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MAKING INTANGIBLES VISIBLE

Understanding and reporting the
financial impact of intangibles and building a bridge
between Accounting, Integrating Reporting and
Sustainability

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Purpose and goal

Business activity and the value of a business entity increasingly depend on intangible assets. This is reflected in the growing valuation of goodwill occurring from mergers and acquisitions. It also contributes to a growing gap between market values and book values.

Accounting standards define the conditions that must be met for an expenditure to be recognized as an asset. With a few exceptions, including the acquisition of goodwill, the cash paid to create intangibles is treated as an expense. It is therefore a fact that under the IFRS currently in force, the financial statements do not reflect all the resources that an entity possesses.

The International Integrated Reporting Framework has highlighted this, drawing attention to the different types of resources (capitals according to the terminology used by this framework), which can be found in an entity, classifying them into six types: financial, manufactured, intellectual, human, social and relationship, and natural.

Under current reporting approaches, investors have no visibility into the current or cumulative expenditures on these intangibles, their contribution or risk to the sustainability of the business model as a going concern, nor their health relative to continued value or depletion. The relationship between the actions carried out in relation to the different capitals and the cash flow applied for it is not visible either.

There are two issues that are closely related: the non-recognition of certain intangibles and the lack of visibility of the related investments to create said intangibles that are part of the capitals not directly reflected in the financial statements. There is therefore a concrete opportunity to align and incorporate these concepts of the Integrated Reporting Framework in the search for a solution.

Recent publications such as FRC discussion paper on reporting intangibles suggested the disaggregation and separation of “future oriented intangibles” from total operating expenses. In our opinion, introduction of new terminology may be better reflected by analysis between “operating expenses” that match current revenues and other “sustaining expenses” that are incurred to create and sustain the intangibles that form part of the organizations business capability model.

The purpose of this paper is to contribute to developing a concrete proposal to make intangibles more visible, by suggesting ideas and changes to three core aspects of financial accountability and reporting, that are increasingly creating challenges:

a. The lack of visibility of those cash flow expenditures that can be classified as “sustaining expenses” or “future oriented expenses”, used to create intangibles, and the impact these have on apparent operating margins.

b. The lack of disclosure related to the growth, sustainability or depletion of these internally created intangibles, and the impact that may have on an organizations ability to remain competitive.
c. The continuing difficulty in building meaningful linkages between financial reporting and the broader based approaches contained within integrated reporting and related metrics.

This paper does not attempt to suggest changes in the underlying accounting standards and the conservative approach to the treatment of intangible assets at this time. Rather to suggest alternative approaches to aid visibility and understanding of their creation, and their ongoing importance as a foundation of business value and capability.

The growing relevance of intangibles

For almost fifty years there has been a growing trend of business investing cash to develop, improve and sustain intangible assets. This has given rise to several issues including:

1. Significant impact of operational cash flow being directed to resource development of intangibles[i]
2. Increase in the amount assigned to goodwill arising from mergers and acquisitions.
3. A rising awareness among investors and others of the importance of intangible assets as a core element of most business models.
4. A concern over the limited understanding of business risk related to quality and health of intangibles.
5. A growing gap between the market value of a business and the accounting net book value.

In seeking solutions to these issues, various organizations have proposed new or expanded approaches to corporate accountability and reporting. Central to this has been the theme of supplemental reporting, including the expansion of the concept of business resources or business capitals, from the traditional aspect of financial reporting, to one that embraces people, the environment, customer, suppliers and other partners, tangible assets, and knowledge. As already mentioned, these have been defined as six capitals.

Regulators have also been responding to market concerns and investor pressures, to enhance the breadth of corporate disclosure, in many cases with non-financial information to supplement understanding of risk.[1]

Business owners and managers, facing continually growing competitive pressures, are becoming subject to greater reporting demands which are often seen to add limited value to

[1] We consider two papers to be particularly important: "Business Reporting of Intangibles: Realistic proposals", a discussion paper prepared by staff of the UK Financial Reporting Council (February 2019) and more recently "Better information on intangibles. Which is the best way to go", a discussion paper published by EFRAG (August 2021).

their role to effectively manage the business. These demands also drive-up administrative costs. Business is now starting to push back for more simplified and standardized reporting.

The challenge is how to address the changing needs of the market, while maintaining the integrity of financial and reporting standards. Any solutions that maintain this integrity, must start with an understanding of the development of the intangible economy (or the knowledge economy, or as Warren Buffett used the phrase "the asset light economy").

This paper reviews the challenges of these changes in the structure of business and the rise of intangibles and suggests possible courses of action that could provide greater understanding and insight yet limit the proliferation of new demands for reporting.

The rise of the intangible economy

The service sector started to have an impact on investment, employment, and growth in the 1950's. Technology, particularly computers and communications accelerated this trend. Human work shifted. Manufacturing jobs moved from developed economies to newly emerging countries mainly in Asia, where labor costs were significantly lower. Automation and robotics were also introduced further reducing manufacturing employment.

Employment positions increasingly required higher educational capability, to work with the developing technologies. All these changes caused a significant shift in the allocation of financial resources. Organizations invested in technology-based capital assets, but as the cost of these declined, the largest cost was increasingly that incurred to hire, train, and compensate people.

