function of an asset is secondary to the primary function: a right to control how the secondary function is to be fulfilled and to prevent others from doing so.

Now that we have addressed the *functional* aspect let us turn our attention to an asset's *separable*-ness or separability. The Companies Act 1985 Sch.4A,9(2)) refers to the separable function of an 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, the need for a tangible surrogate: an artefact. And this is the means by which the criteria in Tables 3a - 3h may be applied to the process of intangible asset recognition, which also includes disposing or discharging in a 'capability of transference' criterion (Table 3d).

Insert Tables 3a-h here

We define separability differently to the above narrow legal viewpoint. Specifically, all the individual assets of a business are separable from each other when it is possible to aggregate them (Li, 2002) without loss or gain in the recognition and measurement of those individual assets such that the sum of them would always be equal to the whole of the assets of the business (see also IASB 2005b, CL8). The 'whole' in this case would only comprise those assets possessing the features of the three circles in Figure 2. A problem, though, is in setting an appropriate lowest level

for the recognition of an individual 'asset'. Consider, for example, at the lowest level of aggregation one can record labour payroll costs: inputs. However, at a higher level of aggregation, part of those labour costs may then be included in a constructed infrastructure asset – outputs. To record inputs and outputs as assets at the same time is to risk double-counting. It is worth noting, though, that there will be those parties outside the accounting domain who may regard the above 'inputs' as investments in human assets (see Offstein, Gnyawali, Cobb, 2005; Carmeli and Schaubroek, 2005): a sentient renewable resource and, as such, double-counting is acceptable: the human asset and the infrastructure asset.

Whilst the 'sum of the parts' should theoretically equal the 'whole', in practice this is somewhat problematic (see Barth, 2007) particularly when dealing with intangible assets because some of them, like goodwill, are inherently inseparable from the other assets of a business. Napier and Power (1992) do not try to recognise a separable function because they argue that many intangible asset valuation methods "determine, rather than depend upon, separability". Such comments tend to confirm the introductory assertion that in the accounting domain intangible asset measurement substitutes for intangible asset recognition. We disagree because an artefact may substitute for asset recognition purposes. The use of artefacts represents an expanded boundary for accountants but probably still a restrictive one to other interest groups including those from the IC domain. For example, as any marketer will tell you, a brand is more than its related trademark (see Aaker, 1991). For example, as any HRM person will tell you, an employee is more than what they create. But the boundary has to be drawn somewhere and we do so by using artefacts.

9

An intangible asset's *measurable function* (Table 1, Figure 2)

Since it is not intangible assets per se that are measurable, rather, their function (notably in respect of 'rights' previously), the specific function envisaged here is the capacity to increase or decrease business value through holding assets (capital gains or losses) or using assets (revenue gains or losses) to increase or decrease income (whether realised or not), the two types of increases or decreases being known together as comprehensive income (Bertoni and De Rosa, 2005; Cauwenberge and De Beelde, 2007; IASB, 2003; Newberry, 2003; Barker, 2004). In accounting terms the recording of comprehensive income represents the increase in the value of all disclosed assets between two balance sheet dates and links directly to the concept of how capital is to be maintained by such means (see Hicks, 1939; Gynther, 1970; Revsine, 1981; Tweedie and Whittington, 1984; Guttierrez and Whittington, 1997; Arden, 2005). Priority is given to balance sheet values rather than the income statement (see Paton and Littleton, 1940). We support the theoretical notion of comprehensive income whilst also practically acknowledging that an intangible 'asset' may increase income and yet be financially un-measurable, for example, a superior management team. In other words, an intangible asset (if it be one in respect of all the other criteria) may have a function but not necessarily a measurable function – see Tables 3i-k.

Insert Tables 3i-k here

An intangible asset's *separable measurement* (Table 1, Figure 2)

Where the income measurement method also determines the value of the asset(s) the right to capital (criterion 2i) and the right to income (criterion 2k) are conflated.

Damant (ASB, 1995), however, would argue that an asset has a separable measurement only if it has a value that is completely independent of what it is earning in the activity under analysis. In other words, there should be a clear separation between the right to capital (criterion 2i) and the right to income (criterion 2k) in terms of the latter determining the value of the former. In a transactions-based approach to accounting this is not a problem: one records the transactions-based capital expenditure as an asset and, subsequently, the transactions based revenue income, less expenses, is recorded separately from the capital (see Tollington, 2001). However, in some valuations-based approaches to recording asset values, such as discounted cash flow methods (DCF), the asset values are based entirely on a predictive, not observable (criterion 3m) assessment of future incomes – the capital and income are inseparable from each other.

Whilst we have briefly focused on one measurement method, DCF, in order to the highlight a selective application of the criteria, we do not intend to address the issue of an appropriate measure method because it is primarily an accounting problem. The intention, instead, is to precondition ones view towards the process of asset measurement, which logically follows from the process of asset recognition, per the introductory paragraph to this paper. The relevant three criteria in this regard are presented in Tables 31-n.

