

By Jonathan Knowles **Demonstrating that “good design is good business” requires design professionals to be familiar with the language and concepts of business. This article equips design professionals with two frameworks: first, how to think about the true economic resources on which a company depends; and second, how to express the contribution of design to the current and future performance of the business.**

Do You Speak Finance? Design and Business Value

BUSINESSES CREATE VALUE by sourcing raw and semi-processed materials, and transforming them into the products, services, and experiences that customers want to buy. One of the measures of their effectiveness in doing so is the degree to which the value of the business exceeds the value of its assets.*

This value-added is the result of the efforts of multiple business disciplines. The design, R&D, and marketing disciplines focus primarily on the customer dimension of value creation, while operations, engineering, and finance focus on the development and management of an efficient business model for delivering this customer value.

The shift in the sources of value creation from physical products to services and experiences has

caused an increasing divergence between the book value of companies and their market value. This trend has been accentuated by digital business models (such as SaaS and cloud computing) that allow companies to access resources that historically they would have had to own.

Most people are surprised to learn that the physical and financial assets used by a business (collectively referred to as their *tangible assets*) now account for only 31 percent of the value of the average US company. The other 69 percent can be said to represent the value-added of the human ingenuity involved in using these tangible inputs to create the products, services, and experiences that customers want to buy.

The aggregate scale of this human value-added is staggering. At the close of 2016, the top 1,750 publicly-traded companies in the US were valued at \$19.0 trillion—but only \$5.8 trillion of this value was accounted for by the net tangible assets on

* The technical name for this ratio is “Tobin’s Q.”

their balance sheets. For the top 7,400 companies globally, their enterprise value amounted to \$41.7 trillion at the end of 2016, of which only \$15.7 trillion (38 percent) was accounted for by their net tangible assets.

This article begins by reviewing how the proportion of intangible varies by industry; then reviews what mergers reveal about the true asset base of business and how intangible value can be subdivided into different components. It concludes with a suggested framework for expressing the financial impact of design.

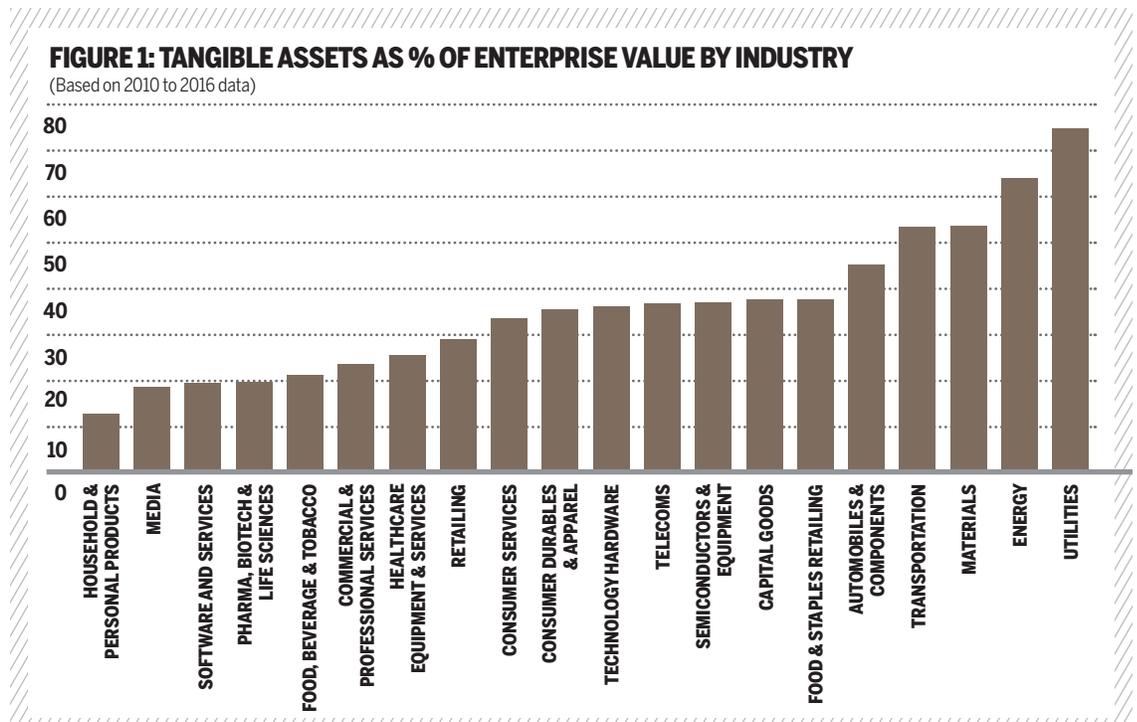
How does intangible value vary by industry?