A growing gap was starting to open up between the market value of organizations and the accounting value.

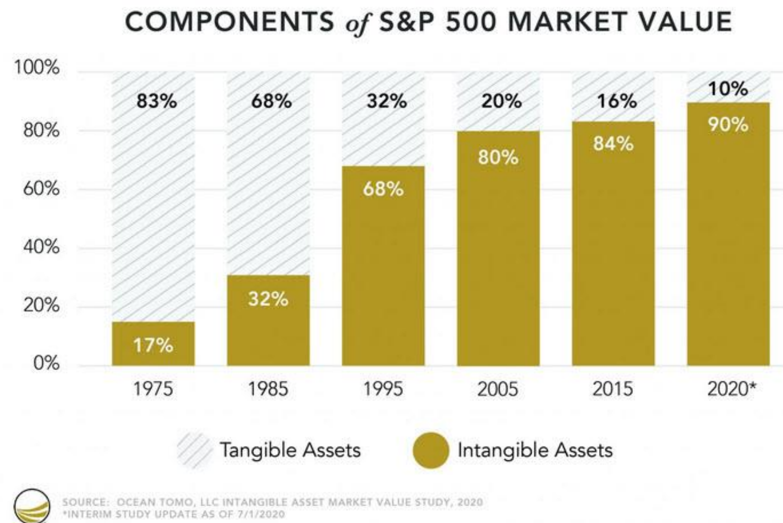

Figure 1 The growth of intangibles as a portion of an investors value

In basic terms Figure 1 demonstrates that on average, 90% of the value investors are paying to invest in an S&P 500 company, is not represented by the accounting balance sheet. In 1975, investors were able to see that 83% of their investment value was supported by the accounting records. Assets less liabilities, with the assets representing principally tangible assets.

The underlying accounting shift is that cash flow, that was being invested in ***tangible assets*** in 1975 hasn't disappeared, ***it has been re-directed to intangibles***. These are the intangible investments that represent today's business model. What are the intangibles resources that organizations are investing in?

- Building supply chain relationships - as examples those between manufacturers in Asia and assembly plants or the market in North America and Europe.
- Building relationships with clients - as supply chains are more integrated, the line between customer and supplier becomes blurred. Many work collaboratively on new products and services.
- Investing in the design, development and sustaining of processes, systems and job aids through which work is carried out.
- Training and development investment in the workforce, to constantly upgrade and renew skills.
- Investing in building brand and reputation in the market.
- Investing in leadership and management skills to create a workplace that supports cooperation and collaboration, encouraging diversity and inclusiveness.
- Investing in people who create ideas, innovate, and improve, to develop tacit (personal) capabilities and knowledge of the business.

- Developing new ideas into intellectual property that can be protected and developed as a commercial asset.
- Developing new types and sources of materials that reduce or eliminate negative environmental outcomes.
- Investing in reducing environmental pollution from production process outputs.
- Investing in reducing the negative impacts of products on the environment or consumers.
- Investing in sustaining relationships with the community within which the business operates, to foster support and develop a reputation as an attractive employer.
- Investing in working with higher education, to raise awareness and attractiveness of the business as an employer of choice for the key talent required.
- And other similar concepts.

Investing in capabilities such as the above are essential to developing the capability, capacity and sustainability of the value generating business model required for today's business model and operational capabilities.

Where is the money?

Why has this failure to track intangible resource investment been allowed to happen? If the cash is being re-directed, why is the investment into intangible assets not shown anywhere? Primarily because these capabilities or assets cannot be recognized under current accounting standards. When intangibles are created internally, they are generally not treated as assets (with a few exceptions). They fail to meet the criteria stated in IAS 38.

So where did the money go if it did not end up being shown as an intangible asset? To answer this, we look to the simple choices given to classify expenditures: they are either an asset or an expense. As intangibles are not classified as an asset, then the labor cost incurred in paying people to create these capabilities is treated as an expense. Therefore, the expense shows on the income statement as part of the Cost of Goods Sold or as part of some other "period" costs-General and Administrative, or Sales and Marketing. In some cases, research and development may also show up in expenses, although some portions of this might have been treated as an asset if it met the criteria for recognition under accounting standards.

It is a very conservative approach in that the money spent is written off – gone - charged against current revenues. However, what this treatment is doing is distorting current earnings and at the same time hiding the investment in intangibles with the potential to be value generators in the future (future oriented expenses or sustaining expenses). Historically, a large portion of the work that people were being paid for, was related to their work in converting inputs to outputs, that would then be sold to customers resulting in current revenues.

Charging these costs (operating machines, buying, receiving, moving, and managing materials, maintaining equipment, administering activities related to current revenue generation) against current revenues made logical sense. It also met the accounting expectation of matching costs

and revenues. But as the nature of work changed, so an increasing portion of peoples' activity was no longer involved in current revenue generation but shifted to designing and building system capability (IFRS Economic Resources). Charging these disbursements against current revenues in the period incurred is no longer logical.

One of the most often heard complaints is that spending on training and development is adding to the future value of the workforce and therefore should not be fully charged against current earnings. Equally, the activities that sales undertake in developing new customers could also be considered an investment for future benefits. This observation can be applied to many of the intangibles being created; they are building the foundations for both current and future operational business capability. As this proportion of expenditure has increased, there have been two major impacts.

