BH089
01/15/03

Vertical integration is dead, or is it?

Thomas Osegowitsch
PhD Candidate, Graduate School of Management, University of Western Australia, Nedlands, Perth (tosegowi@ecel.uwa.edu.au)

Anoop Madhok
Associate Professor of Management, University of Utah, Salt Lake City

Given the prevailing sentiment over the ineffectiveness of vertical integration, it is surprising how resilient this type of strategy has proven to be. Shedding more light on its continued appeal in today's business environment, the argument here holds that such popularity marks a departure from traditional motivations based on manipulating industry structure or minimizing transaction costs. Instead, contemporary vertical integration, especially downstream integration of the customer interface, is motivated by the associated learning benefits.

In recent decades, equity markets have put tremendous pressure on firms to focus and disaggregate. The mantra of core competencies is repeated incessantly: Companies are routinely counseled to "stick to their knitting" and outsource everything else. Unrelated diversification and its special exponent, vertical integration (VI)—whereby a firm is engaged in several stages of a given industry's value chain—are regularly denounced as ineffectual and obsolete strategies.

Academia has also lost interest in VI. The issue is largely regarded as settled in favor of de-integration. The overwhelming consensus appears to be that VI shares the poor track record of conventional (unrelated) diversification,[1] and its presumed deficiency is explained in identical terms. It is argued that differing economic and technological circumstances prevail in the various segments of an industry's value chain, requiring distinct management styles and cultures. Trying to manage the tensions that exist across successive businesses is considered a complex task that is likely to overwhelm managerial capabilities. These negative sentiments are echoed in large parts of the consulting literature, which further contends that the problems of VI have been thrown into sharp relief by the advent of the Internet (discussed in the box on the next page). "Unbundling the corporation," as Hagel and Singer (1999) put it, is commonly advocated as the logical solution.

In light of the prevailing sentiment and a general trend toward reversing the diversification efforts of earlier periods, it is surprising just how resilient VI strategies have proven. They appear to have compelling appeal among companies in a diverse range of industries—pharmaceuticals, defense, utilities, computers, autos, and many more. Although VI is dominant foremost among manufacturers that push downstream, it is also prolific in services, as observed in the converging media/entertainment sector or in more traditional industries such as engineering and construction.

Here, our aim is to shed light on the continued appeal of VI strategies in today's business environment. We argue

that the current popularity of VI, particularly downstream integration of the customer interface, marks a departure from traditional motivations based on altering industry structure or minimizing cost. Instead, contemporary VI is driven largely by learning-related motives. Naturally, traditional rationales for VI, such as creating barriers to entry or avoiding exposure to the potential opportunism of others, still exist, but they are increasingly being superseded by new concerns.

Vertical integration in the academic literature

Over the years, researchers have identified a host of motives for firms' VI strategies. These can broadly be split into two main categories: (1) strategic considerations, primarily to do with power and positioning; and (2) efficiency considerations, primarily based on governance and transaction cost arguments.

Strategic considerations

Strategic motives relate to the company's competitive positioning vis-à-vis rivals and potential rivals. The latter refers mainly to buyers or suppliers that might start competing with the firm. Most strategic motives were originally developed in the industrial organization literature, such as Bain (1956), before being adapted by business scholars such as Michael Porter (1980). Strategic approaches aim to change the industry's existing power structure, either by building/exploiting the firm's market power or by attempting to offset the power of others. VI is prompted by considerations such as

- foreclosing of input and output markets to competitors, or at least raising their costs by reducing the number of suppliers/customers available to them
- cross-subsidization of one stage of the value chain by another in order to "squeeze out" more focused competitors
- increasing barriers to entry by upping the ante and reducing the threat of potential entrants
- retaining control over proprietary knowledge so as to prevent suppliers/customers from becoming competitors

The above reasons are exemplary of strategic rationales for VI. In essence, VI is seen as a means to winning the power play against actual and potential competitors, thereby enabling the firm to earn monopoly or oligopoly profits. On certain occasions, the benefits of strategically motivated VI may be achieved through partial integration. For instance, so-called "tapered" VI allows the firms to credi-

VI and the Internet

It is commonly accepted that the use of IT in general and the Internet in particular means that information is more easily exchanged across company boundaries. Some predict that as transaction costs are reduced—due to the falling costs of searching for, comparing, and switching partners—firms should become smaller and less vertically integrated. According to Evans and Wurster of *Blown to Bits* fame (2000), the Net is *the* primary driver behind the deintegration of corporations. It offers new possibilities for commercializing the information component of an industry and, correspondingly, has the potential to disrupt existing value chains. This newfound separability of the physical good and the associated information is said to favor new, focused entrants because "when the economics of information are shifting, incumbents are advantaged precisely by their lack of legacy systems, legacy assets, and a legacy mindset."

