



I-CAPEX IS THE NEW CAPITAL EXPENDITURE

An Excerpt from *Intangible Capital: Putting Knowledge to Work in the 21st Century Organization* by Mary Adams and Michael Oleksak

Capital expenditure (capex) is an accounting concept that has ingeniously supported the tangible economy for centuries. It allows a company to apply to its balance sheet the cost of investments in its future productive capability. This is called “capitalizing” an expense. Then the cost of this investment or capital is depreciated over a period of years. This is an extremely important feature that helps companies avoid having to show decreased earnings in a period where they make large investments. It is through a corporation’s capex that the tangible production value of the company (and by extension, its balance sheet) is built and maintained.

This option is not available for intangibles even though U.S. businesses are already investing as much or more on their intangibles as they are on tangible investments in property, plant and equipment. We know this from macroeconomic data. And we can see the benefit of it in stock and valuation data. But we don’t really know on the individual company level because no one counts it. That’s right. No one really knows how much is being spent on intangible capital expenditures (i-capex) by American companies to build their knowledge infrastructure.

If you have read this far, you have some appreciation for the importance of intangibles in most businesses today. You have seen the value of creating scalable, automated processes that make your people smarter every day. But, if you go into the office tomorrow and ask your CFO how much you spend on intangibles, you will probably get a blank stare. You will hear all kinds of arguments about how you don’t own your intangibles, they don’t have a fixed value, that no one really understands how they work. He or she will insist that they deal in facts, not suppositions. Hard dollars are the job of the accountant and intangibles are not hard. They’re soft. Intangible. “Not my job,” they will tell you.

Our goal with this chapter is to help you understand the arguments you will hear from your finance staff and your accountants. Because intangibles *are* hard to see, they *are* hard to count, they *are* hard to value, at least at this point in the development of the knowledge economy. But we have already shown you in the first section of this book how to identify and even inventory your intangibles. So the real question is how to link that inventory with your financial statements.

A lot of this chapter addresses weaknesses of current practices. Much of today’s focus on intangibles addresses the question of the value of intangibles. We think that is a dangerous distraction. Value is not really the job of the average businessperson. Your job is to operate a company profitably. And intangible value is a meaningless metric for that purpose. Focusing on the value of your assets would be like recommending the purchase of a piece of equipment or the construction of a factory because it would have a great liquidation value.

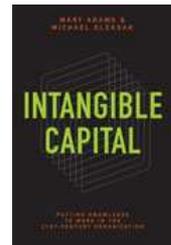
The important question for intangibles is the same as it is for tangible assets: how much will it cost me to build it and operate it? Intangibles investment is actually a piece of valuable hard data that could be available to you and your board and your investors and your bankers right now—but is completely ignored by almost everyone today. We’ll explain why, if you are interested. If not, you can skip the first half of this chapter and dig in on how to track your intangible investments.

As you will see, we encourage you to keep track of your investments in intangibles every year. We are not out to change accounting standards, it is too soon to do that. But we are out to help

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businesspeople everywhere get a little smarter. And the simple act of counting and reporting your intangible investments has the potential, we believe, to be very powerful.

In this chapter, we'll show you what we know about the level of investment already occurring. We will arm you to rebut the value card that many people (in both business and academia) use to justify ignoring the question of cost. We'll show you where to look for investment data in your own company. And we will suggest a path for you to begin to use this data to make better decisions in the future.



WHERE THIS IDEA COMES FROM

A few years ago, a colleague from the Institute of Management Consultants, Michael Egan, approached Mary after she gave a keynote address on intangibles at the Institute's annual conference. Michael's firm built a platform a number of years ago that is used by industry association members to anonymously report benchmarking data. The postings by individual member organizations are reported back to everyone in the system with useful averages so they can see how their organization compares to industry norms. Michael was sure that there would be opportunities for reporting on intangibles.