First, the current operating expenditures are overstated, because they include future-oriented expenses or sustaining expenses related to intangible asset or resource building.

Secondly, there is no visibility on how much of the cash spent might have been wasted as excess operating costs versus how much was directed to building future value generating capability.

As long as the organization's expense to sales ratios remain the same or even improves, and it earns a profit, then is it fair to assume that management is managing costs effectively? If the margins improve what does that tell the reader? Are the real underlying expenses related to generating revenues actually improving, or is management cutting back on the expenses being directed at building and sustaining the operational capacity? Is management increasing risk of future sustainability by enhancing current earnings?

Because there are none of these "unrecognized" intangible assets on the balance sheet, nor is there any additional information about them reported elsewhere, there is no indication of the accumulated investment that has been incurred to develop operational capacity. So, the gross level of accumulated intangible asset value is unknown. Because these intangible assets are not part of the accounting records and there is no additional information about them either, there is no assessment of their quality or impairment.

Essentially, because of the way accounting standards require cash invested to create intangible capabilities to be treated, and also due to the lack of complementary information on the investment made on the creation of those intangible capabilities, users of financial statements have no visibility into intangible asset creation or impairment of future capacity. However, this investment and conversion of financial resources into intangible assets, providing capacity and capability, is in reality building a phantom or invisible balance sheet. Investor equity and organizational value are increasing, and should the business be sold, merged, or acquired, a large portion of these phantom assets will become crystallized again on the balance sheet, as goodwill.

The concept of non-financial capitals

Financial capital has long been a recognized term. In the 1960's the term human capital was introduced initially by economists as a way of demonstrating the increased value a person could develop if they were more highly educated (increase their human capital). In the late 1990's, in the UK, work started to create a new model for understanding corporate capability and reporting. This was published in 2005 under the auspices of The SIGMA project.

The SIGMA model suggested a core of financial capital and manufactured capital (tangible assets mainly), supported by social capital and human capital, and then surrounded by natural capital. This work contributed to the issue in 2013 by the IIRC of the six capitals[2] model, that included six capitals: financial, manufactured, human, natural, social and relationship, and intellectual. Historically, in the early days of discussion on the knowledge economy, the term intellectual capital had been broader and included people and their knowledge. These six capitals became the foundation of the ideas of integrated thinking and reporting moving forward.

The concept of the six capitals held that these comprised all of the resources that an organization used as inputs for its business model. This model took inputs, processed these through activities to create outputs, and these collectively became the organizational outcomes. Outcomes would reflect one or more of the six capitals. As an example, profit would be a financial capital outcome.

If the total resource inputs to an organizations business model were all included within these six capitals, then it would follow that tangible and intangible assets would be part of and included within these. Manufactured capital clearly includes fixed or tangible assets. Natural capital includes what have often been called "externalities", those things that organizations use but do not directly pay for.

The market view or economic value of an organization reflects how the market views the effectiveness with which management has brought together and uses all of its resources, to create the desired outcomes, which include the ability to create a return for shareholders financial capital. The goal of management is to leverage its resources in such a way as to optimize value creation. The greater the ability to leverage the resources the greater the market value, as long as short-term decisions, actions, and results are not destroying the business model that has been created.

The intangible assets are in some way and to some level contributing to the investors value and thus their "capital at risk." Additionally, many of these exist because cash has been used to create them. In some moment they have been "future oriented expenses or sustaining expenses" that have become intangibles, although not recognized for accounting purposes as assets.

[2] The term "capital" can lead to confusion, considering that, in accounting terminology, capital is the financing provided by the owners of the entity. Although it does not go to the essence of our proposal, we suggest replacing this term with resources, more clearly related, in accounting terminology, to assets.

Given the size of monies being invested into building intangible capabilities, these costs and the resulting assets are usually material in terms of an organization as a going concern. These intangibles not recognized for accounting purposes are closely linked to the capitals mentioned by the International <IR> Framework even though they are not shown in the financial statements.

In fact, today the underlying resources are reflected by the six capitals, and management's ability to leverage these to create value. The growing gap between book value and market value seems to suggest that the cash being diverted to future oriented expenses or sustaining expenses reflects the changing model. Therefore, if one could look at the cash being invested into intangibles - even though accounting may be treating them as an expenses- a better understanding of the value of the business model might be seen.

This use of cash resources would demonstrate how management builds and sustains its value creation capability.

Proposed reporting of sustaining expenditures

We do not want to present our proposal starting from scratch, since there is already very good work done on this matter. In particular, we want to build on the EFRAG Discussion Paper "Better information of Intangibles: which is the best way to go?", published in August 2021. This Discussion Paper identifies three different approaches for better information on intangibles:

1. Amending recognition and measurement requirements for intangibles
2. Providing information on specific intangibles
3. Providing information on future-oriented expenditures (or future-oriented intangibles) and risk/opportunities factor that may affect future performance.

While we believe that the three approaches are not mutually exclusive and can be combined, our proposal focuses on supporting the third approach and seeks to contribute some further elaboration.

