

Competitive advantage and internal organizational assessment

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Executive Overview

It is generally agreed in the strategic management literature that internal organizational assessment is less developed theoretically and practically than other areas of situation analysis. This paper presents a four stage approach to analyzing a firm's internal strengths and weaknesses and illustrates how the technique can facilitate strategy formulation through the integration of value chain concepts and the incorporation of the most recent findings on internal resources and capabilities. A case example is used to illustrate how the approach can be applied by strategic decision makers as a tool for exploring the potential of their companies for sustained competitive advantage.

Jay Barney observed that "the development of tools for analyzing environmental opportunities and threats has proceeded much more rapidly than the development of tools for analyzing a firm's internal strengths and weaknesses."¹ Indeed, discussions of strategic management comfortably refer to strategic issue diagnosis, scenarios, Porter's industry attractiveness analysis, and a multitude of other techniques designed to examine potentially important strategic factors outside the organization.²

Discussions of internal organizational assessment, by contrast, are more often functional assessments of financial, human resource, information systems, and marketing strengths and weaknesses, rather than attempts to identify the present and potential competitive advantages of the firm. Effective strategic management requires an understanding of organizational resources and competencies as well as how each contributes to the formation of organizational strengths and ultimately to the development of a competitive advantage.

Focusing on the uncontrollable external environment highlights the importance of adapting to change, fitting organizations to the larger environment, and understanding that the rules of success are written outside individual business firms. The relatively more sophisticated status of external environmental analysis may reflect little more than

threat bias, or the tendency to focus on the things that can do harm to organizations. Adaptability, fit, understanding externally imposed rules of success, and competitive forces, however, are only part of the formula for achieving competitive advantage.

Strategic decision makers need a systematic technique for scanning their internal organization. By paring down long lists of strengths and weaknesses and determining which ones are competitively relevant, they can understand precisely how each competitively relevant strength and weakness has the potential for adding or subtracting value. On the basis of this information, they can develop an array of generic strategies that will most likely lead to sustained competitive advantage. Even though the process can be easily adapted to the corporate level, our objective is to provide a business level technique for systematically assessing the relationship between internal strengths and weaknesses and sustained competitive advantage. This technique takes existing ideas and assembles and integrates them into a four-stage decision process that can be easily and efficiently used by strategic decision makers. The recommended approach uses the primary and support activities in value-chain analysis as the domain for searching out strengths and weaknesses, examines each strength and weakness in terms of

its ability to create or reduce competitive advantage, and suggests specific ways firms may achieve a more competitive position in their market places.

A Closer Look at Competitive Advantage

Understanding competitive advantage is an ongoing challenge for decision makers. Historically, competitive advantage was thought of as a matter of position, where firms occupied a competitive space and built and defended market share. Competitive advantage depended on where the business was located and where it chose to provide services. Stable environments allowed this strategy to be successful, particularly for large and dominant organizations in mature industries.

The ability to develop a sustained competitive advantage today is increasingly rare. A competitive advantage laboriously achieved can be quickly lost. Organizations sustain a competitive advantage only so long as the services they deliver and the manner in which they deliver them have attributes that correspond to the key buying criteria of a substantial number of customers. Sustained competitive advantage is the result of an enduring value differential between the products or services of one organization and those of its competitors in the minds of customers. Therefore, organizations must consider more than the fit between the external environment and their present internal characteristics. They must anticipate what the rapidly changing environment will be like, and change their structures, cultures, and other relevant factors so as to reap the benefits of changing times. Sustained competitive advantage has become more of a matter of movement and ability to change than of location or position.³

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The question of an enduring value differential raises the issue of why a firm is able to achieve a competitive advantage. To answer this, it is necessary to examine why and how organizations differ in a strategic sense. Identifying strengths and weaknesses requires introspection and self-exam-

ination. It also requires much more systematic analysis than it has received in the past.⁴

Assessing the Potential for Competitive Advantage

External environmental analysis is accomplished by scanning, monitoring, forecasting, and assessing. These successively more detailed environmental sweeps help ensure that genuinely important opportunities and threats in the external environment are not overlooked. Internal organizational analysis should take place in much the same way, through the successively detailed stages of surveying, categorizing, investigating, and evaluating. Although the terms are arbitrary, they are meant to convey the idea of successively more detailed sweeps of the internal organization. Each stage in the process achieves a critically important task that is highlighted in the discussion.

Figure 1 provides an overview of these four stages. The entire process will be illustrated by a case study of Ingram Micro, a leading worldwide wholesale distributor of microcomputer products as a case study.⁵ A brief description of Ingram Micro is provided in Figure 2.

Stage One: Surveying Potential Strengths and Weaknesses

Identifying an organization's strengths and weaknesses is difficult because characteristics that appear as one or the other may, on closer examination, possess little or no significance for competitive advantage or disadvantage. The list of strengths and weaknesses generated by conventional techniques is usually little more than an initial impression of what a firm does well and where it needs improvement. The list is usually long, not very concrete, and agreed on by only a relatively few people.