Insert Tables 31-n here

That preconditioning though is of a normative nature. So, for example, despite our criterion that any measurement should be observable, it is entirely possible to construct an accounting approach based on predictive values if needs be and there

would be plenty of models in the IC domain alone to choose from. In that regard consider the following brief review in Table 4

Insert Table 4 here

The principal feature of a 'separable measurement' is that 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 measured and represented, is equal to the 'sum of its individual disclosed parts', whether aggregated or disaggregated (see previous definition of separability). An individually purchased trademark, for example, may be easily aggregated with any other asset (the part is added to the whole) but when it is purchased as part of a business investment it may be somewhat difficult to disaggregate its separable value (splitting the whole into its parts). For the inseparable, non-artefact based intangible 'assets' the disaggregation problem is more acute, inherently so. However, if one reports to management at the highest level of a business investment then there is no problem because the overall economic function of that recorded investment potentially incorporates all the synergistic economic benefits from inseparable 'assets', such as from management processes (Table 2) and any related human 'assets'. It is only when that investment is disaggregated for accounting disclosure purposes that the above problem of measuring the inseparable intangible assets arises, which accountants partly try to solve by bundling them together under the generic heading of purchased goodwill.

The aggregation/disaggregation issue and the related double-counting issue, both previously, are clearly not easy ones to resolve. We argue that the lowest level of

aggregation should be disclosed wherever appropriate so that the constituency of expenditures is known (criterion 3n). However, that constituency in respect of an intangible asset is unrecognisable in the absence of an artefact and therefore separately un-measurable if, to repeat, one accepts the previous a-priori logic of asset recognition before asset measurement.

A discussion about the contribution of this paper

If we look at Table 1 then, on the balance of 'No' to 'Yes' responses, we can dismiss trade secrets and management processes as assets. On the same basis we would accept trademarks and information systems as assets but of course the unanswered question is whether all the boxes have to be ticked 'Yes' for an asset to be confirmed. If that is so then the challenge lies in respects of criterion 31 and criterion 3m in Table 1. In this regard, consider again the previous comments of Arthur Andersen (1992) in Table 3m and the observation of compliance with a valuation method established by an accounting rule. This may well satisfy 'criterion m' but any valuation-based measurement is still likely to be non-additive (criterion 31). Indeed, the accounting profession can never win in that regard because, as soon as one mixes money and time, money measurement over time becomes inherently non-additive if only because of the effects of inflation. All one can do is to limit that non-additivity by choosing one measurement basis in one time frame, for example, the value of an asset realised or replaced today.

Barth (2007, p12) rightly points out in respect of market based fair value measurements, that the sum of the balance sheet assets less liabilities is unlikely to equal the market value of the equity because not every 'asset' is recognisable. So, for example, we refer to 'assets' in the paper but the term lacks clarity such that some assets may have a role that is not only economic, for example, a company car used socially or public monuments (Mautz, 1988; Pallot, 1990) where heritage is as important as income. One may look at the 'prohibition of harmful use' criterion (criterion 1f) in a similar vain, that is, first, it appears to be out of character with the economic thrust of the other criteria and, second, it seems unlikely that this criteria would ever be categorised as anything other than a 'Yes' response. That said, just as the intangible wealth drivers in our economy have gathered pace over the past few decades (Quah, 1997), it seems likely that, as businesses compete for globally scarce resources, the issue of sustainability will come to the fore. Thus, the concept of 'harmful use' may actually spawn a whole subset of legal rights as social norms adjust to changing economic reality and our survival on this planet. We are already seeing that occurring in respect of carbon trading and, like the money metric and the time metric, the carbon metric is likely to be additive individually. There is also the consideration of whether these metrics can be mixed together too to form a completely new way of reporting assets?

In this paper we have stepped outside the accounting domain to look back into it on a fundamental aspect of accounting: asset recognition criteria that was considered once and rejected on the rather dubious grounds of introducing circularity (though no example was identified at the time - ASB, 1999). The advantage of our redrawn artefact-based boundary line, though, is that most transactions have one: an invoice, a payslip etc. In other words, artefact-based recognition is a broader basis for asset recognition, which can capture all that currently exists in the accounting domain and more (see Lev and Zarowin, 1999 on 'boundaries). The 'more' is what we have concentrated on here by looking at four problematic organisational intangible 'assets' but, of course, the application of these criteria is applicable to all assets. For example, consider whether, if goodwill is inseparable from the other assets of a business, it would pass the separability based criteria presented in this paper? The development work continues.

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Figure 1: Types of IC and IA

Many authors refer to IC in terms of a resource contributing to organisational performance (see Chatzkel, 2000a,b; Brennan and Connell, 2000; Guthrie and Petty, 2000; Carroll and Tansey, 2000; Hunt, 2003; Leliaert et.al, 2003; Guthrie, 2001; Chatzkel, 2001a,b; Seetharaman et.al, 2002, 2004; Lim and Dallimore, 2004; Marr et.al, 2004; Pike et.al, 2005; Boedler et.al, 2005; Flostrand, 2006; O'Donnell et.al, 2006a,b; Jorgensen, 2006).