We consider that this third approach will allow an advance in understanding, together with a significant improvement in the quality and integrity of the information. It will also allow both the profession and users of reports, to gain experience on the identification and monitoring of sustaining expenses or future-oriented expenses and the process of generating intangible resources, which will be extremely useful at the time any change in the recognition criteria could be implemented.

In line with the above, we also think that a solution based on disclosures is much more likely to be implemented more quickly.
Below we present the specifics of our proposal.

1. We don´t propose any change in the traditional recognition criteria for intangibles, at least initially.
2. We support the idea of presenting complementary information on sustaining expenses or future-oriented expenses. More specifically, we consider it convenient to present accumulated information on this pool of investments in intangibles. This information should be presented in a note or annex to the financial statements.
3. We also support the idea of presenting information on risks/opportunities in relation to unrecognized intangibles that may affect future performance. This information should be presented in a note to the financial statements.
4. Regarding the information on sustaining expenses or future-oriented expenses that represent investments on intangibles, we consider that entities should be asked to present separately expenses that according to the management relate to the current and past earnings and those incurred to generate earnings in a future period[3]. In other words, we favor the alternative that the responsibility for the split rests with the entity's management. Although this will imply some level of subjectivity, it is not too different from what is required to present certain information that is already presented in the financial statements today. On the other hand, like the rest of the information contained in the financial statements, this information should be subject to audit examination. (We also note that this suggestion supports the recent submission by academics in the accounting profession to the SEC[ii]).
5. The newly submitted note or annex should have these essential characteristics:
   a) It should reproduce the Statement of Financial Performance or Income Statement and for each line of this statement indicate how the reported balance is opened between "current or past earnings" and "future-oriented expenses" or "related to earnings in future periods" or what we called “sustaining expenses”. In turn, the latter should be opened by each of the capitals: human, social and relationship, intellectual and natural (see Appendix 1)
   b) It should consist of accumulated information[4], that is: starting from the final accumulated balance at the end of the previous period, showing the increases and, where appropriate, decreases, and the balance at the end of the new period.

[3] Point 5.10 a) of the EFRAG Discussion Paper "Better information of Intangibles: which is the best way to go?", published in August 2021.
[4] On this point we agree with the Discussion Paper Business Reporting of Intangibles: Realistic proposal, published in 2019 by the staff of the UK Financial Reporting Council (FRC)

c) We agree with the EFRAG Discussion Paper that it is not necessary to identify specific intangibles.

d) It may be convenient to include more detailed information on the additions of the period to the pool of future-oriented expenses or sustaining expenses..

6. The logical approach to developing cost pools for financial resources assigned to the creation and sustaining of intangible assets, is to follow the categories of “other capitals” developed for integrated reporting. This would achieve two main goals. First, it would provide a consistent foundation for the categories of expenditure that are considered “future oriented expenses or sustaining expenses.” Secondly, it would provide a bridge between the developing metrics for each of these capitals, with financial capital. While the main headings for these cost pools would be the four additional capitals developed by the IIRC, there would probably be reason for the sub-division of these high-level groupings into sub-categories related to stakeholder materiality (see examples in Appendix 2)
7. Using the categories for “non-financial capitals” identified as a foundation of integrated reporting will start to bridge financial expenditures and the creation of intangibles. This will start to allow the linkage between consumption of financial capital incurred in the creation of intangibles and their accumulating value to the organization as an “invisible” asset.

The central aspects of this proposal were also included in the document submitted for consultation by the Financial Reporting Council, entitled *Business reporting of intangibles: realistic proposals*, although in that work the disclosure of the accumulated amount of the investment in future oriented expenses was not postulated. As a result of said consultation process, the following objections arose:

- The inherent subjectivity in the distinction of expenditures between period expenses and "future-oriented expenses"
- The difficulty of executing this distinction in a consistent and non-arbitrary way
- The possibility of manipulation by management

We agree that these are real risks. However, the same objections apply, to a large extent, to many of the estimates that are currently made and accepted in the preparation of financial statements.

The key question is, what is the line for determining when an expenditure is not a current expense and can be considered as a future oriented expense or sustaining expense?
Is it possible to have sufficiently clear criteria to carry out this classification?

We consider that it is possible.

In the past, the principle of correlation between expenses and income existed, according to which if an expense was related to a current income it was charged to expenses and when it

was related to future income it was considered an asset. And to this rule it was added that when it was not clear if it was related to future income, then it should be charged to expenses. If this criterion existed and was applied in the past, it should be applicable in the present. It is true that there will be an inherent subjectivity to this analysis and that it can lead to manipulation, but it is also true that it is possible to do it reasonably well.

Not trying would deprive us of very useful information.

The challenge of impairment

Although the expenditures related to sustaining assets have not been recognized as a capital expenditure and thus shown as a balance sheet asset, the identification and roll forward is created as an annex or note to the financial statements on the basis that there is future value assumed in the expenditure.

One question to be resolved is the mechanism to monitor in what way and for what amounts, that cumulative number of sustaining expenses or investments in intangibles is either being consumed to produce the expected benefits or losing the capacity to produce future benefits, due to whatever reason.

In other words, the information on the year's investments in intangibles (sustaining expenses or future-oriented expenses) is relevant, as is the accumulated investment in this concept over time. However, if this investment accumulates without limit and without reference to its specific effect in terms of value creation, over time this information will begin to lose relevance.

