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In Search of Business Value

How Clear Is Your Picture of Business Value?

After a superb meal of local dishes at the Auberge de Talloires on the eastern bank of the lac d'Annecy, we retired to the drawing room for an after-dinner drink. The waiter suggested a 125-year-old bottle of Calvados as a perfect complement to the richly appointed atmosphere of this fourteenth-century abode. The eyes of our Scottish colleague, reflecting the intelligence, organization and mischief of thirty years of consulting for the IT industry, suddenly beamed in expectation of another treasured moment. He was not to be disappointed. He savoured the first taste, comparing this unique pleasure to previous experience. In his long career, he concluded, he had never experienced a clearer definition of value.

A manager's job is adding business value to his or her organization. In the preface to *The Value Enterprise* (Donovan *et al.*, 1998), the authors suggest that the most significant challenges facing management today are communicating clearly what they want their firms to become and how to get there. If we can come to grips with this apparent contradiction between management's quest for value and their apparent inability to share this vision with their employees, customers, business partners and shareholders, we will have taken a

major step towards plotting a course for building business value in the future.

The following pages contest a number of commonly accepted management practices. We contend that business value is fundamentally different from either performance or productivity. We demonstrate that the notion of business value has evolved significantly over the last 15 years. We argue that there is no 'one best way' for adding value to organizations or to your careers. We conclude that the search for business value is a perpetual quest that involves applying talent, process and technology to the evolving reality of each business community.

To support our claims, let us explore a number of questions together:

- What do we mean by value, and what is the specificity of 'business value'?
- Why should we measure value, and why should we care about how we measure it?
- How can we measure value, and to what extent can technology facilitate this task?
- To what extent has the evolution of organization and technology changed the way we look at value?
- What are the paths of a roadmap to adding business value to our organizations?

What Do We Mean by Business Value?

Over the years economists have offered generally consistent views on 'value', 'profits' and 'business value'. *Value* is a product of labour and is captured in the price of goods and services that is itself set by the

balance of supply and demand. Value may be defined as the essence of an organization's identity: why stakeholders (internal and external clients) choose to do business with that organization. *Profits* are surplus value derived from the proper allocation of capital and labour. *Business value* has been viewed as a characteristic of industrial innovation, while the function of management has been defined as maintaining competitive differentiation (Schumpeter, 1934). The advent of globalization of markets, technologies and organizations has increasingly provided managers with opportunities to become innovators in their own right, not in producing new products but in elaborating new strategies for value creation.

Simply put, companies invest in a product and/or service offer in the hope of receiving a proportionally greater return on their investment. If they succeed, they have created business value. Since most companies compete in markets with other firms offering similar products and services, creating sustainable business value is intimately linked to the coherence of the firm's business model over time. Business models, formulated either explicitly or implicitly, are built upon four cornerstones:

- *The client base*: How has the company targeted its client base and then segmented it by client needs and objectives?
 - *Expected benefits*: What benefits are clients looking for in their relationship with the firm?
 - *Process architecture*: How has the organization (human and technological resources) been designed to offer the products and services that meet clients' needs and objectives?
 - *Metrics*: How is the organization measuring the revenues generated by these products and services in light of the market and the competition?
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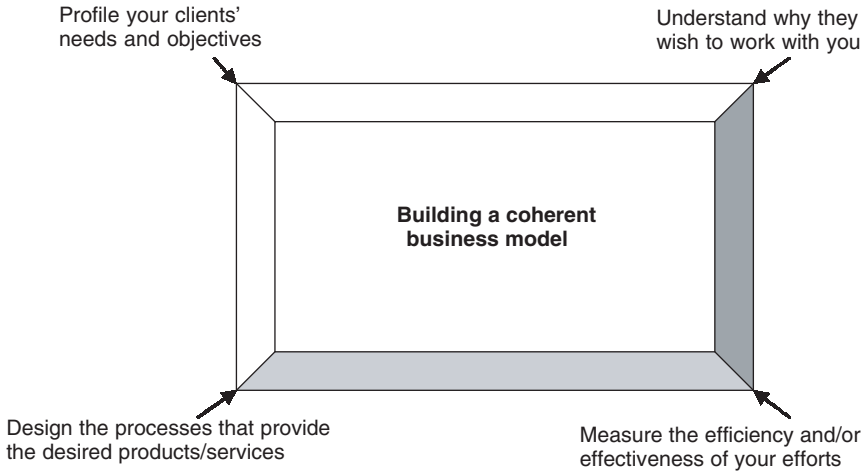