We see a much more contingent picture. Universal connectivity and common communication standards, which precipitated the Information Revolution, undeniably disrupted value chains and evoked new business models. But although this did lead to the emergence of new, focused entrants in a number of industries, the results are varied and specific to each industry. The greater divisibility of the value chain also provided new opportunities for the established OEMs and service companies. In fact, the fate of the overwhelming number of dotcoms would suggest that the Net, rather than favoring the newly emerged "pure plays" that pioneered its use, has aided the more broad-based incumbents. These firms exploited the new opportunities for further expanding their scope, which frequently allowed them to tighten their grip on their respective industries. Fittingly, attention in the popular business press has shifted away from pure plays—previously thought invincible because of their lack of legacy systems—to "clicks-and-bricks" operators. These incumbents successfully combined their traditional advantages, such as established brands, production capabilities, and purchasing sense, with an e-commerce strategy.

Whether it is the incumbents or newcomers that take advantage of the "new economics of information" depends on numerous aspects, including the established firms' strength of brand image, their agility and foresight, synergies with their existing activities, and the constraints imposed by legacy assets. In conclusion, the advent of the Net, like many preceding technologies, has led to an industry-specific restructuring of the costs and benefits of VI: some industries deintegrated, others (re-)integrated.

bly threaten full VI and thereby extract better prices and conditions from suppliers or distributors.

Efficient governance considerations

While strategic considerations dominated the academic literature on VI during the 1980s, governance arguments came to the fore in the 1990s. Their appeal was largely restricted to academic circles, however—much more so than was the case with strategic motives, which were enthusiastically embraced by practitioners. Governance arguments are principally derived from two bodies of theory: agency theory and transaction cost economics. Both mainly seek to minimize the firm's exposure to opportunistic action on the part of others. Each has a different focus, but both share the premise that the firm's governance choice—whether it opts to internalize or outsource a particular activity required to create a product or service—has a decisive impact on its cost efficiency. And both seek to determine the firm's most efficient (cost-minimizing) vertical boundary.

The costs at the heart of transaction cost economics are those of identifying a partner, negotiating and drafting a contractual agreement, and adapting, monitoring, and enforcing that agreement. Transaction costs are greatest in instances of "market failure," where a particular transaction cannot be adequately protected by contractual means. For instance, in turbulent environments it may be impossible or prohibitively expensive to specify all the possible contingencies that may require renegotiating a particular contract. Similarly, it may be too costly to monitor and enforce especially complex tasks. In such situations, bringing a transaction in-house may be the most efficient governance choice.

According to transaction cost arguments, contractual problems become acute under conditions of "small numbers bargaining," a situation that regularly emerges when the transaction involves human or physical assets specific to the transaction. A piece of equipment may be fully customized to the needs of a particular buyer, with little alternative use. Under these conditions, the firm investing in transaction-specific assets will be vulnerable to opportunistic behavior on the part of its buyers (or suppliers).

Another strand of transaction cost theory concerns itself specifically with technology. High-tech markets are prone to failure, especially when the technology in question cannot be adequately protected by patents. For instance, to convince a potential buyer of the merit of a particular technology, a seller may have to fully disclose it, in which case the potential buyer may no longer be prepared to pay for it. Once more, VI provides the most economic solution by minimizing technology-related transaction costs.

The other perspective informing governance consideration is agency theory. It assesses the problem of opportunistic action in terms of measurement problems. In essence, when the partner's (the "agent's") contribution to a joint effort is difficult to judge, or when it is difficult to stipulate and monitor the required performance, VI represents the most efficient governance choice.

To sum up, through VI a firm can minimize the costs associated with transaction and agency challenges, such as

- *Uncertainties in demand/price.* Firms often face uncertain demand and must make production, ordering, and pricing decisions before actual demand is observable. Given the potential for opportunistic behavior by other parties, contracting under such uncertainty is costly.
- *Uncertainties in quality.* Similarly, the need to reduce quality uncertainty about inputs or point-of-sale service may lead firms to vertically integrate.
- *Lack of coordination.* Firms can improve the timing and reliability of information flows between stages of the value chain as a result of common ownership. Consequently they can eliminate inventory and unused capacity through optimal scheduling.
- *Market failure in knowledge/technology markets.* The problems of recognition, disclosure, and dissipation of knowledge make market failure particularly frequent in knowledge markets.
- *Agency problems of measurement uncertainty.* When it is difficult to stipulate and/or measure a partner's performance, there is heightened potential for opportunistic behavior.