It makes sense, then, to look for some mechanism to check if the accumulated investment has its correlate in the creation of intangibles for the entity and, where appropriate, reduce that accumulated investment.

For some investments in future intangibles, in which there is a previous project and a clear idea of the asset to be achieved and the way in which that asset will be consumed, it is possible to consider that monitoring. However, we are very much afraid that in other cases "keeping track" of the evolution of these internally generated intangibles in an individualized manner may be an excessively complex task.

Given this complexity, at least at an early stage of applying the proposed disclosure requirements, we think that some sort of global monitoring may be preferable.

The challenge is to demonstrate the relationship between accumulated investment and the total amount of unrecorded intangibles.

In general terms, it can be said that the difference between the market value of the entity and the book value is given by three elements:

- the highest market value of the assets recorded in respect of their historical cost
- the value of unrecorded assets, mainly identifiable intangibles that were created over time but were not recognized for accounting purposes.
- the goodwill

The first element is not related to investments made in intangibles. Therefore, what should be ensured is that the accumulated investment in intangibles does not exceed the sum of the other two: unrecorded identifiable intangibles and goodwill.

Identifiable intangibles can be estimated in the same way that they are estimated in the case of an acquisition. The excess of the accumulated investment in intangibles over the value of unrecorded identifiable intangibles would in principle be goodwill.

In other words, the cumulative amount of investments in intangibles (sustaining expenses or future oriented expenses) should not exceed the sum of identifiable intangibles and goodwill. Identifiable intangibles can be measured. Therefore, what remains is to check that the amount of goodwill necessary to support the accumulated investment does not exceed the actual goodwill or at least is recoverable by applying the criteria established in IAS 36.

The actual goodwill could be estimated considering the market value. One reason that many sustaining expenditures are not classified as intangible assets is because of uncertainty (as to identifiability, power to obtain future benefit, and the actual impact of that benefit). However, goodwill exhibits many of these characteristics but it has to be recognized in the case of mergers or acquisitions as it is created in monetary terms once asset and liability classification has been exhausted. A similar approach might be taken annually by looking at the market value of the business entity as a basis for "non-impairment" of identified sustainable expenditures that are being carried forward. A possible criticism of this approach would be that the market value could be influenced by the cumulative amount of investments in intangibles disclosed in the financial statements.

Another possible approach would be to consider the amount of accumulated investments in intangibles, net of identifiable intangibles measured at market value, and add this amount to the goodwill impairment test.

IAS 36 deals with impairment of assets and applies to goodwill. While there continues to be debate around the approach to amortizing and testing goodwill, the impairment approach remains "the best principle". The test for impairment is based on "…comparing the carrying amount of the (business) unit, including the goodwill, with the recoverable amount of the unit". Thus, the goodwill itself is not being tested for impairment but the total value of the combined business unit as a "value creating system."

We are aware that this is not a perfect solution. There may be better ones. We therefore think that this issue should be the subject of analysis and research in search of the best possible

solution. What would not be convenient is to abandon the rest of the disclosure proposal while waiting for that perfect solution.

Summary

The nature of business has changed in particular how management assigns cash flow and what factors and resources underpin organizations capability models. These types of change typically result in changes to accounting standards. Integrated reporting has developed a framework for understanding the six major resource groups that are used in creating and operating a value creating business model. In many cases these categories of resources consume cash that is not disclosed in an explanation of operating expenditures. Nor do users of financial statements have visibility into the accumulated amount of these "investments" nor their health or sustainability in terms of a going concern business model.

Expanding disclosure of operating expenses between operational and sustaining items would support the objectives outlined in the IASB Conceptual Framework and redress the balance between simplicity and necessary detail. Presenting such added disclosure within a framework of the resources identified in the six capitals integrated reporting model will begin the process of building a bridge between financial reporting and performance reporting related to the six capitals.

In order to move towards better information, it will be necessary to find the right balance between objectivity and usefulness, and accept that more useful information will require a greater level of subjectivity.

It will be difficult to make significant progress in the scope and quality of the information to be included in corporate reports if it is not based on trust in the aptitude and objectivity of the information preparers and in the effectiveness and reliability of independent audits, responsible for providing assurance on the aforementioned new information.

Appendices

Appendix 1

Example of Annex showing sustaining or future-oriented expenses

	Notes to accounts	Financial statements	Operational	Sustaining or future-oriented	Human (Capital)	Relationship (Capital)	Intellectual (Capital)	Natural (Capital)
Sales		$100	$100					
Operational expenses		$50	$40	$10	$5	$2	$2	$1
Gross profit		**$50**	**$60**					
Research & Development		$8	$5	$3			$2	$1
Sales and Marketing		$15	$10	$5		$3	$2	
General & Administrative		$19	$10	$9	$3	$2	$2	$2
Net operating income		**$8**	**$35**					
Other income / (expenses)		$2	$2					
Net profit before tax		$10	$37					
Provision for taxation		$3	$3					
Net profit after tax		**$7**	**$34**					

Sustaining or future oriented investment				$27	$8	$7	$8	$4
Adjusted gross profit			$60					
Adjusted net operating income			$35					

Example of accumulated sustaining or future oriented investments

Note: this table is illustrative ONLY. It is probable that, at least initially organizations would have difficulty in segregating sustaining or future oriented expenses into individual categories (human, intellectual, relationship, natural). In which case reporting should start with just the first two columns.