Figure 1.1 Business models

Several points can be underlined here. Business value does not come directly from either your products or your company; business value is determined by the relationship you nurture with your clients. Companies have internal (employees, managers and stockholders) and external (distributors, customers, regulatory agencies) clients, each with potentially differing needs and objectives. Clients' perceptions of value change over time, requiring companies to revise their business strategies to maintain their competitive advantage. Information technology plays several roles in shaping business value: it can help us understand this business challenge, enhance the advantages of our product/service offer, and measure and communicate the results of our efforts.

Why Measure Business Value?

Given the difficulty in understanding the roots of business value, it can be legitimately asked why we should go to the trouble of

measuring it at all? As with the concepts of productivity, quality and learning, measurement systems reveal both what is actually produced within an organization and what can be done better.

In discussing productivity, Drucker underlined the importance of measurement: 'Without productivity objectives, a business does not have direction. Without productivity measurement, a business does not have control' (Drucker, 1974). In analysing quality, Deming argued that operational definitions give communicable meaning to concepts by specifying how the concept is measured and applied within a particular set of circumstances (Deming, 1982). Scott, Sink and Morris (1995) have in turn stressed the link between measurement and organizational learning in that 'measurement fosters organizational learning when management teams become skilled at converting data to information and information to knowledge'.

Management can provide a strong link between corporate vision and reality in developing operational measures of business value. Measures of business value are designed to promote three objectives: to raise awareness about what business value means to the organization, to establish guidelines to understand the relationships between business value, productivity and performance, and to identify a learning agenda to heighten the business value of future products and services.

How Have Measures of Business Value Evolved over Time?

Measures of business value have evolved over time with the evolution of markets and technologies. In the not-too-distant past, business value was directly associated with a firm's product offer. As a case

in point, consider the invention of the Bic pen. In 1950, Marcel Bich created a revolutionary ball-point pen which he called Bic.¹ Ball-point, clear-barrelled, smooth-writing, non-leaky and inexpensive, the advantages of the 'Ball-point Bic' were clearly visible to consumers throughout the world. The product's characteristics were commonly perceived as 'better' value than anything else on the market. As a result, the future Baron Bich built his company in 1953 to 'develop the machines and the industrial processes needed to produce this innovative product and assure its high quality'.

Can the same be said of most products today? Is the value of Chanel No. 5 perfume, Michelin tyres, or the A380 jet in the products themselves or in the information and services that are packaged with the product? On what criteria do we purchase perfume, tyres or aeroplanes? Why do we choose one 'product' rather than another? Are the firms Chanel, Michelin and Airbus Industries structured to produce the machines and industrial processes needed to manufacture these products or organized to service the brand and its market? To what extent do these companies design, manufacture, distribute and service their own products? Is the business value of these companies in their products, in their organization, or in the relationships they maintain with their clients?

It can be argued convincingly that the nature of business value has evolved significantly over the last several decades. For products ranging from tennis shoes to higher education, the importance of criteria such as price, reliability, performance and technology have given way to privileging brand name, service, packaging and appearance. In an era of shopping centres and web stores, the importance of product knowledge, maintenance and proximity has given way to client perceptions of reputation, responsiveness and service.

	From the value of products to business value
Intrinsic (Product)	Performance	Appearance
	Price	Brand name
	Reliability	Styling
	Technology	Packaging
Extrinsic (Vendor)	Operator training	Context
	Maintenance training	Reputation
	Parts	Reliability
	Post-purchase costs	Responsiveness
	Warranty	Service

Figure 1.2 Elements of business value

How Do We Add Value to a Company Today?

Empirically, the relationship between a firm’s financial performance and its stock price is becoming increasingly difficult to demonstrate. A company’s non-financial performance now plays a critical role in how the company is evaluated: strategy, execution, management experience and attractiveness are currently accepted measures of performance. As a result, investments in brand development, training and R&D now exceed total investments in tangible assets. The accounting firm Cap Gemini Ernst & Young concludes that at least a third of a mature company’s value is attributable to non-financial information. For small and medium-sized companies, the proportion is even larger (Low and Cohen Kalafut, 2002).