Certain industries (such as energy, steel, mining, oil, and heavy manufacturing companies, as well as utilities) rely heavily on physical assets, while

other industries (software companies, professional services and media companies) have relatively little by way of physical assets but rely heavily on intellectual property.

Figure 1 summarizes Type 2 Consulting’s analysis of the 2010–2016 data for all publicly quoted nonfinancial companies with revenues over \$50 million (some 16,000 companies globally). It shows that the proportion of tangible asset value varies from 75 percent for the average utility company to less than 20 percent in household & personal products, pharma, software, and media.

However you look at it, you have to conclude that intangible value is a big deal in almost every industry. Of the 20 industries shown in Figure 1, intangible value represents more than 50 percent of enterprise value in all but four industries. When we repeat the analysis at the more granular



industry subgroup level, 43 of the 58 industries have more than 50 percent of value represented by intangibles. At the primary industry level, the same is true for 92 of the 128 industries.

Figure 2 shows that a similar variation is seen at the country level. Differences in the importance of different industries to the economies of each individual country are visible in the percentage of the value represented by tangible assets. As noted above, tangible assets represented only 31 percent of the value of the top 1,750 US companies at the close of 2016—the equivalent figure for the top 1,200 Japanese companies was 55 percent, and 69 percent for the top 450 companies from South Korea.

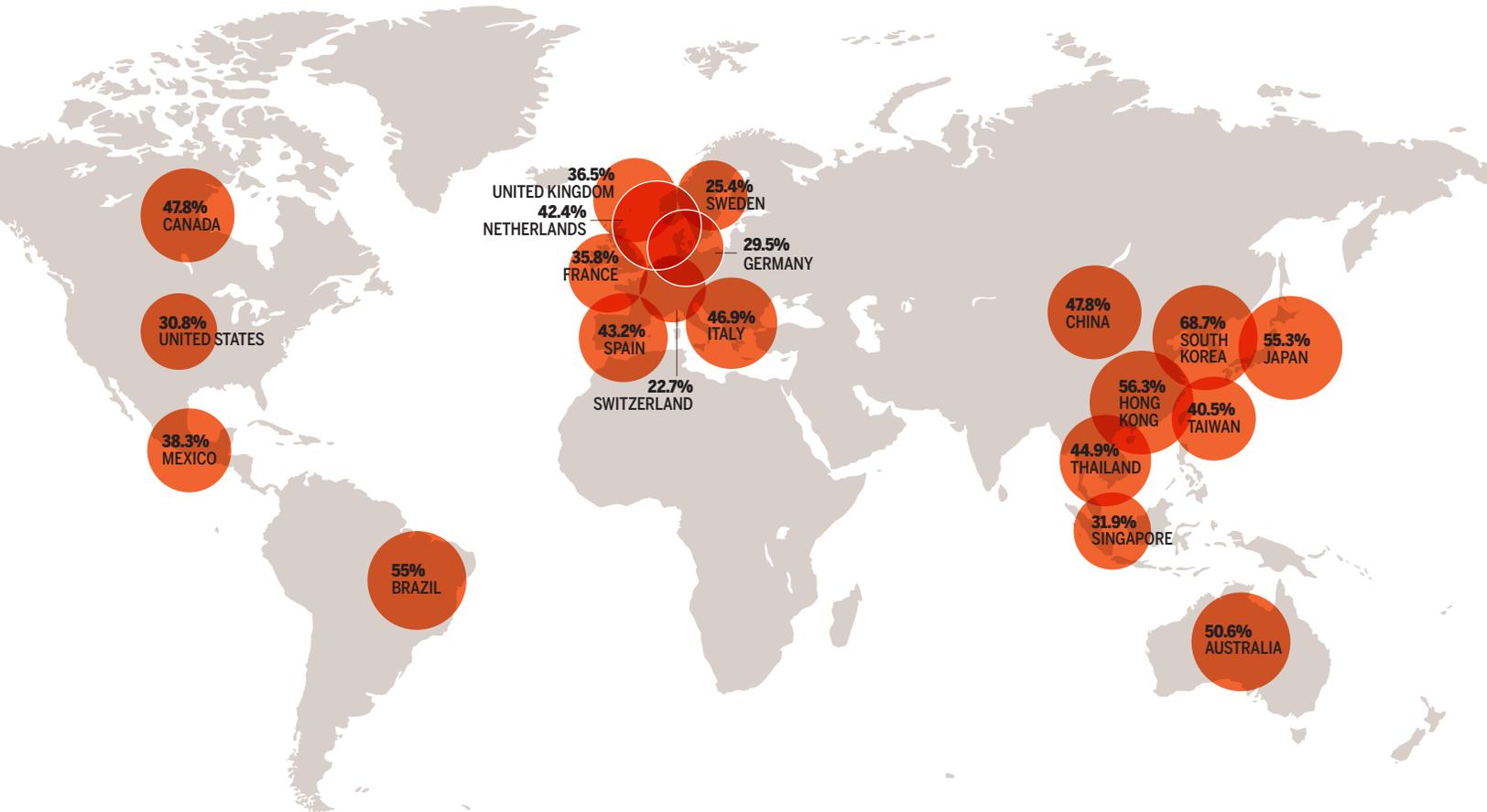
Evidence from mergers and acquisitions (M&As)