	Notes to accounts	**Cumulative Future oriented intangibles**	**Human (Capital)**	**Relationship (Capital)**	**Intellectual (Capital)**	**Natural (Capital)**
Sustaining or future oriented spending brought forward	a)	$210	$56	$44	$65	$45
Current period investment	b)					
Human capital		$8	$8			
Relationship capital		$7		$7		
Intellectual capital		$8			$8	
Natural capital		$4				$4

Cumulative sustaining or future oriented investment before impairment		$237	$64	$51	$73	$49
Adjustment for impairment	c)	$23	$10	$5	$8	$0
Sustaining or future oriented intangible investment carried forward	d)	$214	$54	$46	$65	$49

Example of notes to the accounts

a) Total amounts to date charged against income that represent investments in future intangibles
b) Amounts charged against current income representing investments in future intangibles
c) Management's evaluation of depletion to future oriented investments created by operational decisions (see MD&A summary).
d) Balance carried forward representing notional investment in future intangibles, charged against cumulative shareholder equity.

Appendix 2 The Six capitals and their link to accounting

If we take as a reference the six capitals or resources mentioned in the International <IR> Framework, the current financial information includes:

- Financial resources
- Manufactured or industrial resources
- Some intellectual resources (those acquired)
- Some social and relational resources (acquired ones)

Therefore, it does not recognize or does not consider:

- Most of the intellectual resources or intellectual capital
- Most of the social and relational resources or social and relationship capital
- Human resources or human capital
- Natural resources or natural capital

It is often said that these intangible resources not recognized for accounting purposes are "self-generated", but as we have seen, it should be said more precisely that they have been generated through investments made by the entity over a certain period of time. Below we make some considerations about these capitals or resources not included as assets in the financial statements.

Human capital

Human capital might be considered the most contentious of the six capitals, primarily because people are not assets, they are not controlled by the business. People are individuals. However, people are clearly a key resource utilized in the business model. The term human capital comes from an historic economic view[iii] that “people increase their (individual) economic value through added training and education.”

In the industrial economy, in the world of “men, money, and machines,” the term “work” focused on the individual level. Productivity focused on looking at the individual and making their work more productive using techniques such as industrial engineering[iv]. However, starting in the 1970’s it became recognized that performance, productivity, and quality were increasingly impacted by the collective efforts of people working in groups or teams. This was a foundation of the quality management revolution and continued as machines were replaced by knowledge as an enabling capability.
This change in the role of human capital, results in three distinct and growing areas of investment. hiring, orientation, training and development of individual human capital; building the workforce of collective human capital through investments such as team development; and investing in leadership to build human capital compatibility. It is the combination of all three

areas of investment that creates a "value of human capital" that is a significant portion of an organizations intangible value.

Individual human capital.

Because people are not controlled by the business, they are not an asset. However, in cases where a business upgrades the skills of individuals through training and development, they are making an investment. So, it is fair to say that these costs, currently written off as expenses are creating a hidden intangible asset. Organizations also expense significant amounts on building their workforce, by selecting and hiring individuals. There is generally an assumption of a lasting value to people who are hired and thus these costs are in fact creating an intangible asset - the cost of acquiring the workforce that has a value.

These aspects of human capital in the definition stem from the first phrase - *"people's competencies, capabilities and experience,"* however the remainder of the definition deals with what happens after individuals are hired - once they become a member of the "collective." While a person remains an individual, their contribution comes from being part of the greater collective workforce. This is a critical issue in total organizational value because the enabler of value creation has shifted from machines or capital assets enabling value creation, to the interaction of people plus applied knowledge as the enabler. Relationships. People collaborating with people. (Relationships are discussed later).

Collective human capital

A key growth area for investment in human capital comes from building the collective capacity of the people assembled who make up the workforce. Areas such as developing team skills, collaboration and cooperation, silo busting, group problem solving, plus all areas of supervisory and management skills. All these are investments made to build the capability of the collective workforce. As the major portion of the definition suggests, expenditures on communicating strategy, linking it to the persons job and all activities related to morale building and motivation are essential aspects of human capital.

A whole new field has been developing in understanding and optimizing the value of the workforce, and this relates to the unique nature of individuals as resources in the value creation model. The definition talks about key aspects of human capital that include alignment, support, values, loyalties, motivation, and collaboration. More recently these have been the subjects of discussions around corporate culture and employee engagement. Many of these attributes come from the collaborative ability of the workforce, which is often driven, not by education, skills, and experience but by emotional responses to the work environment. The type of workplace created determines the level of individual commitment and engagement with value creating activity.

Investments to enhance the workplace in the "machine enabling" environment often dealt with physical health and safety. In the knowledge economy these investments focus more on mental health and safety. Aspects such as diversity and inclusion. A growing focus is on behaviors in

the workplace and helping teams understand how they can work more effectively together by understanding the interaction of different individuals. All of these investments in the collective workforce are building intangible capability.