In a similar vein, the relationship between a product’s cost and the customer’s perception of the value of a vendor relationship has steadily diminished. Loyalty to a brand or a vendor is increasingly dependent on a number of cost factors not directly associated with either specific products or services. These include:

- the nature of the relationship/business model with the supplier or vendor;
- acquisition/purchasing and decision-making processes;
- supplier capability, consistency and dependability;
- learning, knowledge and information transfer and solution development.

In this light, to what extent does business value depend on a firm's ability to manufacture, sell and service its own products? From a customer's perspective, product or service differentiation becomes increasingly more difficult, not only because of diminishing differences in technology and performance, but because productivity gains from one vendor to another have become increasingly marginal over time. In sharp contrast to the formulas for success fifty years ago, improving the machines and processes needed to manufacture the firm's products may be less a guarantee of adding business value than efforts devoted to improving the quality of client relationships.

How Do We Measure Value?

Is what you measure what you get? From a customer's point of view, value is measured in a number of ways. We refer to *attribute-based* value when a customer privileges a product's characteristics or functions. Marketing specialists have also referred to *consequence-based* value when customers identify value with their perceptions of the impact of their use of a product on their own performance. Finally, we can refer to value when customers associate the value of a purchase with an outcome they would like to achieve.

These measures of value are quite different from those deployed by most companies for evaluating the value of their business.

Accountants have suggested a panoply of measures (recorded value, assessed value, earning potential, etc.) that reflect their own conception of business and business logic. Economists offer much the same in proposing notions of use value, exchange value or cost value that correspond to their views of economic units and market mechanics. Purchasing and materials management offer yet another set of metrics (stock value, esteem value or replacement value) that are closely tied to theories on stock management and logistics.

Accounting and Finance	Economists	Purchasing and Materials Management	Consumers
Recorded value	Use value	Replacement value	Attribute-based value
Assessed value	Exchange value	Esteem value	Consequence-based value
Earning potential	Cost value	Stock value	Goal-based value
Liquidation value			

Figure 1.3 Client value

Source: Adapted from Wilson and Jantrania (1994)

There is no best way of measuring value, but there are metrics that have been designed to measure how business value is created and enhanced. Managers, in recognizing the importance of ‘intangibles’, are increasingly adopting non-traditional methodologies of measurement. Current approaches include the Balanced Scorecard, Economic Value Added, Total Cost of Ownership, and Value-based Management.²

Consider how the ‘efficiency’ paradigm of bigger, faster, better has conditioned the way managers look at business and business value. Process-centric applications have focused management’s attention on organization and technology rather than people. Organizational culture, individual and team competencies and the quality of human relationships have taken a back seat while driving down cost is the predominant aim. In many cases, strategic decision-making has

been performed using spreadsheets and process diagrams rather than observing how people and markets actually work. Taken to the extreme, as with the examples of WorldCom and Enron, the paradigm has even distorted the reasons why, and how, we do business.

Can information technology be designed to offer a different vision of reality? Can we design information architectures that will help management focus on factors other than cost and time, on the quality of interaction rather than the quantity of transactions, and on human motivation and innovation as the primary source of sustainable competitive advantage? This vision will require the introduction of a new paradigm of business value, new metrics for measuring 'better', and new models for structuring how we interpret data on our products, companies and markets.

What Are the Ingredients of Value?

Different client conceptions of exactly what constitutes value lead to conflicting visions of business value. As a result, information technology's measurable impact on the organization depends upon which elements or components of value we take into account. These elements include the following.

Efficiency

Efficiency can be seen as an input/output ratio that addresses the question of how work is being done today and what can be done tomorrow. Measuring efficiency involves capturing transaction costs of how people and/or technologies perform in a given process. Process-centric

application systems, such as enterprise resource planning suites, focus our attention on the costs involved in managing key processes.