Mergers and acquisitions represent the ultimate test case for the value of a business, because the purchase price represents the value that the acquirer is placing on the assets of the target company.

Documenting how the acquirer rationalizes this purchase price and reports it in their financial statements is the focus of a somewhat arcane branch of accounting called Purchase Price Allocation (PPA) and is governed by rules with titles such as “Accounting for Goodwill in Business Combinations.”

We analyzed the data for nearly 5,000 transactions in the US for the years 2007 to 2016.

FIGURE 2: TANGIBLE ASSETS AS % OF ENTERPRISE VALUE BY COUNTRY



This replicated the finding about the relative (un) importance of tangible assets, with only 30 percent of the purchase price being added to the balance sheet of the acquiring company in the form of additional tangible assets.

Helpfully, the PPA rules also require companies to be specific about the nature and scale of the value of the intellectual property acquired in the transaction. Our analysis shows that, on average, intellectual property represented a further 32 percent of the purchase price.

I am grateful to the investment bank Houlihan Lokey for publishing data on the four major types of intellectual property reported by acquiring companies: developed technology (10 percent); in-process R&D (7 percent); trademarks and trade names (3 percent); and customer-related intangible assets (12 percent).

As you would expect, these proportions vary significantly by industry sector. In the Houlihan Lokey studies, healthcare is consistently the sector with the highest allocation of the purchase price to intellectual property assets (more than 40 percent), specifically to developed technology, and in-process R&D. Intellectual property assets represent 36 percent of the purchase price of companies in the consumer, food & retail sector, but with the majority of these assets taking the form of trademarks and customer-related intangible assets.

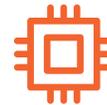
This makes sense: Just as industries differ in the nature and scale of the tangible assets they use (land, machinery, stores, financial capital), so they differ in terms of the forms of intellectual property that form the basis for their business models.

The International Accounting Standards Board suggests a different classification system for intellectual property assets from the above. They encourage international companies to report under the five headings shown in Figure 3.