The various definitions can be grouped as follows with the distinction between (b) and (c) being a marginal one:

- (a) an Accounting (asset) perspective where IC is variously referred to as knowledge-based items (Carroll & Tansey, 2000) convertible into profit (Harrison & Sullivan, 2000), intellectual assets less intellectual liabilities (Candy, 2000), a moving force for business success (Goh, 2005), stocks of what matters to the creation of enterprise value (Burgman et.al, 2005), as well as, perhaps, the more traditional view of non financial fixed assets that do not have physical substance (Marr et al, 2005).
- (b) a Finance (market) perspective where IC is defined as the difference between the market value of the firm and its book value (see Joia, 2000; Pablos, 2003) arising from the added value (Sudersanam et.al, 2006) of 'assets' contributing to tangible output (Swart, 2006) but which are so embedded that they are not susceptible to a secondary market by which they could be valued (Housel and Nelson, 2005).
- (c) an Economic (wealth) perspective where IC one of the factors of production (Tome, 2004) deployed in the pursuit of wealth creation (Rastogo, 2003; Bygdas et al, 2004).



Figure 2: The boundary for asset recognition

Table 1: Asset Recognition Criteria	Trade-	Trade	Mgt.	Info.
	marks	Secrets	Process	Systems
Separable Function (Tables 1a-h)				
1a. Right to control	Yes	No	No	Yes
1b. Right to future use	Yes	No	No	Yes
1c. Right to security	Yes	No	No	Yes
1d. Capability of transference	Yes	Yes	Yes	Yes
1e. The absence of a duration	Yes	No	No/Yes	Yes
1f. The prohibition of harmful use	Yes	No	Yes	Yes
1g. The liability to execution	Yes	No	No	Yes
1h. The right to residuary character	Yes	No	No	Yes
Measurable Function (Tables2i-k)				
2i. The right to capital	Yes	Yes	No	Yes
2j. The right to discharge capital	Yes	Yes	No	Yes
2k. The right to income	Yes	Yes	No	Yes
Separable Measurement (Tables 31-n)				
31. Additive measurement method	No	Yes	No	No

3m. Observed measurements only	No	No	No	No
3n. Bundles of assets disallowed	Yes	No	No	Yes

Table 2: Types of Intellectual Capital (see Dzinkowski, 2000)

Human capital	Customer (relational) capital
1. Know-how	1. Brands
2. Education	2. Customers
3. Vocational qualifications	3. Company names
4. Work-related knowledge	4. Backlog orders
5. Occupational assessments	5. Distribution channels
6. Psychometric assessments	6. Business collaborations
7. Work-related competencies	7. Licensing agreements
8. Entrepreneurial elan,	8. Favourable contracts
innovativeness, proactive and reactive	
abilities, changeability.	
	9. Franchising agreements
Organisational (s	structural) capital
Intellectual property	Infrastructure assets
1. Patents	1. Management philosophy
2. Copyrights	2. Corporate culture
3. Design rights	3. Management processes
4. Trade secrets	4. Information systems
5. Trademarks	5. Networking systems
6. Service marks	6. Financial relations

Table 4: IC measurement methods (Pike & Roos, 2004) **Direct Intellectual Capital methods:** Caddy (2000): Intellectual Capital Formula McPherson & Pike (2001) Inclusive Valuation Methodology Rodov & Leliaert (2002): Financial Method of Intangible Assets Measurement Andriesson (2005): Value Explorer Housel & Nelson (2005): Knowledge Valuation Analysis (KVA) Market Capitalization methods: Housel & Nelson (2005): Market or Value Based Approach Tobin J: [adapted by Housel & Nelson (2005)]: Tobin's q Sudersanam et.al (2006): Real Option Models (ROM) **Return on Assets methods:** Lev (2001): Residual Income Model [adapted by Housel & Nelson (2005)] Chen et.al (2005): Value Added Intellectual Coefficient (VAIC) Burgman et.al (2005): Future Value Management Methodology (FVMT) **Scorecard methods:** Liebowitz & Suen (2000): Proposed Knowledge Management Metrics Carroll & Tansey (2000): Metrics to measure human capital & structural capital Low (2000): Value Creation Index-VCI Hunt (2003): Self-Assessment Computer Analyzed testing (SACAT) Bonfour (2003): Dynamic Valuation of intellectual capital (IC-DVAL) Bontis (2004): National Intellectual Capital Index Pike et.al (2005): Conjoint Value Hierarchy (CVH)

Oliver & Porta (2006): Intellectual Capital Cluster Index (ICCI) Kaplan & Norton (2006): Balanced scorecard Voelpel (2006): Systematic Scorecard (SSC)

Table 3a: The right to control an intangible asset				
General Description	Trademarks	Trade Secrets	Management processes	Information systems