Profitability

Profitability measures the added value of an organization in comparing the cost of its resources with that of its products and/or services. Financial performance is usually equated with business success. The related concept of budgetability allows financial measurement of interdependent organizational units: cost centres, government departments or internal services. Measures of profitability usually form the nucleus of decision-making software packages.

Utilization

Utilization focuses on the extent to which company resources are employed at any given time. Measuring utilization involves evaluating how people, machines and materials are used in the production process. Stock management systems, for example, are often used not only to measure resource allocation, but also to suggest optimal uses of physical resources.

Quality

Quality has been defined variously as 'conformance to standards' and as 'conformance to expectations'. A common characteristic of quality measures is the evaluation of organizational products and services against external norms, legislation or objectives. Since these are basically benchmarking techniques, they can be easily adapted

to measuring value in supply chains, markets or industries. Client relationship management software, to take one example, has been built on the premise that we can measure quality.

Innovation

Innovation can be understood in the context of an organization's ability to react to real or perceived changes in the market or in the economy. Although it is a response, reactive or proactive, to the current state of affairs, it is a measure more of potential than of past performance. Current applications of information technology are often ill-designed to measure innovation, because they focus both on the past (rather than the future) and on norms (rather than exceptions).

Passion

Passion represents the affective response of people to their work environment. Perhaps the most difficult of all measurements, passion is concerned less with conformance to requirements than with alignment of personal and professional expectations. Variables that influence passion include client perceptions of the workplace and work culture. Most implementations of information technology have failed to capture measures of passion, but have contributed directly to a decrease in company culture, individual passion and investment in the organization.

Knowledge

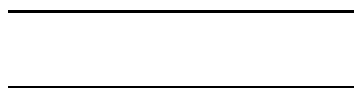
Knowledge is the lens through which employees apply, translate and create meaning out of the masses of data and information available

to them. It can be viewed as a cultural ingredient, something that contributes to the feel of an organization, its climate and its atmosphere, and hence something that is tangible enough to be felt, experienced or transferred through to the customer. Surrogate measures may include the transparency of decision-making, levels of involvement, number of mistakes made and the ability to challenge conventional wisdom. Knowledge management systems have been designed around the premise that we can capture and communicate knowledge.

Effectiveness

Effectiveness can be viewed as an output–input ratio that addresses the question of ‘doing the right things’ to meet customer needs and objectives. Effectiveness measures the added value of an organization in adapting its product or service offer to the evolution of its clients’ needs. Effectiveness is an evaluation of how people, rather than processes or markets, react to client demands. The inability of process-centric applications to capture or improve effectiveness has led to an increasing demand for collaborative technologies.

Box 1.1: Has the efficiency paradigm run out of steam?



A vice-president of one of the world’s leading software houses explained his business challenge in drawing two parallel lines on the board. He described his company as one of the most

efficient on the planet: so efficient that most companies had already purchased their software. His challenge: convincing his sales managers that there was something else to sell. He pointed to the 'bottom line' and lamented that his sales force knew its importance only too well. He pointed to the top line and continued: how can you convince sales managers who have been bred on reducing costs to sell innovation, creativity and passion as a means of helping their clients apply information technology to build business value? He concluded that the efficiency paradigm had run out of steam, and that new measures of business value would be needed to fuel vision in the economy in the years to come.

The Business Value Continuum

Where do you define value for your organization today?

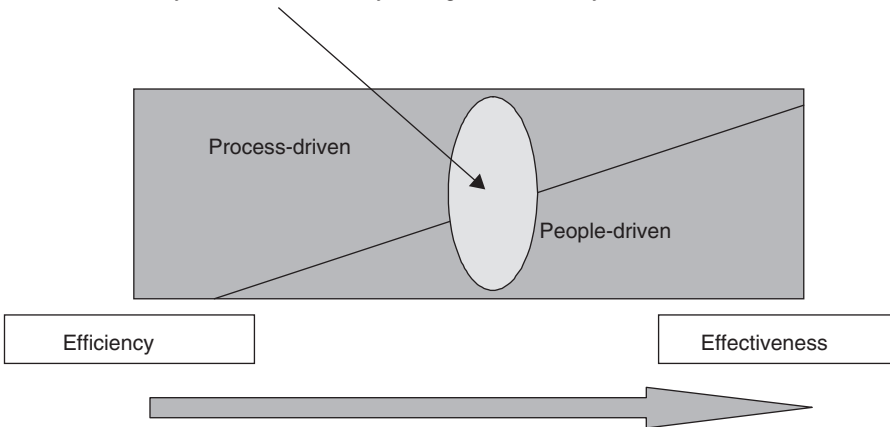


Figure 1.4 How does business value emerge from operational processes?