Patents are the most important form of intellectual property asset in technology and pharma; but contract rights are most important in mining and transportation (for example, drilling rights and landing slots). Similarly, copyright may be the most important form of intellectual property if you are a media company; but

FIGURE 3: FIVE CLASSES OF INTELLECTUAL PROPERTY

(Guidance provided by the International Accounting Standards Board)



TECHNOLOGY-BASED

- Patents
- Trade secrets (recipes, formulas, processes)
- Databases



CONTRACT-BASED

- Use rights (drilling, mineral, forestry)
 - Operating rights (landing slots, service contracts)
 - Lease agreements



ARTISTIC-RELATED

- Plays, musicals, ballets, operas
- Book and other literary works
- Musical compositions
- Pictures and video



CUSTOMER-RELATED

- Customer contracts
- Customer lists
- Market research



MARKETING-RELATED

- Trademarks
- Trade dress (unique shape, color, design)
- Mastheads
- Internet domain names

trademarks and customer data are what matter to consumer goods and luxury goods companies.

But what about the other 38 percent?

The question remains: How do we explain the remaining 38 percent of the purchase price that is neither accounted for by the tangible assets, nor by the intellectual property assets?

“Goodwill” is the term that accountants use for all the “soft stuff” that made the target company worth more to the acquirer than just the sum of its tangible assets and intellectual property. It is calculated as a residual value—the proportion of the

Notes

1. Tim Ambler and Stefano Puntoni, "Measuring Marketing Performance," in Chapter 15 of *Marketing Changes* (London: Thomson, 2003), pp. 289-309.

purchase price that cannot be allocated to things that meet the accounting definition of an asset ("a resource that is owned and controlled, and from which future economic benefit is expected to flow").

From an economic perspective, goodwill represents the quality of a company's franchise with customers and employers, and its overall reputation with other stakeholders. These are valuable economic resources for a business, ones that Tim Ambler of London Business School has delightfully characterized as an "upstream reservoir of cash flow, earned but not released to revenue."¹

However, because customer preference and corporate reputation are not the *legal* property of a company, they do not qualify as reportable assets on the company's financial statements. This has given rise to the current situation, in which the official balance sheet of companies provides an incomplete portrait of the true resource base of a business, and cannot reliably be used to compare companies that have grown organically versus ones that have grown through acquisition.

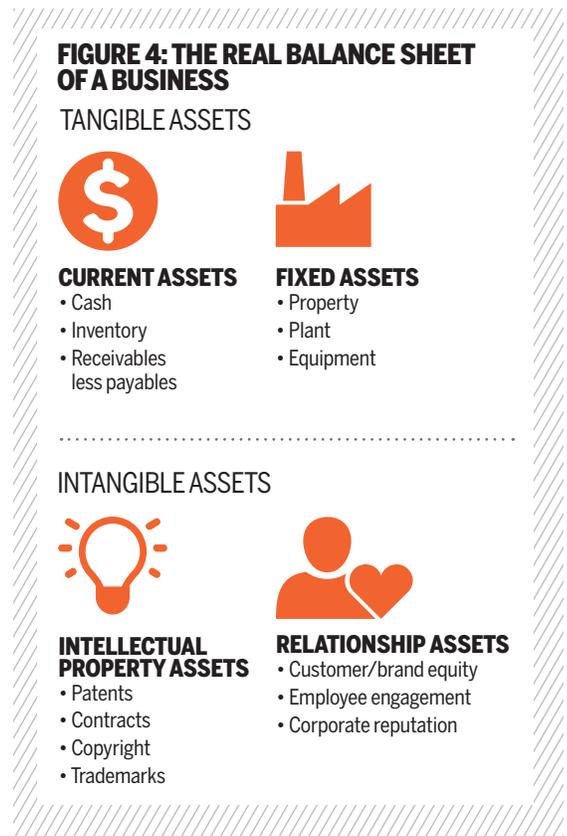
Companies that have grown organically will show next to no intellectual property assets because accounting standards do not allow for "homegrown" assets to be included in the financial statements (there are some very limited exceptions relating to software development). The acquisitive company, however, is allowed to show the intellectual property assets that it has acquired.

Many well-known companies end up with an odd mix of disclosures. The balance sheet for Procter & Gamble does not show a value for Tide or Pampers (both homegrown brands), but does for Gillette. Similarly, the Diageo balance sheet includes value for Smirnoff and Johnnie Walker, but not for the homegrown Baileys.

A framework for describing the real balance sheet of business

My recommendation is that the design profession think of assets as falling into four main categories: current assets; fixed assets; intellectual property; and relationship assets (Figure 4).