These conditions are purported to lead to the VI of a particular transaction because its costs are lower when carried out within the firm rather than between independent firms. Both agency theory and transaction cost economics are predicated on a number of attributes that, according to Mahoney (1992), favor the firm over contractual agreements with outside parties: (a) better control of opportunistic behavior, (b) the ability to enforce cooperation, (c) greater audit possibilities and therefore improved decision-making based on better information, and (d) superior communication.

Disadvantages of VI

While the above motives expound the main advantages of VI, academics and popular business writers have also identified a number of disadvantages. Apprehensions have been voiced loudly in recent years, with critics claiming the wave of demergers as evidence for their assertions. One prominent criticism has been the higher performance risk associated with VI, especially in turbulent environments characterized by technological volatility and uncertain demand. In such fast-changing environments, VI may represent a premature commitment that could turn out to be costly, especially in the presence of high exit barriers.

According to flexibility arguments, firms should avoid VI and form alliances instead. VI has also been criticized for the loss of market incentives and the associated likelihood of higher production costs, as well as general bureaucratization and loss of focus.

Prominent contemporary motives for VI

As outlined above, despite apprehensions, academics have identified a host of possible motives for VI. Broadly, traditional motives can be explained with reference to strategic positioning and power—by dominating actual or potential competitors—or governance arguments based on the superior efficiency of in-house transactions. We contend that many of the VI motives identified and studied by academics have become obsolete or diminished in importance (see further below). Instead, a number of new compelling motives for VI seem to have appeared that have yet to be fully explored by researchers. Based on our observations in a wide range of industries, and on arguments advanced by practitioners and the more popular business literature, we have compiled the following list of main motives underpinning contemporary VI strategies.

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Value migration

In many industries, particularly in the manufacturing sector, value-added has migrated downstream for a host of reasons. First, in many manufacturing industries, due to high penetration rates and longer product life spans, the "installed base" (number of products in use) relative to the number of products sold in any year has become very large. As a result, a considerable portion of value-added has shifted away from manufacturing towards maintaining and servicing existing products. This trend has been reinforced with the rise in technical complexity and performance of many manufactured goods, which leads to exponential growth in their service requirements. In computing, for instance, ever faster machines harnessed for ever more complex (and networked) operations have increased after-sales spending for services such as system administration and training by order of magnitude. These developments have resulted in lifetime costs that, according to Wise and Baumgartner (1999), exceed a product's purchase price tenfold or more.

As a result, manufacturers in numerous industries are pushing downstream in search of value-added. Most major computer manufacturers, for example, have expanded aggressively into downstream services, especially consulting. IBM was the pioneer, but it was soon emulated by the likes of Compaq, whose acquisition of Digital in 1998 was motivated primarily by CEO Pfeiffer's ambition to move the company into services and consulting. When Carly Fiorina took over as CEO of Hewlett-Packard in 1999, she announced as her key strategic thrust a shift away from the company's exclusive product focus. From that vision flowed HP's unsuccessful $17 billion bid for the consulting business of PriceWaterhouseCoopers. In a similar effort, Cisco recently took a stake in KPMG's consulting business.

GE's growth during the 1990s was also largely based on its forward integration push in pursuit of value-added. The company's drive followed Jack Welch's decree that each division expand the definition of its particular market. In accordance, the energy equipment division no longer saw itself competing in the $12 billion turbine market but in the $40 billion market for utilities' spending on operating and maintaining their power plants. Service contracts in areas such as medical systems, power systems, and aero-engines had previously been seen as an added bonus to a product sale. Their main advantage was to provide GE with a foot in the customer's door so as to convince customers of the advantages of GE equipment over rivals' products. Today the value of service contracts often reaches a multiple of equipment sales, partly because GE offers a comprehensive service and takes on many of the operating risks previously borne by the customer.

Welch's vision is not dissimilar from recently ousted Jac Nasser's ambition for Ford. To capture a much larger slice of vehicle life-cycle spending, Nasser expanded into ventures such as direct car retailing, an online marketplace for secondhand parts in the US, and a European aftermarket parts and service chain.