Control is exercised for a	Control over logo's	There can be no control	Management is centred on	Human beings and
purpose: appropriation -	appropriating capabilities	over tacit knowledge.	the actions of human	hardware: both tangible –
Table 3bc The Fight to the	futare ^b asesta ^b lia ^l iadangible a	s Feq ually, there can be no	beings* even with	irrelevant here. Since
General Desirption	through a storartisd	Tratel Secretse persivianage	inversempatodessesses - In	fooffnation is
Htere assel is for dearce it m	apractice and beserepted as	Bhomathastasit knowled aran	nagenible prizedsvant here. P	hystengiblaropovol in
without recompense or	such without challenge (no	is still resident unless one		inextricably reliant on the
holding assets to prevent	artefact). However,	believes in slavery. Even	*Little control anyway	physical carrier for the
control by others. In the	constructive control is	then control is dependent	without voluntary	magnetic or laser coding,
absence of an artefact	over the legal property	on voluntary compliance.	compliance, which may be	such as a CD or laptop –
there is little control over	rights, which can be		selectively and repeatedly	the artefact. Exclusive
who may appropriate. (See	established by trademark	It is axiomatic that where a	modified or withdrawn	control may be lost at the
Booth, 2003, pp312-314	registration or by a	trade secret is made	according to circumstance	touch of a button unless
for other aspects of	successful action (and	explicit it is no longer	and inclination despite the	the copyright is protected
control).	court order) for the tort of	secret unless physically	existence of a contract of	– the artefact too. Even
	'passing-off' - both	secured somehow, for	employment – the artefact.	then, control may be
There is no control over	artefact based.	example, a written recipe		impossible if enough
the tacit knowledge held in		or drug formula kept in a		people are prepared to
a person's head. Control is		safe. The artefact is		infringe copyright. Thus,
exercised over the artefact:		created thereby but, unlike		control is becoming
the visible representation		a patent, there is nothing in		increasingly dependent on
of explicit knowledge held		principle to prevent		security protocols.
physically and separately		copying once the secret is	Record 'no'	
from the individual		shared – no proscription.		
creating it.	Record 'yes'	Record 'no'		Record 'yes'

be used freely by many users –	clause to trademark	trade secret but	vested in human beings and	artefact typically rests in one
seawater, deserts, atmospheric	registration (the legal	there is no right	there is no right to use a human	entity's hands whilst the
nitrogen. With a scarce asset	artefact). Absence of	to use it or right	being, even where contractual	future <i>use</i> may be in many
future use is linked to restrictive	an artefact does not	to prevent others	obligations arise, without	hands at the same time – not a
controls, often, contractual ones	prevent others from	from using it if	voluntary compliance. But a	scarce resource.
Table 39-5 The right to security i	n an intangible asset	they are able to	human being is not an intangible	In some instances, such as
General Descriptione the Tra	demarks	Triade Secrets	asset any Management processes	don Information systems be a
Sachrityisthe they one tries to Secu	rityturalongeliyed	Inherentryheo secu	ritysipegard Source attamanagement i	s 'us Same reservity ciaute to the
ensure that future use is	copying but use	secret.	any manager can use a	registration documentation –
controlled by the user alone,	cannot be prevented		management process but there is	the artefact in this case. It
who may, or may not, be the	unless court		no right to use it or right to	follows in these
owner too.	sanctioned.		prevent others from using it	circumstances that, unlike
			unless an artefact exists for a	many other assets, one cannot
Also, involuntary use is not	Renewal of right to		unique process that is protected,	just to hold on to the asset
necessarily restricted to income	future use upon		for example, by a patent.	with or without a view to
generation, as would be the case	expiration of the		Processes like TQM, JIT etc are	capital holding gains.
in the financial reporting	trademark or		not unique.	
domain. For example, use to	franchise term.			
prevent competition.	Record 'yes'	Record 'no'	Record 'no'	Record 'yes'

Table 3d: The capability of transference (including disposal/discharge) of an intangible asset ^[c]					
General Description	Trademarks	Trade Secrets	Aanagement processes	Information systems	
Assertation that stence of an	super Grandsclikeontractuall	vtrade eegret Eur sy ample, s	arfientred and the rections of	Transference but it is annostain	
apprapriationaryill business	Cadburys particularly not be	no one in their right mind i	nformation beings even with	instantation is on sediard nature	
Philipstuityuning the intangib	lewheresitps Gapable fransferen	nceould securitise against an	automated processes.	dischargedswith barian artefact	
determined otherwise,	being sold or franchised to	income stream coming	There is very little securi	ty technological change eg.	
such as by statute.	other businesses, as with,	from an unknown source.	here, unless one believes	Windows software	
	for example, Cadburys		in slavery. However, not	upgrades. Appropriation	
A contract or some other	cakes.		so respect of the patented	l may be direct or indirect,	
artefact may secure for a	Security is probably less		idea created by them – th	e as with a banking	
lending institution access	likely in an obscure brand.		artefact. That said, in mo	st information system, but,	
to future appropriations eg.			cases, variants of those	nevertheless, central to the	
royalty income from			ideas would probably be	security and survival of the	
securitised assets, such as			easy to execute without	business.	
Robbie Williams music			infringing any rights.		
copyright.	Record 'yes'	Record 'no'	Record 'no'	Record 'yes'	

asset can demonstrate that the	of a trademark registration	so that the trade		remaining behind for others to
right to its future use has passed	document – both artefacts.	secret remains in		use – another exception to the
to them.	Transference can occur	a tacit form. No		'general description'. However,
	independently of the other	artefact is		with any form of storage or
No actual transference is	assets to which it may	required, just a		other means of recording the
necessary, as with a business	have been originally tied,	good memory.		information the artefact then
transaction. The capability is	for instance, the 'Virgin'			exists. It is by this means that
sufficient. Asset measurement is	brand.			one can prove the right to use.
independent of this capability.	Record 'yes'	Record 'yes'	Record 'yes'	Record 'yes'