Our first response was the standard response of everyone in the accounting and the intangible capital communities, that you cannot really measure intangibles in dollar terms. But we kept thinking about it and then one day a light bulb went on. We remembered a paper we had read from the Melbourne Institute in Australia called "Measuring Intangible Investment," by Beth Webster, Anne Wyatt and L.C. Hunter.¹ They had made very detailed case for how accountants could keep track of intangible investment in a similar way to the accounting for tangible capital expenditures. We realized that this team had identified the simplest and most concrete metric available for intangibles: the amount of money companies spend every year.

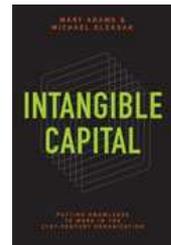
From the moment that light bulb went on, intangible investment has become something of an obsession for us. Our hope is that this book will provide inspiration to individual companies and then industry groups to create norms for management reporting of intangible investments. We view this as a critical piece of information that could break open the subject of intangibles by giving managers what they crave: hard information about what are considered soft assets, the intangibles that they already know to be the drivers of future success of their businesses. This shouldn't be such a radical concept except that this information is trapped inside of a failing accounting paradigm upon which our entire financial system has been built. This paradigm has such a hold on mainstream thinking in business that this chapter will be seen as the most controversial in this book.

THE WAY ACCOUNTING IS SUPPOSED TO WORK

Up until the 1970's, the consumers of financials—managers, analysts, investors and bankers—had a much easier job. They had three sets of information by which to measure their investments. The first was the balance sheet. In those days, balance sheets did include all the important assets of a corporation and looking at the balance sheet gave you a good idea of the corporation's capacity to grow and thrive in the future. The second was the cash flow statement which showed you the investments (capital expenditures) the company was making in its future. This was a critical statement for us when we were bankers because it showed the split between short- and long-term spending and financing. The third was the income statement, which told you how the company was putting its assets to work from year to year. The income statement also includes depreciation and amortization, which expense a share of the cost of capital investments each year over the useful life of the asset.

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The rise of the knowledge economy has broken this model. The balance sheet does not include intangibles. Investments in intangibles instead are mixed in with current year operating expenses. And no one knows how much is spent on building intangibles within an organization.



WHY INTANGIBLES AREN'T ON THE BALANCE SHEET

There are actually a lot of good reasons why intangibles are usually not booked on a balance sheet. If you read the first section of this book, a number of these reasons will be familiar.

First, many intangibles (such as employees and relationships) are not owned by the company in the first place. Current accounting standards (for many good reasons) only account for owned assets. A company can only put assets for which it has a clear ownership right on its balance sheet. Most intangibles don't meet that test.

Second, the value of intangibles is closely linked with related assets. You may have heard this one too. It is hard to separate the human from the relationship from the structural capital. Some people try to make a related argument that a lot of process capital is custom-designed and has little value outside the company. We don't buy that, because accountants would not hesitate to book a piece of custom machinery to a balance sheet.

Third, the dollar value of intangibles can be difficult to identify through a financial transaction. If you have any familiarity with accounting, you know that accounting entries only get made when there is money involved. If a company buys something, the money comes out of a money account and the expense gets booked to an expense or an investment. But a lot of the time, intangibles are created outside the monetary system. An employee learns something and applies it in his or her work. Value is created, but other than the employee's salary, there is no financial transaction.

Of course, there is a powerful exception to this rule. Whenever there is a merger or corporate acquisition these days, the traditional accounting system almost always ends up creating new intangibles on the balance sheet. Here's how it happens. A company pays real money to purchase another company. And, as you will see below, the amount paid in most acquisitions today cannot be applied to hard assets. So the accountants have to create intangibles on the balance sheet, sometimes for assets like brands. But more often than not, the lion's share of the purchase price gets booked to goodwill. Goodwill is essentially a plug number. Everyone dislikes goodwill (except for the selling shareholders) because it is a painful reminder of just how much every business is spending on intangibles...and how little any of us understand it.