Operational definitions of each value component vary from firm to firm depending on the company culture, the organization and individual beliefs. Since value is embedded in client relationships

rather than products or services, it is by nature dynamic and subject to different interpretations over time. Specific value propositions are reflected differently on a continuum of organizational activities, from wholly automated tasks to intensively human-based processes. As a result, the foundations of business value are different for each organization, and reflect contrasting cultures and perspectives.

Different organizations in different industries at different stages in their development will be uniquely positioned on a business value continuum based on the nature of organizational processes, the proposed products or services, and how clients measure their value propositions. Attempts to build a stronger foundation for business value must begin by forging a common vision, and shared meaning, of how business value is defined within the organization. Information technology's ability to measure and to impact value does not depend uniquely on technology itself but on the coherence of what we are trying to improve.

Has Information Technology Played a Role in Building Business Value?

Several observers have questioned, over the years, whether information technology has played a direct role in creating business value. Strassmann, one of the most visible observers of the 'productivity paradox', argued steadily that, over the previous 10 years, 'there has been no relationship between the costs of information technology and profitability' (Strassmann, 1999). Joyce and Nohria (2003) concluded, having studied the performance of 160 companies over five years, that investments in information technology have little, if any, impact on corporate performance. They argue, using the criterion of total return

to shareholders as a measure of performance, that management practices (including strategy, execution, culture, organization and, to a lesser extent, talent, leadership, innovation and M&A) are much stronger indicators of why certain companies outperform others.

Do IT investments in themselves produce a competitive edge? In the year 2000, nearly half of US corporate capital spending was used for information technology. Carr, in the recent, controversial *Harvard Business Review* contribution argues forcefully that 'IT doesn't matter' (Carr, 2003).³ His argument suggests that information technology, like the railway and the electric generator before them, have become nothing more than commodity inputs. Carr categorizes IT today as an infrastructural technology that is easily acquired and copied, and proposes that IT's influence will henceforth be macro-economic and not a means of competitive differentiation. Moreover, he believes that the IT market is saturated, since existing IT capabilities are largely sufficient for corporate needs. He concludes that the risks associated with implementing new information technologies exceed potential advantages, and that management should focus on securing their current investments and controlling costs.

As many have been quick to point out, IT alone does not create business value, but using information technology to support business strategy does.⁴ Competitive advantage is not the result of computers but of skilled and innovative people who use information technology to implement efficient and effective business practices. Most consulting companies today suggest that information strategy can help improve business strategy along one of three dimensions: in improving the organizational knowledge of client needs and objectives (customer relationship management), in optimizing the delivery of products or services (supply chain management), or in increasing the visibility of the costs and benefits of organizational activities

(enterprise resource planning). The logic behind each firm's business model helps determine which course of action will provide the greatest benefits for the organization.

The role of information technology today has greatly evolved from the simple calculating machine of the 1940s. Information technology can help management and employees better structure the demand for and the supply of, or better appreciate, the metrics with which value is measured. The role of many IT vendors has also evolved significantly, from simply shipping commodities to providing information services to business to decrease the risks of failure while increasing innovative uses of technology in the search for business value. The resulting value propositions can in turn be evaluated on several fronts: performance (will the vendor's proposal increase financial returns?), organizational design (does the operation improve the underlying technological infrastructure?), and/or the delivery of services (will the proposal improve company operations?).

Box 1.2: Dinner stories

As often happens when dining with clients after a business presentation, the conversation turned to particular points that David had raised earlier in the day. As a Senior Director for Market Development in a multinational corporation, he felt quite at ease exploring points of agreement and various differences of opinion, and punctuated the conversation with a number of anecdotes and stories. He felt somewhat more challenged when the client requested a hard copy of the presentation to work on in his hotel room later in the evening. It was not that he did not appreciate the attention, but neither he nor his client had a PC or printer at hand to reproduce the presentation ...