[c] They are all capable of transference with or without an artefact. The artefact, however, provides evidence in the same way that an invoice or payment transfer provides some evidence in the accounting domain, except that no actual business transaction has to necessarily occur. An accounting transaction is one form of actualisation of the 'capability of transference', a subset that probably has more to do with establishing a reliable separable measurement than this specific separable function. Thus, a eureka moment by someone working on a new cyclonic vacuum cleaner in his garden shed or the farmer who gains from the birthing of a calf or some unexpected find of mineral deposits on his land are all non-transactions-based assets capable of transference and future use. It can be reasonably argued, though, that the attachment of an artefact to each asset's 'capability of transference' is no better than the accounting approach in terms of establishing a separable function. All it does is to provide the aforementioned evidence: the <u>patented</u> cyclonic vacuum cleaner, the compulsory <u>registering and tagging</u> of the calf with DEFRA, the <u>geologists technical report</u> on the size, quality and value of the mineral deposit (except that in the case of the last two assets this is additional to their obvious tangible existence).

Table 3e: The absence of a duration				
General Description	Trademarks	Trade Secrets	Management processes	Information systems
Where the function of an	The absence of visual	There are no social norms,	Where the function remains	Intangible information often
intangible asset can be	awareness is no	legalistic or otherwise.	with the human being the	has a short duration but may

separated from the human	guarantee that the	Despite secrecy there is	duration is indeterminable, as	be continuously renewed eg.
being and is vested in an	brand is 'dead' eg.	nothing to prevent	with tacit knowledge, and	weather reports, customer
Taphe Bfh The prohibition	fTraumphingtorcycles.	duplication eg. a drug	expires with the person.	lists, Windows '98/Xp/Vista
Getneral Deseriptiah	Andratienenersk may	formula. Thadu Secontis Ma	nAgeracht processes Inf	opination system based with
norms, notably, legalistic	be renewably long-	then 'zero' and any	automated it may be managed	or without copyright
ones	lived even where	advantage may be	by another human being for	protection which would
	exposure to the brand	extinguished by competitor	the foreseeable future.	ensure a long duration (but
And where longer use of	is minimal.	patent registration.	Difficult one!	not necessarily re use).
an asset is usually more				
valuable than shorter use.	Record 'yes'	Record 'no'	Record 'no/yes'	Record 'yes'

Asset usage can impose costs	'Harmfulness' is a matter of	A potentially	It is axiomatic that a harmful	There are plenty of
an others es pollution costs. Table 3g: Liability to executi	social judgement. So, for	harmful trade	management process invites	examples of harmful
General Description	Trademarks	de Secrets Ma	the possibility of legal nagement processes	information, for example, nation systems
notably, statutory ones,	brand would probably		salictions. Equally, whatever	computer viruses, adun
indicate who must pay to	regarded as being harmful,	used and when	is created or used by a person	video gaming, illegal
have their interests protected	at least to the Jewish	it is used,	should not, in principle, be	downloading, Chinese
against the costs imposed by	community, whereas, the	generally	harmful to others. However,	censoring of Google website
another party, improper use	'FCUK' brand might be	speaking, it is	civil law is replete with	etc. However, in each case
of an asset is often	regarded a being clever,	no longer a	instances where the principle	prohibition is subject to the
prohibited. Consider, for	rather than harmful, through	secret. An	fails in practice. Instances	changeable social norms of
example, the creation of	its similarity to a sexual	analysis of	like Enron and Worldom	the society using the
'carbon credits' (documented	swearword.	what has been	show that management	information – harm to one
artefacts) where pollution	Only a fool would	used is usually	processes are often	party may be protection or a
quotas may be traded within	deliberately set out to	sufficient in	insufficient to combat errant	warped sense of fun to
and between countries, in the	instigate a hostile response	that regard.	social action. Indeed, they	another.
same manner as fishing	to a brand – a self-imposed		may even encourage it.	
quotas, in order to sustain	prohibition.		_	
life.	Record 'yes'	Record 'no'	Record 'yes' in principle	Record 'yes' in principle

Comprehends a particular	A high profile	No artefact, no	Management is vested in	Social norms governing privacy of
use: settling debt. The	trademarked brand	sufficiency for	human beings and human	information are central to
sufficiency of an intangible	may well be accepted	intended	beings cannot to used to	establishing the worth available to
asset for that purpose is a	in settlement of a debt.	purpose.	settle debt unless one	settle debt. A banking IT system,
matter of agreement between	Anyone with enough		believes in slavery.	whilst the mainstay of the
the parties and social norms.	money can create a			business, probably has no value to
	luxury car but there is			anyone else. But the information
The artefact is important	only one Rolls Royce			contained therein (customer
otherwise the intangible asset	brand and it clearly			details), is a different matter
could potentially become a	had worth to BMW or			providing privacy laws allowed
vehicle for defrauding	they would not have			access. Other systems eg.
creditors, and national	bought it. A lender			Windows Vista – the artefact –
income would suffer	would know this too.			could probably be securitised on
accordingly as those with				the basis of a recognisable income
liquid capital would be wary				steam, which could then be used to
of lending it to those with				settle debt.
assets lacking this proviso.	Record 'yes'	Record 'no'	Record 'no'	Record 'yes'