WHY MOST INTANGIBLE INVESTMENTS ARE EXPENSED

Since intangibles cannot be capitalized to the balance sheet, the only other place for them to be reported is on the income statement. And the truth is that intangible investments don't belong there either. An income statement is supposed to be a report of the operating costs (both fixed and variable) of an organization. Revenue and expenses on the income statement are supposed to be related to current period operations. Money spent to build capacity that is expected to have an effect beyond the current year doesn't belong there. Although intangible investments are generally expected to have a longer-term benefit, they are booked by default on the income statement. Accountants try to take the most "conservative" approach to their decisions and at this point in time, it seems more conservative to avoid capitalizing intangibles.

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Of course, this treatment means that income is understated. That's a bad thing for companies looking to attract investors and demonstrate the success of their business. The really interesting thing is that enormous investments have been made in intangibles over the last thirty years despite the lack of favorable accounting treatment. You could say that this treatment allowed companies to have a lower tax bill as the full cost of an investment is expensed the year it is made. But forgoing income just for tax reasons cannot explain what is going on here. There is a lack of understanding and a lack of alternatives available to companies. But the investment has continued. As you will see below, the annual national expenditure on intangibles by corporations was estimated a few years ago to be roughly \$1 trillion.

WHERE THIS LEAVES US

The balance sheet and cash flow statement should give a reading on the health of the business, its productive and financial capacity. This is a much more forward-looking perspective that gives the reader a sense of a company's ability to move into the future. Today, the failure of accounting to capture spending on intangibles means that the utility of the balance sheet and cash flow statement has decreased dramatically. Without a good balance sheet and cash flow statement, analysts and investors are utterly dependent on the income statement as their major source of "hard" information. Of course, the income statement has the shortest term perspective of any of the three basic financial statements. It focuses exclusively on the results and earnings from the most recent period.

It is popular to blame analysts for having a short-term perspective. We think that the blame lies just as much with the system—the accountants, regulators, management teams (and the analysts) are all stuck inside a mental model that no longer serves anyone's best interests. And it is ignoring a huge part of the financial story of your business. To a great degree, the rest of the operation is a black box.

YOU ARE ALREADY SPENDING A LOT OF MONEY ON INTANGIBLES

We can say with great confidence that you are already spending a lot of money on intangibles. How do we know? Academics have been looking at the question for quite awhile. Here are places they have looked:

Macroeconomic Data

Leonard Nakamura at the Philadelphia Federal Reserve used a number of approaches to arrive at some basic estimates of our national investment in intangibles. He actually made three calculations based on different sets of data to zero in on his estimates: expenditures, labor inputs, and corporate operating margins. The expenditure data focused on three types of investments for which data is available: research and development (R&D), advertising and software. For labor inputs, he looked at the "proportion of labor income going to workers whose occupations are creative—engineers, scientists, writers, artists, etc." Nakamura then looked at the change in the proportion of cost of goods sold versus operating margins.

He used these three numbers to triangulate an estimate that in the year 2000, investment in intangibles by American corporations was roughly \$1 trillion. Assuming a useful life of intangibles of five to six years, he concluded that the equilibrium value of intangibles was roughly \$5 – 6 trillion, roughly one third of the total valuation of U.S. corporations. This is a conservative estimate; Nakamura is quick to point out that there are many kinds of expenditures that were not included in his calculations due to lack of data.² Papers by Corrado, Hulten, and Sichel also came up with a \$1

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trillion number for 1999 which, they pointed out was about the same amount as investment in tangible assets.³ Business Week recently reported on an update of the Corrado study still in process that will show \$1.6 trillion in intangible investment in 2007, well in excess of the \$1.2 trillion invested in tangibles that year.⁴



The Stock Market

Another kind of data that gets used a lot to “quantify” intangibles is the valuation of public companies. The reason is the curious phenomenon that started in the late 1970s when the total stock market valuation of American corporations began to diverge in a big way from their tangible book value. Until the 1970’s, these two numbers (total corporate value and tangible book value) tracked each other pretty closely. This was logical because, as we have stated before, that industrial era business was dependent on what a company owned, which would be capitalized on its balance sheet. As computers and information technology enjoyed greater use, companies were able to create value for their customers that wasn’t associated with physical assets. This fact is the whole point of the knowledge factory discussion in the first section of this book.