Differentiation

Not only has the portion of value-added of traditional production activities (core product design and manufacture) declined, but so have their margins. In many mature industries, the product has reached levels of performance

that already satisfy the requirements of most customers. Further refinements of the technical/functional performance of mature products tend to confront severely diminishing returns. For example, the reliability of modern automobiles has improved to the point at which a further reduction in breakdowns is unlikely to have customers clamoring for new models. Likewise, the processing power of most PCs is already far in excess of the average user's requirements, and additional power is unlikely to yield distinction in consumers' minds.

In a bid to escape the commoditization of their core product or service, corporations are desperately trying to differentiate themselves from competitors. Where previously they aimed for differentiation based on the technical/functional merits of their offerings, they now supplement them with sophisticated downstream services. They may decide to offer additional engineering support, performance guarantees, special distribution and delivery arrangements, or packaging tailored to the client's needs. Many of these services are supplied by in-house units.

Another common strategy to attain differentiation and restore pricing power in the process is the adoption of total brand management. Managers in mature industries as diverse as banking, cars, airlines, foodstuffs, beer, utilities, and resources have embraced branding in an effort to create a differentiated identity for their wares. Brand management strategies necessitate close control of the company's interactions with the final customer (as well as other stakeholders) in a concerted effort to establish an emotional connection. Not only marketing, distribution, and after-sale service, but *all* interactions with the customer and the wider community of stakeholders can have the potential to impact on the company's image. Therefore, brand management strategies frequently lead companies to integrate forward and possibly backward in an effort to exercise total control over their image as well as get an "in" into the customer's psyche. Among other reasons, Ford and GM's bid to forward integrate into auto retailing was driven by a desire to eliminate the unpleasant experience of the car sales process, as performed by independent dealers, and the associated negative consequences for their brands.

Customers demand integrated solutions

Many firms are compelled by their clients to offer an ever greater range of products and services. As clients concentrate on their own core competencies, they increasingly rely on their suppliers to provide them with "integrated solutions." Paradoxically, the outsourcing boom that led many OEMs and service companies to disaggregate has forced some of their suppliers to broaden in scope. In contrast to the VI "push" in pursuit of migrating value and differentiation, the integrated-solutions motive represents a VI "pull" by the customer.

As an example, component producers in the automotive industry traditionally manufactured a small range of components to OEMs' specifications. To become first-tier suppliers to manufacturers that are rationalizing their supply chains, they had to expand their activities into product innovation and assembly to gain the ability to provide their clients with advanced subassemblies.

Powerful synergies can also be realized by suppliers that are allowed to penetrate deep into their clients' decision making-processes.

But calls for integrated solutions are not restricted to manufacturing. Clients increasingly charge engineering contractors with holistic business problems. These clients no longer have the ability to specify solutions, partly because they downsized their engineering departments and partly because technology has become so complex that only specialists fully understand it. So they rely on the expertise of full-service contractors to identify and execute the most appropriate solution. In response, engineering and construction companies such as Bechtel and Fluor Daniel have expanded their range of activities to offer full project services, including business and taxation planning, finance, site selection, design, construction, equipment installation, and even plant operation. Based on the same rationale, a number of equipment suppliers such as ABB, GE, and Westinghouse, as well as operating companies such as Bouygues of France or Cintra of Spain, have integrated into engineering and related services.

Synergies

One of the principal arguments against VI is that combining fundamentally different segments of the value chain within the firm reduces efficiency and raises bureaucratic costs. The counterargument is that combining the different stages offers more transaction opportunities. Close and ongoing relations between, say, sales and manufacturing may lead to significant synergies. In a similar vein, direct feedback from marketing may be invaluable for the product development department. As research has shown, the owner/user is one of the most important sources of innovation in industrial goods.

Powerful synergies can also be realized by suppliers that are allowed to penetrate deep into their clients' decision-making processes. For instance, by integrating forward into their customers' inventory planning they typically obtain more timely (and more accurate) information about demand. That lead time may, in turn, be used to change the entire manufacturing system from "make for stock" to "make to order." Alternatively, it may allow them to supply the client directly from the production inventory rather than through an intermediate distribution center.