The first two categories of assets appear on the balance sheet, albeit at their historical cost of



acquisition. The third (intellectual property) can appear on the balance sheet if acquired from a third party as part of a transaction. The final category of asset is based on human relationships and will never be accepted as an accounting asset (at least, not until there is a change in the requirement that a resource be legally "owned and controlled" in order to qualify as an asset). They are, however, real economic assets, because they represent your core audiences' preference to do business with you and an "upstream reservoir of cash flow."

In future, it is possible that reporting on the economic resource base of the business will be expanded to record other forms of economic resources that companies use (such as a social and environmental resources that they consume but do not currently pay for). But, for now, I would suggest that we use this four-category framework to engage with business leaders about the nature and scale of the business value that design is able to generate.

2. Thomas L. Lockwood, "Design Value: A Framework for Measurement," *DMI Review*, vol. 18, no. 4.

3. Michael Westcott, Steve Sato, et al., "The DMI Design Value Scorecard: A New Design Measurement and Management Model," *DMI Review*, vol. 24, no. 4.

4. Bob Deutsch, "Math Men vs. 'the Crazy Ones,'" *Design Management Review*, vol. 26, no. 4.

By using the language and concepts of business, my hope is that we can finally lay to rest the lingering attitude that design is a cost center and the prejudice that something cannot be an "investment" if it does not give rise to an accounting asset. We can illustrate how much design contributes to the real economic balance sheet of a business (one that explains its value in the market) and the nature of the economic assets that design helps to create (whether they take the form of intellectual property or human relationships).

Not just how much value, but how it is generated

The contribution of design to business value is a topic that has featured frequently in *DMI Review* articles over the years. The 1973 quote by IBM's Thomas J. Watson Jr. that "good design is good business" has been repeated frequently, but the quantitative proof of this statement has proved elusive. Notable attempts were made in the 2007 article, "Design Value: A Framework for Measurement,"³ by then-DMI-president Thomas

Lockwood, and in the 2013 article, "A New Design Measurement and Management Model,"⁴ of which the current DMI president was a co-author.

Both articles provided a valuable synthesis of recent DMI research into the mechanisms by which design contributes to business value. The 2007 article identified 10 areas in which the direct impact of design on business performance could be measured. The 2013 article developed this thinking further, proposing that design's impact could be tactical, organizational, or strategic in nature, and suggesting metrics for measuring each form of contribution. The superior market performance of the companies in the DMI Design Value Index certainly indicates that there is a dynamic worth investigating.

I want to end this article by proposing a framework for explaining why this outperformance by the companies in the DMI Design Value Index occurs. The financial value of a business is the product of three main factors: its level of profitability; its expected growth rate; and its perceived riskiness. The level of profitability is a good indicator of the efficiency of a company's operating model and the

How value is measured (officially)

The financial statements of a company (income statement, balance sheet, and cash flow statement) are governed by strict accounting rules. That strictness sometimes limits their usefulness in documenting how a business really creates value. This is particularly true as regards the assets that are allowed to be shown on the balance sheet. Three accounting principles—the requirement for a transaction, the definition of an asset as something "owned and controlled," and its valuation at the lower of its acquisition price or net realizable value—collectively restrict what companies can show as assets on their balance sheets, and the value at which they appear.

This means the balance sheet is not the comprehensive inventory of the productive assets of the business that most people assume it is. What the balance sheet actually represents

is the cumulative impact of all of the transactions that the company has entered into since it was founded. Any asset now worth less than its acquisition price will have been written down, but any asset that has gained in value will still be shown at its historical cost. Any intellectual property created by the business will not appear on the balance sheet because there is no "transaction" to record for a homegrown asset (there is some limited exception for certain forms of software). The same is true for any asset that is not backed by legal property rights—so none of your investment in training or brand equity will appear on the balance sheet either.

As a result, the balance sheet provides useful information about the tangible asset base of business. However, because of the difference in treatment between acquired intellectual property (reported on the balance sheet)

and homegrown intellectual property (not reported on the balance sheet), analysis of reported intangibles merely tells you how acquisitive the company has been. You need to look at the enterprise value of the business to get a true measure of its value.