In recent years, this intangible or off-balance sheet amount (the difference between total corporate value and tangible book value) ranged from roughly half to three quarters of the total stock market valuation of public companies. That means that up to 75% of the value of a company can not be associated with tangible productive assets. This is a very graphic way of illustrating the extent of the intangibles information gap. However, it can get confusing if you use this gap as a market “valuation” of intangibles. What does it mean when the market goes down—that all the loss in value is attributable to intangibles?

So comparing net book value of the company on the balance sheet value to total corporate value in the stock market does not give you any kind of hard data that you want to hang your hat on. But the fact remains that there is a big amount of corporate value that cannot be linked to underlying tangible assets. Businesspeople for the most part just ignore this gap.

Data from Mergers and Acquisitions

But no one can ignore the gap when there is a merger or an acquisition. This is the moment when traditional accounting and the reality of the knowledge economy come head to head. A good illustration of the extent of this gap was an Ernst & Young survey of 709 transactions in 2007 showed that on average, only 30% of the purchase price could be allocated to tangible assets. Another 23% of the price could be allocated to identifiable intangible assets such as brands, customer contracts, and technology. That left a whopping 47% in goodwill. Bottom line, this means that 70% of the average deal was intangible.⁵

The huge goodwill is an indicator of the failure of the accounting system to provide helpful information on intangibles. Many would submit that it is, rather, just an indication that companies are overpaying. There is no data to refute this directly. However, the stock market still leaves a large intangible value. And we have seen that there has also been significant investment in intangibles. So there is some level of intangible value that is justified. We just cannot say exactly how much.

Given the information gap in the average company, it is not really that surprising that when two companies combine, the average merger fails to deliver the results expected at the closing of the deal. If you cannot even identify what you are buying going into the deal, how can you do a good job managing it after the deal closes? No one asks this question because the dilemma faced by merging companies is exactly like that faced by all companies—they have absolutely no idea what they have for intangibles.

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A MIXTURE OF METRICS

Without trying to confuse you, we want to point out that conversations about measurement end up using a number of different approaches. Some of Nakamura's estimates looked at categories of "spending." But in the case of M&A data, "cost" data for acquired intangibles on the balance sheet (which sounds a lot like spending) is really derived from "valuations" of individual assets (we'll explain this below). Stock market data would be considered "valuation" data because it is extracted from the total corporate value placed on the company by the stock market. You can see that value and cost get mixed together a lot of the time. This leads to a lot of confusion. We'll try to break down the concepts of value and cost in more detail.



VALUATION APPROACHES

Most of the focus to date on intangibles has been on creating approaches to value the assets. The dominant valuation approach is the discounted cash flow. New approaches to value include fair value, value creation, and stakeholder value. Most of the other traditional methods used for valuation of hard assets, such as comparable sales and replacement cost, are not used for intangibles because of lack of market data; the markets for sales of individual intangibles like patents are still in their infancy.

Discounted Cash Flow

We don't want you to get the impression that intangibles do not get valued in today's business world. They get valued all the time. The technology for valuation is based on creating a set of projections that model the expected future cash flow from the intangible and discounting the cash flow to the present using a calculated discount factor based on the company's risk and capitalization. But this kind of discounted cash flow (DCF) valuation is expensive and impractical to use as an on-going basis for normal balance sheet reporting. So it is only used in specific transactions such as tax valuations, mergers, or one-off purchases of isolated intellectual property. Furthermore, there would be no point in getting valuations on internal intangibles because they can't be booked to the balance sheet and no one wants to see an entire balance sheet built on management's expectations of asset value.