Enabling compatibility

Each business exists for a purpose and its business model is created to be "fit for purpose." The model takes the necessary inputs and brings these together or integrates them through processes, projects, and activities to create outputs. The combined outputs enable the organization to achieve the desired outcomes from the model. The more effectively management designs, builds, and operates this model the greater the value of the business. This is where the term "enabling compatibility" comes in. When using machines, the human / machine interface must be optimized for maximum effectiveness; in the mining sector, the machine / natural capital interface must be compatible.

In a capital-intensive business, equipment manufacturers made the necessary investments as part of the equipment cost to maximize operator compatibility. In good software design, systems are created with optimum human interfaces to maximize effective interaction. The more effectively the business model creates its compatibility interactions the greater the performance. When "capitals" are brought together to convert inputs to outputs, the processes through which this happens are designed for optimum performance. But what about when people are brought together with other people? Will optimum performance occur naturally, or will some investment be required to optimize compatibility?

Organizations have realized that investments required to ensure compatibility are a critical part of building their business model. Increasing amounts are being spent on the collective aspects of organizational capability. The value created by an effective business model, where the collective workforce is compatible and operating at a high level of cooperation and collaboration creates significant value. This is the central component in creating effective organizational cultures. Organizations that are shown to have positive cultures generally are shown to have higher performance and thus command a greater value. At the heart of sustaining this compatibility is the effectiveness of those in leadership positions. Thus, leadership development investments are strategically critical.

Investments in human capital

Almost no costs associated with developing human capital are currently captured or reported; current financial statements reflect costs being incurred to build individual financial capital, collective capital, and operational compatibility as current expenditures. These costs have grown exponentially as the intangible economy has grown. Additionally, costs associated with even acquiring the workforce are considered a onetime expense. All of these costs have been incurred as management develops its business model yet almost none show as assets. Because none are shown as assets there is also no knowledge as to whether these investments are being enhanced, sustained, or depleted.

The use of ABC (Activity Based Costing) to collect costs around cost objects that are directly linked to the creation of capability and capacity would provide useful input to the investment in the workforce. Clearly this is both a highly "under-reported" area and also one developing an accurate portrayal of value, will be challenging.

Major amounts of corporate cash flow are being directed to the development of both individuals and the collective workforce. This includes not only training and development but building people-centric policies, processes and procedures, plus other factors consistent with building an effective corporate culture. All these costs have been expensed and are buried in operating expenses. There is no value attributed to these accumulated investments as putting in place an intangible asset.

As a final point, it is almost impossible to create a value of human capital at an organizational level. While case studies have been published and suggestions made as to how to value human capital, most of these fail to recognize the implicit leverage that takes place when human capital is integrated with the other capitals within a business model. Trying to dis-aggregate one capital such as human capital and place a value upon it, ignores the leveraging of value that occurs within individual business models.

Social / Relationship capital

Relationships are an asset when they contribute to the effectiveness with which an organization operates; effective relationships help leverage the performance of a business model. As business has become more "networked," relationships have become an increasingly important factor on leveraging resource utilization within a business model. Core aspects of a business network are built around relationships. Examples of key relationships include those with:

- Shareholders and other investors.
- Regulators and related government bodies (increasingly environmental regulators).
- Sources of human capital - universities, colleges, agencies, and others.
- Suppliers and related supply chain enablers (for tangible assets, materials, and services).
- Customers, distributors, and partners on outbound supply chain.
- Communities impacted by either location or activities of the business.

Because the definition includes *"…within and between communities…"*, relationships include those related to internal activities, already discussed as part of collective human capital. Relationships are built around mutual benefit and shared values, norms, and expectations. Typically, organizations invest in building these capabilities internally and then deploy the people in using these capabilities to build external relationships. This deployment of people to activities involved in building *external relationships* requires investment, which is traditionally written off as part of operating expenses. However, this investment is a core aspect of any business model and building intangible capital.

Many organizations already have financial assets that are heavily dependent upon relationships. Suppliers provide credit and customers are given credit. The days of supplier relationships being based on "the lowest of three bids" and their ability to comply with specifications are no longer enough. As buyers have reduced their supplier base to organizations that become longer term partners in their supply chain, the "fit," in terms of mutual values and shared expectations becomes more important. Significantly more time is spent in evaluating and selecting suppliers and creating relationships; while operating expenses would correctly reflect the costs of sustaining these relationships, their creation is clearly an investment.

The same is true of customers (although obviously it will depend on the type of business). However, doing a credit check and granting credit as the main investment in building the customer base is again no longer adequate. Organizations spend considerable time and effort to target specific customers, often having to again share and build upon mutual goals and expectations. The value of a customer base is already accepted and recognized, both when acquired as a purchased asset, (e.g., IAS 38) and consistent with that, when acquired during a merger or acquisition, (e.g., FASB 142).

Intellectual capital

Intellectual capital includes knowledge that has either been codified or rests as tacit knowledge in its people. This knowledge is a core intangible asset that is leveraged to create value. Historically people leveraged tangible assets. In the knowledge economy they leverage intangibles to create value. Organizations invest heavily in both creating systems to collect and store knowledge and to convert implicit knowledge into explicit knowledge accessible to other people.

Intellectual capital is widely recognized and believed to be one of the core aspects of intangibles, probably because IP or intellectual property is an allowed category for accounting purposes. However again the rules are strict and generally focus on the cost of acquiring IP or the cost of protecting IP through registration such as patents and copyrights. The true value of IP is often not reflected in accounting records.