Throughout the nineteenth century, the integration of design and construction services was the rule rather than the exception. Since then, the two had evolved into separate disciplines and spawned two different types of firms: contractors and engineers/architects. But recent years have seen the reemergence of fully integrated "design-builders," firms that provide design and construction services from their in-house skill base. The most powerful synergies offered by design-build are embodied in the principles of "constructability" and schedule compression. Input from in-house constructors during the design process can help optimize the cost and schedule performance of a project by advising designers on aspects such as material selection, site access, construction methods, and so on.

But synergies are not limited to the integration of the design and construction process. Governments around the world increasingly use build-operate-transfer (BOT) contracts to erect and operate public infrastructure. The contractor designs and builds a facility, such as a toll road, in return for the revenue stream from operating it for a given period of time, after which the asset becomes the property of the government. Under these circumstances, the vertically integrated firm benefits from in-house operating expertise, which will allow it to design for maximum "operability," thereby minimizing total spending over the asset's life and maximizing its return.

Emerging industries

Although VI is popular in mature industries, it is often imperative in nascent industries for two key reasons: credibility and the coordination required to ensure system compatibility or set a technological standard.

A. Credibility

A pioneering company in a radically new industry may lack the credibility to attract suppliers and distributors, especially where it might be jeopardizing its existing customers/suppliers by joining with the newcomer. The emerging car industry, as best exemplified by Henry Ford's operation, is a case in point. Ford Motor Company used to own the railways, locomotives, power plants, ore-carrying ships, blast furnaces, and foundries necessary to transform the inputs from the firm's iron ore and coal mines. The company initially was forced to own and operate every stage of the industry value chain—from the extraction of raw materials to the finish-and-trim operation—because suppliers were reluctant to share Henry Ford's bold vision for the "horseless carriage."

The trailblazing firm may lack the credibility to attract not only suppliers but also customers. So VI may be necessary in a bid to educate customers and convince them of the merits of a revolutionary new product. Many decades ago, Celanese faced difficulty in selling its new rayon fibers. The company was forced to forward integrate into yarn, textile, and even garment manufacture to overcome the hesitancy on the part of successive processing stages as well as final consumers. More recently, Orbital Engine Corporation of Australia, creators of revolutionary combustion engine technology, felt compelled to commit to the establishment of large-scale engine production facilities in the US in an attempt to persuade major auto manufacturers of the superiority of their designs.

B. System compatibility/technology standards

Emerging industries frequently rely on a set of highly coordinated components, which may be difficult to achieve among independent parties. Coordination is required to lift performance beyond critical threshold levels so as to be competitive with substitutes and set off the virtuous cycle necessary for an industry to flourish. For instance, attractive content was the key to getting people to subscribe to the emerging cable TV service, but pioneering operators found it difficult to entice independent content providers. Owning both content and distribution, Time Warner was able to enhance the value proposition of its cable service—feature films would no longer appear last on cable, but immediately after their release in theaters. In turn, higher subscription revenue and cable advertising allowed the firm to buy more attractive content, enabling it to take market share from its rivals as well as free-to-air TV, cinemas, and video rental.

Currently, the realization of the Internet's full potential in delivering video is awaiting the widespread availability of broadband. At the moment, because high bandwidth services are not yet widely available, there is little content. In turn, with only a small audience, the market holds little attraction for independent content producers. It sometimes requires a pioneering vertically integrated company to break the "holding out" pattern adopted by independently owned complementary stages of the value chain.

Similarly, a coordinated approach is often required to establish a universal (technology) standard. When it is difficult to induce independent partners to embrace a particular standard, it may initially take a vertically integrated company to blaze a trail. Once-high-flying Enron's key advantage in establishing itself as the preferred energy trading platform was the fact that the company owned sig-

nificant power generation assets that provided it with the capacity needed to attract initial customers. Similarly, most of the surviving B2B marketplaces are today (partly) owned by the established OEMs and major service companies, particularly in oligopolistic industries such as autos, chemicals, and retailing. Above all, the success of a marketplace hinges on the provision of sufficient liquidity, which gives vertically integrated competitors a head start.

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Assessment and implications

Thus, contrary to received wisdom, VI continues to be popular in numerous industries. The majority of the examples documented above are of firms moving downstream, and a casual survey of the business press confirms that forward integration is far more prevalent. This raises the specific question of what explains the preoccupation with forward integration among contemporary VI strategies.