Because that is essentially what a DCF is, even if it is prepared by a third party. It values the asset on the basis of the expected business model and performance. An appraiser is going to lend a level of discipline to the process but the appraiser is going to essentially use the client's business model as his or her starting point. And the process is very subjective. If you have ever been involved in creating a DCF, you know that there literally dozens of assumptions that are made that can dramatically affect the final number.

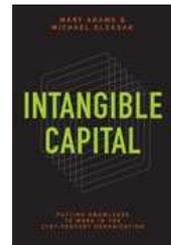
For example, when a company buys another company, they do so expecting the merger to work out well. That means that the DCF is going to reflect management's assumptions about the deal. So that means that the value on their balance sheet is driven by management's expectations for the deal. When the deal doesn't work out, the acquired company's assets on the acquirer's balance sheet will have to be written down.

This situation has made "intangibles" as an asset group very unpopular with analysts and investors, with good reason. A balance sheet built on DCF valuation would not be all that valuable because it is basically a projection of the income statement.

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Fair Value

There is a conversation going on in the accounting profession about fair value of assets. The overall trend in accounting is to try to move toward having the balance sheet represent a more current market value rather than historical cost. This is a very powerful argument in the case of easily valued assets where a market or fair value estimate is much more timely and accurate than the book value. This topic was, not surprisingly, discussed at great length in the 2008-09 financial downturn as analysts debated whether and how to require financial institutions to write down their assets.



The discussion of intangibles often gets caught up in the fair value discussion. The logic goes that if you were to put intangibles on the balance sheet, you would want them to be at fair value. Cost, in this view, is old fashioned and nothing that should be aspired to. The problem is that there is very limited market history for valuation of intangibles. So the balance sheet value would have to be calculated by management based on a discounted cash flow of the known business opportunity for the asset. This would be a management estimate, not a market one.

Value Creation

Some in the field of intangibles, including a number of accounting academics, have insisted that rather than establishing the value of intangibles, the primary focus should be on the role of intangibles in value creation. They have made this argument so effectively that many in the field of accounting refuse to think about other ways of measuring intangibles and the potential for creating new approaches to financial reporting.

We are obviously sympathetic to the goal of understanding value creation—the first two sections of this book are meant to be a contribution to that conversation. But we do not believe that the study of value creation would be damaged by also studying cost data—in fact, we believe that it would enhance the discussion. After all, how can you calculate the return on an investment if you do not first account for the investment?

NEXT GENERATION THINKING ON VALUE

We cannot talk about value without exposing you to the cutting-edge thinking in this area. There is a school of thought that includes a surprising variety of thinkers—from businesspeople to quantitative analysts to philosophers—that say that the industrial conception of value was drawn too tightly. This thinking is best captured by the following excerpt of a blog post by Umair Haque entitled “How to Be a 21st Century Capitalist”:

The value equation of industrial-era capitalism was toxically imbalanced. Why is industrial era business so destructive -- why does it slash and burn rainforests, endanger entire species, vaporize culture and community, marginalize the poor and disadvantaged, and erode our health and vitality? Because none of those have value in an industrial economy: none are capitalized. So the bean counters of the world are free to plunder and ruin them -- because, economically, they actually don't exist. 20th century capitalism, in other words, marginally valued pure financial capital too highly, while marginally valuing human, natural, social, and cultural capital at zero -- or, at the limit, negatively.⁶

At first blush, this quote sounds pretty radical. But it is actually the thinking that is behind the growing corporate social responsibility movement, which we will discuss in more detail in Chapter 10. This kind of thinking is moving into the mainstream as many in business realize that the huge

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environmental and societal challenges facing our societies cannot be ignored. As social media and the Internet increase the visibility of almost everything a company does, there will be more and more pressure to consider the greater consequence of a business's actions. Some already realize that these challenges actually represent a set of business opportunities that could fuel a century of economic growth. But the way to realize these opportunities is to stick to the basics of business—and value is not the place to start.