Table 3h: Right to a residuary character						
General Description	Trademarks	Trade Secrets	Management processes	Information systems		
Refers to a situation where the rights to use or	The statutory	No artefact, no	Management is vested in	The right must of an		
control lapses. There must be social rules for	expiration of a	sufficiency for	human beings and there	involuntary nature		
deciding what to do, for whatever reason,	trademark unless	intended	is no residuary character	separate from the		
where the pre-existing legal rights to an	renewed.	purpose.	if a person decides to	person, such as		
intangible asset are no longer present.			manage nothing (or even	copyrighted		
For some intangible assets there is no	Brands may still be		dies!). The right must be	documents (the		
residuary character eg. expiration of a patent.	protected under the		of an involuntary nature.	artefact), which can		
For others, they may be periodically renewed	tort of passing off.			endure beyond death.		
eg. trademark registration. For others, the						
right may be passed after death eg. copyright.	Record 'yes'	Record 'no'	Record 'no'	Record 'yes'		

Table 3i: Right to capital				
General Description	Trademarks	Trade Secrets	Management processes	Information systems
Fisher (1906, p52) refers to	The constituent nature of	A well known leading	Adam Smith (1776)	One can capitalise labour
capital as "a stock of wealth	brand equity (Aaker, 1991,	cancer specialist who	argued the case for	on an input basis (eg. cost
existing at an instant in time",	p16) is more broadly based	declares that he/she	"investments" in human	of salaries of those
Salvary (1997) refers instead to	than in respect of the	may has a cure for the	beings – an input	inputting or constructing
a "stock of money" expressed in	artefact based focus of this	disease may well be	orientation (see also,	info. systems) and it is
nominal terms. In both cases	paper. Wood (1995, p550),	paid a considerable	Alfred Marshall, 1890,	clearly measurable but it
<i>capital</i> is interpreted in financial	though, in referring to de	sum for what only	p469; OECD, 1996).	does not necessarily mean
reporting terms as a positive	Chernatony and McDonald	they know – the drug	However, with an output	from the argument re
difference of assets over	(1992), adopts the 'stock	formula - but as soon	orientation, it is what	management processes
liabilities at the year-end. The	of wealth' argument in that	as they reveal their	human beings do: manage	that a measurable <i>function</i>
amount of that positive	brands represent a source	secret the capital is	processes in this case,	exists. The function lies in
difference depends on ones view	of "added value" (see also	instantly dissipated,	rather than the human	the subsequent wealth
of capital maintenance.	Wood, 1996). However,	the right then being	beings themselves or what	creating use of the artefact
	where marketers and	held in many hands	they tacitly know, that	created by labour eg. the
A measurable function is	accountants differ would	unless someone	constitutes the measurable	encoded/printed weather
triggered by the existence of,	undoubtedly be in the	quickly establishes a	function ^[d] here. It follows,	report, credit report etc.
and is traceable to, an artefact:	recognition of the added	patent right instead.	that if a human being	That is electronic
the separable product of	value from such abstract	There is no right to	decides to do little or	transference that requires
utilising the human 'asset' - the	sources as identified by	capital in the secret	nothing or to do it badly	physical retention (eg. a
process of structuralisation	Aaker (1991) - see Keller,	but there may be a	then there is, in principle,	CD) to evidence the
(Johnson, 2002): turning human	(1993) about the different	right in a secret that is	little or nothing to manage	'right'. It is the value of
capital into structural capital	motivations of accountants	then revealed. In that	and measure. The above	the artefact that is
(see also Edvinson and Malone,	and marketers. From the	instance in time the	input investment, if it is	problematic, labour cost
1997; Johnson, 1999; Stewart,	accounting perspective the	capital is immediately	one, is wasted - the	being a poor but easily
1997, Carson et al, 2004) though	only physically verifiable	converted into income	argument being reducible	measured substitute in that
this is not always associated	brand equity attribute is in	and both are lost	to one of 'control' (Table	regard.

with the existence of an artefact	respect of the trademark.	thereafter.	1a).	
domain.	Record 'yes'	Record 'yes'	Record 'no'	Record 'yes'
Table 3i: Right to discharge car	vital			
General Description	Trademarks	Trade Secrets	Management processes	Information systems
				· ·

[d] It is acknowledged though that this output orientation cannot be completely divorced from an input orientation because there is an obvious 'chicken and egg' type argument here: without the human being in the first place there is no thought, no purpose and no possibility of action.