The conversation dimmed as David searched for an answer. He thought back to his work with the British schools on developing skills in information and communications technologies. He reviewed his own company's work on convergence: bringing the divergent digital technologies together into an integrated work environment. An instant before ordering dessert he proposed that the answer was only two phone calls away. He used his mobile phone to ask the client's hotel for its fax number. He then used the collaboration software on his phone to access a copy of the presentation on one of the company's servers, and to print it to the hotel fax machine along with a cover note. David had another story to tell, even before the coffee was cold!

Can We Propose a Roadmap for Business Value?

Improving business value can be undertaken through developing skills and competencies, improving organizational processes, and/or enhancing the technological infrastructure that supports a firm's product and/or service offer. Mistakenly, many firms attempt to work in all directions at once, more out of concerns that 'everyone's doing it' than as a result of their organizational strategy. Even worse, it is common to find contradictory initiatives between departments and between subsidiaries competing for a company's limited financial and human resources. Charting the proper roadmap for business improvement depends upon management's deeply rooted beliefs about where the value in their organization resides. Three fundamental questions correspond to three distinct dimensions of the Business Value Matrix™:

- Is the competitive advantage of your enterprise built upon a belief in superior talent, superior organization or superior technology?
- Will you best increase your competitive position in investing on an individual level (with certain managers, employees, business contacts), on a team level (by improving your sales or project team, or on a market level (in focusing on the relationships between your firm and its market)?
- To what degree do you measure success in improving the efficiency of business transactions (time and cost), and to what degree does success depend upon the effectiveness (quality, longevity, fidelity) of the interactions between your firm and its clients?

In crafting strategy based on management's deeply rooted beliefs about the sources of a company's value proposition, you inherently increase the chances of success.

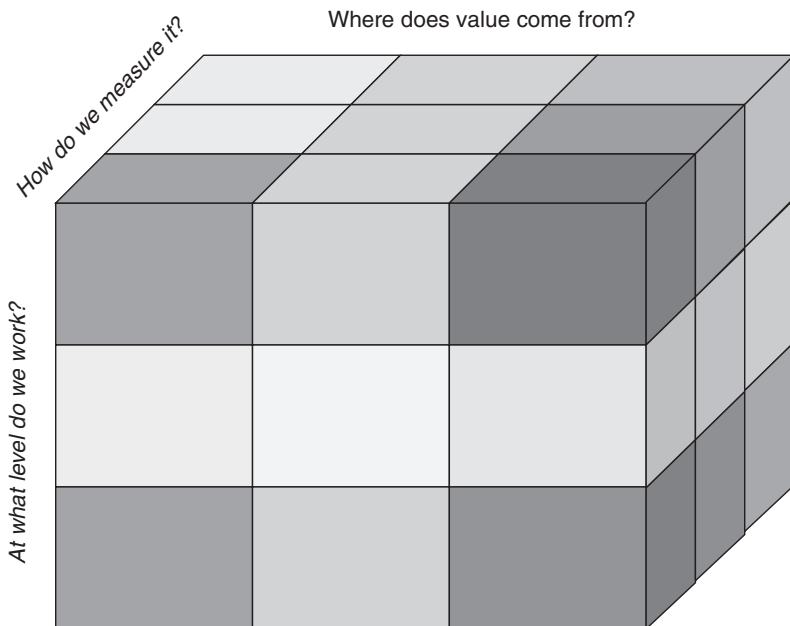


Figure 1.5 Where does value come from?

Where Does Value Come From?

Certain firms build their competitive position upon the strengths of their human resources: the quality of their managers, employees and/or business partners. These firms openly recruit and reward managers and employees who rise above the pack, and openly encourage creativity, innovation and initiative. Management will buy into proposals for process improvement or integrating new technology only to the extent that they improve their workforce's skills and competencies. In such a mindset, the roadmap to business value should focus primarily on how organizational and technological initiatives improve their human resources.