VALUE IS THE WRONG QUESTION

For the purposes of creating an intangibles management discipline in your company, we actually think that value is the wrong question. Value is important if you are considering a merger or acquisition. Fair value is great if (this is still a big if) there is relevant data available. You should be able to understand the state of the art for valuation. We would all like to fast forward a few decades to have a better understanding of the dynamics of intangible value creation. But, frankly, the only way to begin to learn about the dynamics of value and value creation for intangibles is to start tracking the money spent on intangibles: Learn how long investments continue to yield a return. Get better at tracking return on investments. Learn which investments could qualify for capitalization, such as core business processes. Develop data that will help your management team make better resource allocation decisions and help you communicate more effectively with your external stakeholders. So we recommend that you give cost and investment a look.

INFORMATION MANAGERS NEED

The authors of the Melbourne Institute paper we mentioned earlier on intangible costs recently completed interviews with 704 senior accountants from large Australian companies. Most of the companies identified intangible value drivers as very important to their company's success. Some of the most important drivers cited included:

Remuneration of skilled workers	72.3%
IT Infrastructure	70.6%
Training	69.2%
Brands	56.4%
Customer or member acquisition	54.1%
Executive compensation	54.5%

Yet few of the companies interviewed were actually identifying and tracking their investments in these value drivers. These three academics have made a great effort at beginning to show how intangibles investment can and should be tracked. It is our hope that their work will lead to new standards.⁷

But you do not need new standards to do something about this information gap today. What we are talking about is adapting other forms of managerial accounting and management information, the kind of information that gets used every day inside companies to manage operations and monitor performance. The main goal of this chapter is to describe a management report on intangible capital expenditures that will make a huge difference in how your organization looks at its knowledge factory. Such a report is sorely needed because the average company is already spending a lot of money on intangibles—and getting some level of results whether they are measured or not.

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WHAT THE RESEARCH SAYS ABOUT THE EFFECT OF INTANGIBLE INVESTMENT



There is actually already a lot of research on the effect of these investments and the distortions that occur because of lack of information. Most of it is from academic research that focuses on the effects of isolated categories of expenses. There are only a few kinds of spending that are studied, mostly R&D and marketing, because these are already broken out on the income statement.

Here's a quick review of the literature. This list distills very detailed, thoughtful academic works to sound bites. We apologize for that but as you will see, these conclusions show a pretty clear pattern. If you want more information, we have provided sources for each. The list is grouped by the three principal lessons learned.⁸

1. The market generally sees the value of intangible expenditures
 - Capitalized software costs provide better information to investors which is reflected in stock returns and share prices^{9, 10}
 - If R&D were capitalized, it would also lead to increased returns and share prices¹¹
 - Customer satisfaction and market values are correlated at the industry level.¹²
2. Sometimes the value does not go to the market
 - The profitability of insider trades is greater in R&D-intensive firms.¹³
 - The degree to which market values reflect the value of R&D is related to the extra information received about the company¹⁴
 - Investors in R&D- and advertising-intensive firms can beat the market because the market does not price these firms appropriately¹⁵
 - Bid-ask spreads are higher for R&D-intensive firms¹⁶
 - Forecasts of future earnings are more accurate if analysts participate in earnings announcement conference calls.¹⁷
3. Managers make decisions to cut expenditures if it will affect earnings
 - Managers may cut R&D investment to avoid earnings declines¹⁸
 - CFO's will curtail discretionary expenditures such as advertising to avoid missing short-term benchmarks.¹⁹

Bottom line: spending on intangibles is important to the future of your organization. The market generally understands this but imperfect information leads to imperfect market decisions. This causes what the academics call "suboptimal capital allocation" by the market. Companies do not get a fair shake. Further, company management teams are influenced by the market's view of what's important and they end up repeating these suboptimal decisions internally. What your stakeholders don't know will hurt you.