Controlling downstream stages, especially the final customer interface, has steadily grown in importance over the years. One of the reasons for this is that the production paradigm has shifted from push to pull in many industries. Thanks to more flexible technology and various organizational innovations in the supply chain, products such as cars and textbooks are increasingly being manufactured in direct response to customer demand. In the past, capital-intensive factories based their output on a crude estimate of customer demand and preferences and produced "for stock." They then relied on marketing and promotional efforts to push their output into the market. As we move from a system of mass production to one of mass customization, knowing customers' precise preferences has become invaluable. Another reason for the popularity of downstream integration, especially in industries where the product or service has become commoditized, is the need to build long-term relationships with customers. New communication technologies have allowed for unprecedented direct contact with customers, enabling the creation of enduring relationships for mutual benefit.

Traditional VI motives are outdated

Academia has largely failed to incorporate these trends into research and has remained wedded to established theories. As a result, few of the contemporary VI motives illustrated earlier can be adequately understood in terms of strategic or governance theories. We do not suggest that considerations of market power and governance efficiency are irrelevant, but a significant number of traditional VI motives have become obsolete or have at least been severely weakened.

Many governance arguments have been cast aside by technological and other innovations. In particular, the conceptualized benefits of (upstream) VI in the form of superior production and inventory scheduling stem from a different era. Today, through innovations such as JIT and vendor-managed inventories, as well as manufacturers' electronic links to the point of sales, production scheduling is being optimized, with equal ease, across firms. More generally, in an age of flexible manufacturing, capacity utilization no longer commands the priority it once did.

Other coordination economies identified in the academic literature are primarily about the *spatial* integration of successive stages of the value chain rather than *ownership*-based VI as such. A case in point is Porter's often repeated example of the vertically integrated steel mill that avoids the costly process of reheating the steel for each stage of processing and reduces transportation costs. Again, these advantages are routinely matched today through the co-location of independent suppliers and buyers, which is popular in automotive manufacture and other industries.

Many of the market failures specifically attributed to technology have been successfully mitigated through the use of technology brokers and consultants. Moreover, the accumulation of experience in sourcing technology from outsiders has helped firms overcome once insurmountable barriers to collaboration. In pharmaceuticals, software, and many other high-tech industries, companies have grown comfortable cooperating with independent innovators. They have developed protocols that help ease the initial anxieties of both sides and allow these alliances to be managed efficiently and for mutual benefit.

More generally, transaction cost motives for VI have been weakened through the advent of the Internet. While Bill Gates's vision of the Net as creating "friction-free" markets is still distant, it has demonstrably become cheaper to search for, compare, and switch suppliers or distributors.

In a similar fashion, VI motives based on strategic rationales have been rendered less important by globalization and technological change. For instance, barriers to entry have been eroded by such events as converging industries and the abundant availability of global investment capital. Likewise, with the liberalization of trade and investment around the world, attempts to foreclose supply and distribution channels have been shown to be futile in many industries.

With many of the traditional motives diminishing in importance, or their espoused benefits being realizable in equal measure through alliances, we need to ask why VI, and particularly downstream VI, has remained popular in many industries. More specifically, we need to ask what makes the appeal of *ownership* compelling in the case of forward integration, especially of the customer interface. After all, it seems that most benefits to upstream VI can be occasioned with independent, closely aligned suppliers. Numerous companies such as Benetton or Nike, for instance, have achieved tight integration with their suppliers without the need to own them.

Downstream VI based on learning motives

It is our contention that many recent VI decisions can best be explained in terms of learning arguments. For instance, most of the motives for contemporary VI we presented earlier—especially value migration, differentiation, integrated solutions, and synergy motives—incorporate learning aspects.

We further contend that the preoccupation with *downstream* VI rests on the specific learning benefits arising from the customer interface. Downstream integration facilitates access to both information and knowledge about customers. Whereas the acquisition of declarative information such as, say, the level of demand is a comparatively simple exercise in data collection, the creation of genuine knowledge requires learning from, and in conjunction with, customers. Such knowledge extends beyond insight into what customers want today; it entails an in-depth understanding of why particular offerings are seen as desirable by the customer, how best to provide them, and what future offerings might look like. Such knowledge can be generated only through intimate learning relationships with customers.

Because of its many tacit and contextual elements, learning can rarely be delegated to outsiders and the resulting knowledge fed back in spreadsheet format. It is this "untradeability" of learning that explains the vitality of downstream VI. Although many of the benefits of upstream VI can apparently be replicated with independent, closely aligned suppliers, learning benefits can only be realized fully by firms that *own* the customer interface.[2] Learning cannot be entrusted to channel partners because the sharing of knowledge of a more tacit nature requires a common "language" and common organizational routines. More generally, learning depends on the suspension, at least temporarily, of the market logic, which is most easily accomplished within the company.