The enterprise value of a company is what you would need to pay to acquire the company and all its assets—essentially, this is the market value of its shares plus its debt minus its cash. This is the price tag the market is placing on the business—technically, this number represents the consensus estimate by investors of the risk-adjusted present value of the cash flow that the company is expected to generate. The question of interest to the design profession is: What are the economic resources that the company is using to generate this cash flow?



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Business Review, MIT Sloan Management Review, and other management publications about the perils of overlooking the human component of business strategy, and how to balance customer value creation with value capture. He can be reached at j.knowles@type2consulting.com

appeal of its current portfolio products and services, while growth and risk reflect the quality of its market franchise, and hence the earnings multiple at which the company trades.

Superior business valuation therefore rests on the twin pillars of efficiency and engagement: how well a company manages itself operationally (efficiency); and how effective it is in developing strong relationships with its customers, employees, and suppliers and in meeting their future needs (engagement). For those of you who follow the stock market, efficiency’s analog is a company’s earnings per share (EPS), while engagement is the analog of that company’s P/E ratio (the Price to Earnings ratio—the multiple of current earnings at which the shares trade). Two major mechanisms exist for a company to increase its value: either increase its earnings while keeping the same P/E ratio; or increase the P/E ratio by demonstrating that those earnings are on a solid growth trajectory.

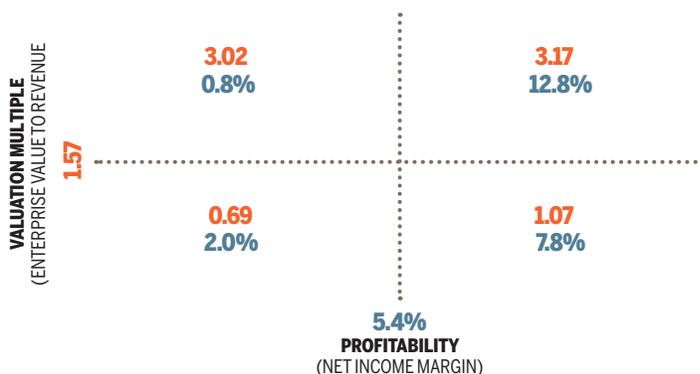
Design can make a contribution on both dimensions. Design increases the efficiency of the business in two significant ways: by presenting the company’s current product and service range in as attractive a way as possible to customers (thereby driving demand and the ability to sustain a premium price); and by identifying ways in which the internal processes for conceiving, creating, and delivering these products and services can be streamlined. Design is also a key factor in the effectiveness of

the business at creating engagement, again in two ways: by enhancing the company’s performance in developing the next generation of products and services; and by deepening the emotional connection between the company and its customers, employees, and other key stakeholders (this role was poetically described by Bob Deutsch in the December 2015 DMI article, “Math Men vs. ‘The Crazy Ones’”⁴).

An increase in efficiency will result in the company reporting higher current profitability; an increase in engagement will show up in the valuation multiple at which the company trades in the market. Figure 5 shows the relative scale of these effects, using 2016 data for the 7,500 largest companies in the US. Companies were allocated to quadrants based on whether they had below or above median profitability, and below or above median valuations. The median net income margin and enterprise value to revenue multiple are shown for each quadrant.

The exact scale of the contribution that design can make to the efficiency and engagement performance of a business will depend on the nature of the business, the economics of its industry, and the competitive dynamics. The specifics may vary, but the principle is the same across all industries and contexts: Business valuation reflects the success of the company at monetizing its current portfolio and base of assets (efficiency) while securing its future franchise (engagement).

FIGURE 5: VALUATION VS PROFITABILITY



Concluding comment

The objective of this article is to arm design professionals with three things: quantitative data on the importance of intangible value in the specific industry in which they work; a framework for analyzing the composition of that intangible value; and an approach for defining and measuring how design contributes to the efficiency and engagement of their company. The first two substantiate design as a strategic discipline and creator of real economic assets. The third provides a framework for assessing the contribution of design to the current and future performance of the business.

My hope is that the combination of these three advances our ability to substantiate Thomas J Watson Jr.’s observation that “good design is good business.” ■