Camprsheneighetrishtemalienate	Brand capital or brand equi	ity	A secret	If there is no capital then	Few people want old
General Description it, or to Tr	ademarksischarged	Trade	Severalsd is	there in the interest of the second s	einfomation atiot systems
destroy or waste it, or by any other	inadvertently, for example,		instantly	discharge.	academics?). In many cases
means, discharge it and thereby	Gerald Ratner of Ratners		discharged.		the capital tied to the artefact
deny oneself the right to	Jewellers talking about his		The right to do	Management is a human	will waste quickly: old
appropriate.	"crap products". However,		so will	centred process even with	weather reports, old personal
	previously damaged brand		typically be	automated ones – someone	addresses, old exchange
The oil rich owners of a patent for	equity, like John West food	ls,	vested in only	has to press the on/off	rates. Other systems, such as
a safe, cheap, compact and highly	can successfully reappear o	on	a few hands or	button! With human	gaming systems, may
efficient source of generating	retail shop shelves many ye	ears	just one.	'assets' one can certainly	endure. In both cases one
electricity may, in their own	after they were first withdra	awn.		alienate them but their	can destroy the artefact
interest, simply not use it. Thus it	It is hard to establish a norr	m		destruction, consumption	easily or simply not use it.
may exist as an artefact and it may	but that would not remove	the		or wasting is not an option	Knowing how much capital
have the potential to produce great	right to eliminate a brand, a	and		unless, perhaps, one	is discharged thereby is the
wealth and yet, in practice, never	thereby any capital in it, sir	mply		respectively subscribes to	problematic 'separable
do so – an entity specific, not a	by permanently removing i	t		execution, cannibalism,	measurement' issue.
market specific viewpoint (see	from public attention.			starvation.	
IASB, 2005b, p51).	Record 'yes'		Record 'yes'	Record 'no'	Record 'yes'

Tablest A incastrenie kenet	desevound be araniive	There can be income from a	There is no right to	The measurable
to the right to capital, notably,	income appropriated by the	trade secret but no right to it	income if people, for	function relates to the
in respect of capital	brand but separating it from	in the absence of the	example, decide not to	right to income from
maintenance (see, for example,	the income attributable to	artefact. One man's secret	manage or manage	the artefact, for
Whittington, 1974).	product to which it is	Cola drink-recipe is another	incompetently or become	example, a CD of
	attached is difficult.	man's opportunity to copy	sick or die, in which case	encoded software.
The income is from what	However, it is entirely	and appropriate income for	a measurable function	That is what the
people create, the artefact,	possible to reconstruct	themselves unless prevented	will not exist. Most	customer pays for.
which is then used to	charts of accounts to one	by the existence of an	management processes	The income is not
appropriate or prevent others	that is market and brand	artefact, for example, a	are, at least, initiated by	from person creating
from appropriating. It is	orientated, instead. So,	patent. The artefact	people.	or updating the
prevention that is perhaps the	prima facie, there can be a	removes secrecy but, at the		information despite
more important feature here.	reasonable attempt to	same time, establishes the		the obvious 'chicken
The right to income is	establish brand related net	<i>right</i> to income from it. The		and egg' type
strengthened by the existence	incomes if there was the	<i>rights</i> to capital and income		argument ^[d again] .
of an artefact but the right can	political will to do so.	are in effect linked in the		
also be established by custom		artefact.		
and practice.	Record 'yes'	Record 'yes'	Record 'no'	Record 'yes'

Table 3m: A measurement should be based on observation					
General Description	Trademark	s Trade S	ecrets Management Inf	ormation systems	
General Description	Trademarks	Trade Secrets	Management processes	Information systems	
Generally, the money metric	Various	At the point in time	Management processes are linked	Output centred upon what a	
(\pounds/p) and the time metric	measurement	where money is paid	to the concept of the use of a	person creates: artefacts.	
(hrs/mins) are individually	methods are	to the cancer specialist	human 'asset', in this case, their use	As with trademarks,	
additive but not when they are	employed (price	to reveal his/her secret	in managing processes. A few	multiple valuation based	
mixed together at different	premium, royalty	cancer curing drug	related measurement methods have	methods can be applied.	
points in time (ASB, 1999, p79;	payments, P/E	formula then, at that	remained within the money metrics	Where an information	
IASB, 2001, para.100, IASB,	multipliers etc) and	time, the amount may	of the financial reporting domain:	system is purchased, for	
2005a) or when they are mixed	therefore they are	be added to other	the capitalisation of historical costs	example, a registered	
with non-financial metrics.	not additive.	transactions based	(Likiert, 1967), opportunity cost	website domain name, the	
		amounts. Immediately	approaches (Hekimian and Jones,	value can be added to other	
Choose one financial		thereafter the secret is	1967), discounted wages and	transactions- based values	
measurement basis at one point		lost and with it the	salaries approach (Lev and	at that time only.	
in time (now, not past, not		capital and future	Schwartz, 1971), a replacement	Thereafter, value can be	
future). "As a rule, human		income. But, at one	cost approach (Flamholz, 1973) but	enhanced (as with Amazon	
potential is not expressed in		point in time the	they all mix money and time, even	or Google) or disappear	
terms of monetary unitsThe		measurement is	with historical costs. These	quickly, as GEC Plc found	
same applies to investments in		additive – interesting!	methods are all input centred upon	to their cost with the	
human potential (Milost, 2007,			the person anyway, not output	1990's internet bubble	
p124)". Therefore, measure			centred upon the artefact created by	crash.	
output from a human being, not			the person.		
their inputs – salaries etc.	Record 'no'	Record 'yes'	Record 'no'	Record 'no'	