The integrated reporting definition creates a "wrinkle" to traditional views of IP as the second sentence talks about *"tacit knowledge, systems, procedures and protocols."* For business purposes, knowledge can be considered explicit (committed to documentation, instructions, procedures as well as codified by patents and other legal means), or tacit. The cost of codifying knowledge can to some degree be captured, but tacit knowledge is much harder to value. It is the ability of people to combine skills and education with knowledge and experience to develop "know how." In many cases "know how" is situational, often used in creative areas such as innovation and problem solving. This capability usually resides in people's heads / brains, although efforts are being made to develop so called artificial intelligence (AI) so that machines can develop the same capability (given enough time). But again, investment will be required to achieve this.

There can be significant costs incurred to both develop a system to codify knowledge as well as training and development to help people develop and apply their underlying knowledge. This will include people costs as well as external costs in information technology, consulting fees and other expenses. Currently the majority of these expenses are not captured as a cost related to investments in knowledge.

Natural capital

Organizations that utilize natural capital as a core resource will invest cash as part of developing their business model capability. Some of these investments may be classified as tangible assets - property ownership and rights, leases, licenses to extract minerals, and others. These may be allowable for balance sheet recognition. Organizations may also spend cash resources on building relationships, capabilities, control systems and other intangibles that will be expensed when incurred but could be considered part of the intangible infrastructure. A core part of these expenses may be the development of environmental management systems[v]. Typically, the costs of these are expensed as incurred but become a central aspect of both effective control as well as controlled operational capability.

There may also be "sinking funds" of cash reserves put aside for remediation and other "return to natural state" requirements. Natural capital is the most challenging category to attempt to reconcile accounting to book values, because access to many natural capitals is essentially "free" - an externality as it was referred to in the run up to integrated reporting. A buyer would associate value to natural capital probably based on access and disposal (inputs and outputs)[vi]. While significant work has been to develop reporting approaches to natural capital by groups such as A4S, World Economic Forum, SASB and others, the link to financial resources, particularly as it relates to intangible investments remains incomplete.

Organizations might carry a market premium where value is deemed to exist, from the unique processes or activities involved in converting inputs to outputs - approaches that minimize effluents and waste, including water and air pollution. There may also be a value over and above an accounting "cost" in holding permits to perform certain operations, where no more permits or licenses are being issued. In many cases this premium may be justified based on the implicit knowledge of the people, thus creating an additional value attributed to human capital. (This demonstrates the inter-dependent nature of a large proportion of intangible value).

There may also be an in-place environmental management system that was expensed when established and is being maintained and regularly audited. This initial investment would have put in place an effective management system that might be considered associated with natural capital but equally could be seen as part of its intellectual capital. However, all the amounts expended will have been treated as operating expense and charged against current income. Yet having a "control system" around the management of externalities will add to the value of an organization and thus is another key intangible asset.

Appendix 3 End notes and background

These notes reflect supplemental information on certain discussion points raised in the paper.

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[i] **Cash flow invested in resource development.**
The IFRS Conceptual Framework defines an asset as being a present economic resource controlled by the entity as a result of past events. It also defined within the heading of an asset a sub-definition that an economic resource is a right that has the potential to produce economic benefits. We believe that the cash flow invested into intangible is developing these resources.

[ii] **Academic submission to the SEC**
The Working Group on Human Capital Accounting Disclosure submitted a ten page document specifically dealing with greater disclosure of costs associated with human capital, to the SEC on June 7th, 2022. The document is available on the SEC website or can be accessed by the following link:
https://www.jdsupra.com/legalnews/working-group-petitions-sec-to-mandate-3614379/

[iii] **History of the term "Human Capital"**
The phrase, Human Capital, has its roots in Human Capital Theory; economists Gary Becker and Theodore Schultz pointed out that education and training were investments that could add to productivity. Initially this was to be applied at the individual, human level where an individual enhances their "capital" and become more valuable in the marketplace, as they become more educated.

[iv] **Industrial engineering - work of the individual**
Frederick Taylor was an American mechanical engineer. He was widely known for his methods to improve industrial efficiency. In 1911, Taylor published his book The Principles of Scientific Management which, in 2001, Fellows of the Academy of Management voted the most influential management book of the twentieth century. His pioneering work in applying engineering principles to the work done on the factory floor was instrumental in the creation and development of the branch of engineering that is now known as industrial engineering.

[v] **Environmental Management Systems (EMS)**
Structured approaches have been developed that allow organizations who have a natural resources aspect to their business model (input, process, output, outcome) to develop an integrated control system supported by detailed policies, procedures, and operational work instructions. This might be considered "codified" intellectual capital, but it is specifically relevant to the environment. Companies can also seek certification as an added level of control, e.g., using ISO 14001 Environmental Management System, as a base standard.

[vi] **Value of access to natural capital**
An organization that utilizes natural capital for inputs would have a value from either being close to the source, having preferential arrangements for access, owning the property within which the resources exist or other benefits. Also having advantageous arrangements related to outputs would also create a value. On site re-processing capabilities; alternative use streams; specialized re-processing of waste or others.