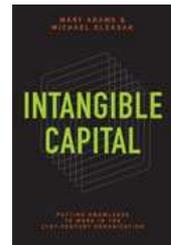
None of this should come as a surprise to you. You already knew most of this intuitively. But you haven't yet done anything about it. We hope you are reading this book because you sense that you could get better results, get a better valuation, grow your company faster if you were to get better information on your knowledge factory. If so, please read on.

A NOTE ABOUT GAAP

As you read, we want to make it clear that we are not advocating for any specific changes to the Generally Accepted Accounting Principles (GAAP) that guide the work of accounting professionals and are used for external presentations of corporate financial statements. By the way, the U.S. is actually expected to shift in the next few years from GAAP to the International Financial Reporting Standards (IFRS). IFRS has not solved the question of intangibles either. In fact, the greater

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emphasis on fair value in IFRS is creating more of a smokescreen on the intangible cost issue. We'll let others worry about reporting standards when the time comes. But before that happens, there has to be experience on the ground. Our interest is to empower managers to begin tracking intangibles investment internally.



INTANGIBLE CAPITAL EXPENDITURES

So how was that for an introduction? We warned you that we had a lot to say. But we are finally here. Let's talk now about how intangible capital expenditures should be identified and reported. We recommend tracking expenditures that are made with the expectation that the expenditure will generate benefits to the firm for more than one year. This may not be something that your accountants do for intangibles right now but it is a distinction with which they are very familiar. They make this kind of call all the time with tangible investments. An example is deciding between an add-on to a machine (which would be considered a capital expenditure) and a repair (which would be considered an operating cost).

Which expenditures should be tracked? The short answer is: all the investments that you make to build the capacity of your knowledge factory. The following lists the kinds of expenditures that you will want to consider.

Human Capital (HC):

- Talent acquisition expenses
- Training
- Staff development

Structural Capital (SC):

- Process development (internal costs)
- Process development consulting (external costs)
- Software development for internal systems
- Knowledge management systems
- Research and development
- Costs associated with acquisition or documentation of rights such as licenses, brands, copyrights, patents

Relationship Capital (RC):

- Marketing/brand building
- Customer acquisition
- Product or quality certifications
- Outsourcing partner development

HOW TO USE THIS INFORMATION

When you are starting out, an intangible capital expenditure report will just be a separate report in your accounting system or in a spreadsheet to be used to report to management or your board of directors. Ideally, you should go back a few years so that you start out with a data series that you can use to learn about the patterns of your spending. When you do this, you might want to also gather some demographic data that can be used in calculating ratios. Demographic data that we recommend capturing includes:

- Number of employees
- Revenues

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- EBITDA (earnings before interest, taxes, depreciation and amortization)
- Corporate value (for public companies)
- Tangible capital expenditure
- Number of customers
- Number of vendors

The following are some of the kinds of ratios that can be calculated using this demographic data.

1. Intangible Intensity: $i\text{-capex} / (i\text{-capex} + \text{tangible capex})$
This shows the relative importance of intangible versus tangible capital expenditures, which would help your board and investors understand the need for special attention to intangibles
2. IC Distribution: $HC/i\text{-capex}$, $SC/i\text{-capex}$, $RC/i\text{-capex}$
This shows the relative breakdown of the IC investment, which will help you begin to identify the right allocation for investments between the three types of IC.
3. Growth Return: $(i\text{-capex} + \text{tangible capex}) / \text{revenues}$
This shows the relationship between investments and achievement of growth in the company. It could be used to compare expenditures against the first, second, and third years of revenues.
4. Profitability Return: $(i\text{-capex} + \text{tangible capex}) / \text{profits}$
This is a complement to the Growth Return shown above and can also be used to compare expenditures against the first, second, and third years of profits in the years following the expenditure.