			processes	
One can <i>currently</i> observe a transaction	The observation process	If it is secret	Most observations of	The separable measurement of
based cost or a readily ascertainable	can be one of verifying	then it is not	human beings are in	past and current income from
market value or an event such as a court	regulatory compliance in	observable	respect of what they do	some artefacts, like CD-based
order where the damages can be	the use of a 'selected	except when it	or have done, such as,	gaming software, may be easy to
reasonably estimated from documents.	valuation method'	is revealed in	manage processes.	observe. For other information
The same cannot be said for many	without material error in	connection	Their potential is	systems, the income may be non-
valuation based methods where the time	the way the measurement	with a one-off	currently observable but	existent, for example, encoded
frame is often future based and therefore	is conducted – a process	transaction.	it is not necessarily an	NHS patient records – an
not observable. It is the time frame that is	of indirect verification.		indicator of future	observed zero value perhaps? In
pertinent because even transactions-	Of course, the unresolved		potential. Anything that	both cases the artefacts are
based cost becomes a sub-set of	problem is which method		is future based is	observed and based on labour
valuation-based methods over time.	constitutes 'the best'		predictive rather than	outputs, not inputs. The issue
The obvious problem of observing	measurement method in		observable ^[e] (see	then becomes whether the
something that is intangible is obviated	the first place – a process		Aitken, 1990, p229 for	measurement of capital should be
through the use of physical substitutes:	of direct verification (see		further reasons). That	based on the observed
artefacts. Whether one would be	IASB, 2006b; Barth,		said, what we want to	measurements of income, above.
prepared, for example, to accept the	2007, p14). See Arthur		measure here are the	The short answer is 'no' – see
observed securitisation of a music	Andersen & Co. (1992)		observed labour	Damant (ASB, 1995, previously).
copyright artefact or the observed	for political lobbying to		outputs: the created	It follows that any observation of
royalties paid for the use of a trademark	this effect. A difficult		artefacts that subsist	the value of the artefacts will
artefact or the options to do so as a valid	one to categorise. On		separately from the	have to be a process of indirect
approach for all such assets is unclear,	balance, currently		person (and their future	verification – same as
but it is not beyond the 'wit of man' to			potential) – not	trademarks. Again, a difficult one
make it so, or some other model, through		If secret	applicable.	to categorise. On balance,
the accounting regulatory process.				currently
	Record 'no'	Record 'no'	Record 'no'	Record 'no'

[e] The implications for future based valuations such as value-in-use, forecasts, some allocations and even some accounting standards (for example, cash generating units as part of impairment reviews) are extensive. It is interesting to note that a recent IASB definition of an asset provides some tentative support for this point: "An asset of an entity is a present right, or other access, to an existing economic resource with the ability to generate economic benefits to the entity" (IASB, 2006c, IASB Update, December 2007)

Reference is made in this quote to "present" and "existing" and no mention is made to "future" economic benefits. However, those "economic benefits" are still not articulated in terms of a single measurement method. So, for example, if a net realisable value method to accounting is chosen by standard setters (see IASB, 2006a), then, in implicitly referring to a *future* sale (unless actually realized today), the mix of time frames (present and future) would still apply even though this *future* is not explicitly contained in the above definition. Also note that the element of "control" is now missing from the definition: a criterion in this paper. Note, also the opposite situation: that the issue of a "resource" (see Hall, 1991, 1992) is missing as a criterion herein because, to repeat, the need to specify what a resource is by nature simply replaces the need to specify what an asset is by nature (see Weetman, 1989).

Table 3n: Bundles of assets should be avoided (wherever possible)				
General Description	Trademarks	Trade	Management	Information systems
		Secrets	processes	

A separable measurement should be	The most controversial criterion	No need to	No artefact,	The sum of the value of the CD
tied to a single asset, rather than as a	because, according to Aaker	do so.	therefore, nothing	copyrights on the individual Harry
bundle, otherwise, it may be possible	(1991), brand equity is a "set of		to bundle.	Potter films will probably be greater
to inadvertently dispose of or	assets" ie. bundled, and virtually			than the boxed set when all of them
discharge individual assets, notably	impossible to un-bundle and			have been released. And a clever
the intangible ones, whilst leaving the	measure separately. We do not			business person knows how to obtain
measurement of the bundle intact.	try. Politically one must decide an			value individually and/or when
	appropriate lowest level of			bundled. Likewise with any
In the absence of an artefact (the	aggregation or, perhaps more			component software of an integrated
traceable object) there is a danger,	appropriately, disaggregation at			system. The key feature is the artefact
particularly in respect of intangible	which to report assets (is it bricks			(the traceable object) because this
assets, that one may end up disclosing	and mortar or is a building?). Our			establishes user rights to the
the measurement of something that	decision is based upon the			intangible asset whether individual or
has little or no function let alone a	trademark artefact. Whatever			bundled. The unresolved problem
separable function. It is	marketing "asset" that may or			though is how to remove duplication
acknowledged, though, that this could	may not be attached thereto (eg.			when trying to establish a separable
be a practical problem for many	name awareness) is ignored in the			measurement for one or the other or,
compound financial derivatives.	accounting domain.			perhaps, both at the same time.
	Record 'yes'	Record no	Record 'no'	Record 'yes'