Other firms base their value proposition not so much on the quality of their human resources as on perceptions of an optimal organization of their human and physical capital. They believe that success resides in an organization of their processes and procedures that is 'better' than that of their competition. The roadmap for improving business value is fundamentally different here from that of those firms seeking to integrate the 'best and the brightest'; they should focus on how their managers and employees can use information technology to improve the organization's efficiency and/or effectiveness. The goal here is to improve the underlying business processes rather than the skills or competencies of their employees.

Box 1.3: We put our label on it!

Pedro, as the European Director for Strategic Investments of one of the world's major computer companies, had been invited to be the keynote speaker in a French MBA's workshop on the Information Economy. He began his talk with a description of

the long journey of his company from its incorporation as a computing, tabulating and recording company in 1911 to the Internet today. He paid considerable attention to an analysis of corporate strategy that had shifted from a focus on products to an emphasis on services and value. Before taking questions, he proudly showed the students what he considered to be his company's most innovative product.

It appeared to be similar to most other PDAs on the market: same size, same design, same programs and even the same components. The students' first question was how could he be so proud of a product that was certainly invented by a competitor, and that was neither revolutionary nor unique? He readily concurred, suggesting that the whole product was subcontracted from the initial requirement studies to after-sales service. Pedro concluded that the only thing his company produced for the product was the label, which was why the product had been sold successfully for 50% more than its competition.

Finally, some firms base their value proposition essentially on the quality of the tools that they put at the disposition of the organization. The underlying vision here suggests that value will come from putting the right tools in the right hands at the right time. Focusing organizational efforts on obtaining and deploying superior technology is seen as a source of competitive advantage. Although organizational strategies usually involve some combination of skill development, organization and technology, the effectiveness of the strategy will depend upon how companies view the source of their competitive advantage and where they believe their efforts will be most productive.

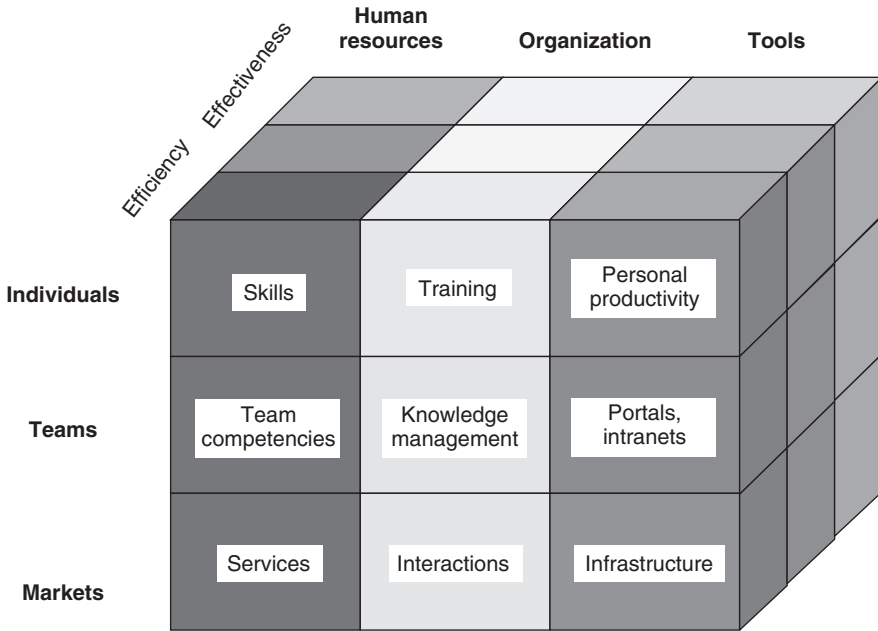


Figure 1.6 Strategies of business value

Where Do You Look for Value?

On a second dimension, the company can focus its efforts to build business value on individual managers, teams or departments, or the market as a whole. If the company's management believes that its value proposition is based on the quality of its individuals, business strategies should be deployed specifically to develop the individual's effectiveness in the organization. If the value proposition is based on people, this strategy suggests that efforts should focus on developing individual skills and competencies. On the other hand, if the goal is to optimize organizational processes, efforts at the individual level should be directed to perfecting training and education. Finally, if the company believes that its value proposition is technology-led,

it could target its efforts at developing and maintaining personal productivity tools.