Other interesting ratios that may be of help include:

- Employee investment: $HC/\text{headcount}$
- Employee effectiveness: $\text{Revenue}/\text{headcount}$
- SC investment: $SC/\text{headcount}$, $SC/\text{customer count}$, $SC/\text{vendor count}$ (this would mostly be interesting to compare data year to year)
- RC investment: $RC/\text{customer count}$
- Revenues/customer count

We hope that you can see that intangible capital expenditure data will provide a rich source of information about the value creation process of your knowledge factory and your business overall. The kinds of ratios outlined above look at corporate-wide spending. With increased awareness of the relevant categories of investment, it will also be possible to perform more detailed return calculations on specific investments. Over time, we expect that this data would hold lessons for industries as to expected returns on different levels and kinds of investments.

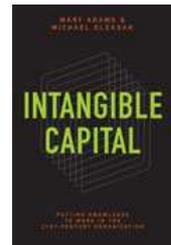
THE OBVIOUS NEXT STEPS

This kind of analysis has value for individual companies. But we believe that the best and fastest learning will happen when industry or financial groups start gathering data that is comparable among their member companies. We have supported the work of an affiliate company to ours called Innovatika in Warsaw, Poland, that is working with the Warsaw stock exchange to create intangible capital reporting for their listed companies (more on this in Chapter 9).

We also are hoping to create an I-Capex Institute to gather data for industry verticals along the lines described above. This would allow companies to anonymously report their own information and get industry averages with which they could compare their data. This kind of effort would greatly

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accelerate our collective learning about the norms for spending in different kinds of companies and different industries.



WILL INTANGIBLES EVER GO ON THE BALANCE SHEET?

Collecting data on intangibles investment seems to beg the question of how it will be used. Will intangibles go on the balance sheet? For all the reasons explained earlier in this chapter, intangibles such as human capital and some aspects of relationship capital will never go on the balance sheet as we know it today. But there will be a need for reporting that shows the health of a company's intangible capital. And, as we showed in Section A, an accurate picture has to consider all the components together, including the human and relationship capital.

We do believe that some day, a greater portion of structural capital will be capitalized. Process, for example, could gain a clearer legal description and, possibly, protection. Think about the package handling systems at UPS or Fedex. These systems are core assets of these organizations. Although they include hardware, software, networks, processes and workflow, only a small tangible fraction of the full system is really tracked as an “asset” of the company. The heart of these systems is in the software each company has developed to connect the processes—and how it is integrated into the work of everyone in the delivery chain, starting with the sender and ending with the recipient. The whole process and system is clearly an asset of the company. It only makes sense to develop ways of tracking the accumulated investment and putting it on the balance sheet.

CONCLUSION

There are many ways to calculate intangible value. One of the simplest is to track annual investments in intangibles. This is a great starting point for learning about the actual intangibles practices of companies on the ground. In combination with the data described in the coming chapters, i-capex data will teach us about how much investment is normally needed to create different levels of value and performance in the marketplace.

EXERCISE

What is the level of intangible capital expenditure (i-capex) in your knowledge factory?

- Using the guidelines in this chapter, create a financial report to identify the extent of your annual i-capex. If you can, go back two to three years.
- Create some ratios to understand the different categories of investment in comparison with demographic data such as tangible capex, revenue growth, earnings and staffing levels.
- Speak with your industry association about creating an anonymous database for benchmarking so that industry patterns of investment can be identified.

Download a worksheet for this exercise at www.intangiblecapitalbook.com.

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⁸ Many thanks to Michael D. Kimbrough at the Harvard Business School who helped us with a review of relevant research as well as supplying his (at the time) unpublished paper written with Leigh McAlister "Commentaries and Rejoinder to 'Marketing and Firm Value: Metrics, Methods, Findings and Future Directions.'" Later published in the *Journal of Marketing Research* XLVI (June 2009).

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