The learning argument emphasizes the need for more creative entrepreneurship. Entrepreneurial "alertness" through the identification, acquisition, and adaptation of economically meaningful information and knowledge is an essential component for company success. Altering the boundaries of the firm may sharpen such alertness and is especially important given the premium the market puts on companies' ability to generate new products and processes.

Our learning argument also ties in well with recent theoretical developments representing the firm as a repository of knowledge. From this perspective, a firm is an institution for managing the knowledge creation, development, and deployment process—or, put differently, an institution for learning and for leveraging such learning. In this regard, the customer, especially the final consumer, can serve as an important source of companies' learning. Direct and close interaction with customers enables greater information sharing, which in turn results in a more prolific and rapid generation of ideas as well as quicker and more error-free testing of these ideas in the marketplace.[3] In accordance with this view, the important (and proper) questions with respect to the scope of the firm are: Do the current vertical boundaries enable the effective acquisition, development, and processing of knowledge? Do they allow for the full realization of the value attached to such knowledge? If not, will an extension of the firm's vertical boundaries enable it to do so?

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Many have expounded the virtues of outsourcing and networks and derided vertical integration as obsolete in the era of knowledge capitalism. By contrast, large-scale empirical studies suggest that VI has not been diminished by the popularity of new organizational forms. The anecdotal evidence presented here also shows that vertically integrated firms compete successfully in a wide range of industries. Our explanation for the resilience of VI strategies is that although some of the traditional rationales have been diminished, new motives, many of them learning-related, have appeared.

The challenges associated with VI are indisputable. Above all, firms contemplating such a strategy must find ways of retaining strong market incentives and flexibility; where they pursue a form of tapered VI, they must make sure to keep their existing buyers/suppliers on the side. Despite these formidable challenges, we feel that in many cases VI is a viable strategic option, justified by powerful (learning) advantages.

Academics need to be in tune with business practice and develop theories that address today's business models. Contemporary VI is no longer just about power plays or governance efficiency, and we believe that the field of strategic management needs to revisit the topic using a new theoretical lens. The lens offered here is learning, especially from the customer interface. While many of the benefits of upstream VI can seemingly be replicated through closely aligned suppliers, downstream VI remains a compelling proposition. We attribute this to the fact that learning from the customer interface, and the subsequent synthesis of proprietary knowledge, cannot be delegated to independent channel partners.

The representation of the company as a learning entity implies a much more proactive view of company boundaries. The company becomes a hub of innovative and entrepreneurial activity, with (final) customers often acting as a major source of knowledge. Based on these arguments, it would behoove managers to carefully consider extending the vertical scope of their operations. Although concerns about focus, core competencies, and leanness are valid, a dogmatic interpretation of these could risk sacrificing valuable learning benefits. ❍

Notes

1. This conclusion is somewhat surprising given that the empirical evidence on the performance of VI strategies is sparse and far from conclusive. Rumelt's (1974) seminal study on diversification, which found "dominant vertically integrated firms" to be the worst financial performers, may be credited with bringing VI into disrepute. His results were later confirmed in more specific circumstances, such as the oil industry (Levin 1981) and diversifying acquisitions (Lubatkin and O'Neil 1987). But other studies, such as Harrigan (1986) and D'Aveni and Ravenscraft (1994), actually found a positive link between VI and performance.

2. We stress that, unlike traditional governance theories, the learning argument does not treat vertically integrated and nonintegrated strategies as strict substitutes. Full learning benefits can possibly be extracted through tapered VI. Thus, if Ford decides on partial downstream integration into auto retailing, it may not be the first step toward abandoning its network of independent dealers. Instead, Ford may be seeking to learn more directly from car buyers so that it can respond more appreciably to their needs and, simultaneously, engage more knowledgeably with its remaining independent dealers.

3. The Internet in particular has enhanced the ability to engage with customers and benefit from the relationship. Interactivity and richer information flows have benefited market research, mass customization, and product development. But the Net not only allows for instant and inexpensive customer information capture, it also provides for rapid and cost-effective experimentation. Portals and aggregators such as Amazon and Charles Schwab can find out within hours whether or not special offerings and prices or newly designed links and pop-ups are accepted by customers.

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