The view is quite different for firms that believe that the emphasis of building business value should be on developing the quality of its teams and departments. At this level, the company that wishes to favour human or social capital should focus on strategies that develop team skills and competencies.⁵ This belief is founded on the premise it is not individuals' skills that add value to the organization, but their capacity to work as a team in addressing organizational challenges. Firms that privilege process over human capital will design knowledge management approaches that focus on organizational rather than individual learning. Firms that favour a technology-driven approach will develop portal strategies that provide the infrastructure to facilitate knowledge management and skill transfer throughout the organization.

It could be suggested that organizational strategy would best be served by firms focusing business strategies neither on their employees nor on their departments, but on the market itself. The belief here is that the market determines the value of a company's service offer, and therefore business strategies should attempt to develop knowledge of current and potential clients (prospects, business partners, government and regulatory agencies) likely to work with the company and the skills to deal with them. For firms focusing on people, this strategy would translate into efforts to improve the components of the company's service offer. If the company prefers an organizational approach, efforts would be directed at strengthening the processes that affect the quality of the interactions between the company and its external clients. Finally, firms that focus primarily on technology

will begin by designing an information infrastructure that improves the company's impact in its markets.

How Do You Measure Business Value?

The third dimension of the Business Value Matrix™ concerns how each organization measures business value. As suggested previously, efficiency refers to transactional improvements in tasks, activities and processes. Improvements in efficiency are most often evaluated in terms of savings of time and/or cost. Conversely, effectiveness is about the degree to which human experience, innovation and knowledge constitute the foundations of business value. Effectiveness is more easily measured by a firm's external clients than by its technology, and is usually expressed as perceptions of quality, reliability and service.

Efficiency and effectiveness are not mutually exclusive, but constitute points on a continuum that includes profitability, innovation and passion. Both are necessary in building business value; the Business Value Matrix™ may be presented face up (or face down) depending on how each client views value. Nonetheless, the blend of value metrics should be adjusted to organizational beliefs concerning the source of business value and the level of intervention. Metrics can be constructed to measure the contribution of human resources, organization or technology to each organization's value propositions. Similarly, metrics can be captured at the individual, team or market levels consistently with where management feels value arises. The importance of specifying appropriate metrics is critical here, for they will influence how management evaluates market

opportunities, measures business initiative, and communicates business value.

What Have We Learned?

Several conclusions can be drawn from this discussion. First we suggest that there is no one best way of using information technology to add value to business. Organizational strategies for business should be based upon the company's convictions about the source of its value proposition, as well as on what level it wishes to focus its efforts. Although there is clearly an interrelationship among a firm's skills, organization and technology, organizational strategy should be tailored to coincide with the particularities of each organization's culture and belief structure. Developing business strategies inconsistent with organizational culture, for example insisting on business process improvement in a company whose reputation has traditionally depended on the reputation of its managers, is unlikely to provide value.

In a similar vein, we suggest that improving business practice is not a 'packageable' solution but the core of business strategy. Organizational investments in information technologies will impact on, and be influenced by, investments in the key processes of the company. Just as importantly, the firm's IT infrastructure provides a great deal of information on the challenges of developing specific value propositions to improve business practice. The gaps or inconsistencies in information, the bottlenecks in delivering information to your clients, also indicate where and what employees, managers

and business partners need to learn. Business strategies will benefit greatly from leveraging a company's current capabilities and future technology investments.

Notes

1. After obtaining the patent rights to a ball-pen created by Hungarian inventor, Ladislao Biro, Marcel Bich introduced his own ball-point pen in December 1950. As the world's number one manufacturer of ball-point pens, Bic today manufactures and sells 22 million stationery products every day around the world. See www.bicworld.com.
2. The notion of metrics will be explored in more detail in Chapter 3, 'Is What You Measure What You Get?'
3. Nicolas Carr develops his arguments, and presents a somewhat more balanced approach to the current debate in his book, *Does IT Matter?* (Carr, 2004).
4. See 'Does IT matter: An HBR debate', *Harvard Business Review*, June 2003.
5. Human capital refers to employees' practical knowledge, acquired skills and learned abilities that contribute to their productivity. Social capital offers a complementary notion in including the specific benefits that flow from the trust, reciprocity, information and cooperation associated with social networks. See Chapter 6, 'The Joined-up Economy'.

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