However, even a superficial list of possible strengths and weaknesses is important to initiate strategic thinking and to focus thinking on areas where the firm can actually add or lose value.⁶ This approach requires a survey of infrastructure, human resources, technology development, procurement, inbound and outbound logistics, operations, marketing and sales, and service activities. Accomplishing the initial survey is a matter of looking at financial statements, staffing standards, information resources, organization charts, and customer and employee surveys and interviews. The findings are then compared with industry standards and historical trends, and judgments

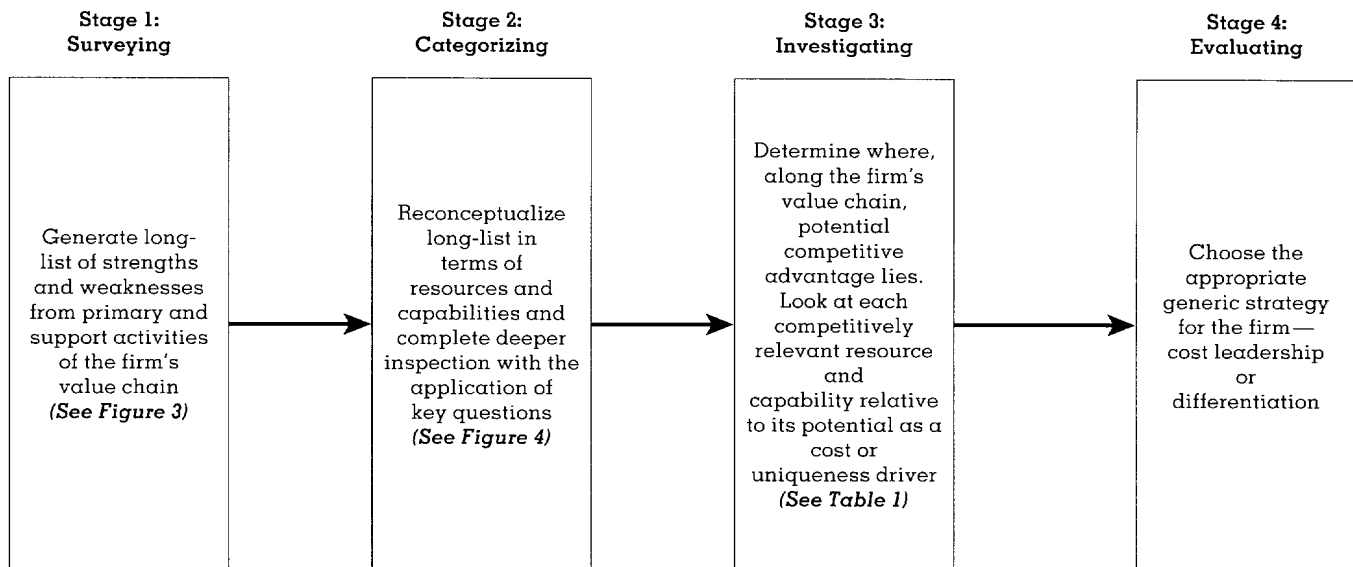


FIGURE 1
Internal Environmental Analysis Process

Ingram Micro is a leading worldwide wholesale distributor of microcomputer products. Located in Santa Ana, California, Ingram markets microcomputer hardware, networking equipment, and software products to more than 100,000 reseller customers in more than 120 countries. Ingram's more than 1,100 suppliers include Apple Computer, Cisco Systems, Compaq, Hewlett-Packard, IBM, Intel, Toshiba, and U.S. Robotics. Some of its major customers include CompUSA, Micro Warehouse, Sam's Club, and GE Capital Technologies. It offers one-stop shopping through an inventory of over 36,000 products.

The company began as part of Ingram Industries and has relied throughout its history on

other entities in the Ingram family of businesses for financing, cash management, tax and payroll administration, insurance, and administrative services. In 1996, Ingram Micro engaged in a public offering to raise the capital necessary to accomplish a split-off, but planned to continue to rely on the larger company for selected services.

Ingram Micro has grown rapidly since 1991 and increased net sales and net income from \$2.0 billion and \$30.2 million to more than \$9.0 billion and \$85.0 million respectively. Over 30 percent of its net sales are generated internationally. In 1994, it formed the Ingram Alliance Reseller Company, a master reseller business.

FIGURE 2
A Profile of Ingram Micro

are made as to whether the organization's performance represents strengths or weaknesses relative to others in the strategic group.⁷

In the case of Ingram Micro, as illustrated in Figure 3, potential strengths included the experience of the management team, administrative and financial support from Ingram Industries, and leading-edge information and inventory control models. Potential weaknesses included extremely high debt and financial leveraging, dependency on a relatively few and powerful suppliers, and potentially excessive family control.⁸

Stage Two: Categorizing Organizational Differences

The second stage of internal organizational analysis involves more detailed categorization of the strengths and weaknesses highlighted by the initial survey. The critical task in this stage is to understand precisely what types of strengths and weaknesses a firm possesses in an absolute sense and relative to competitors.⁹ Do the organization's strengths and weaknesses lie in tangible or intangible resources or both? Are they represented pri-

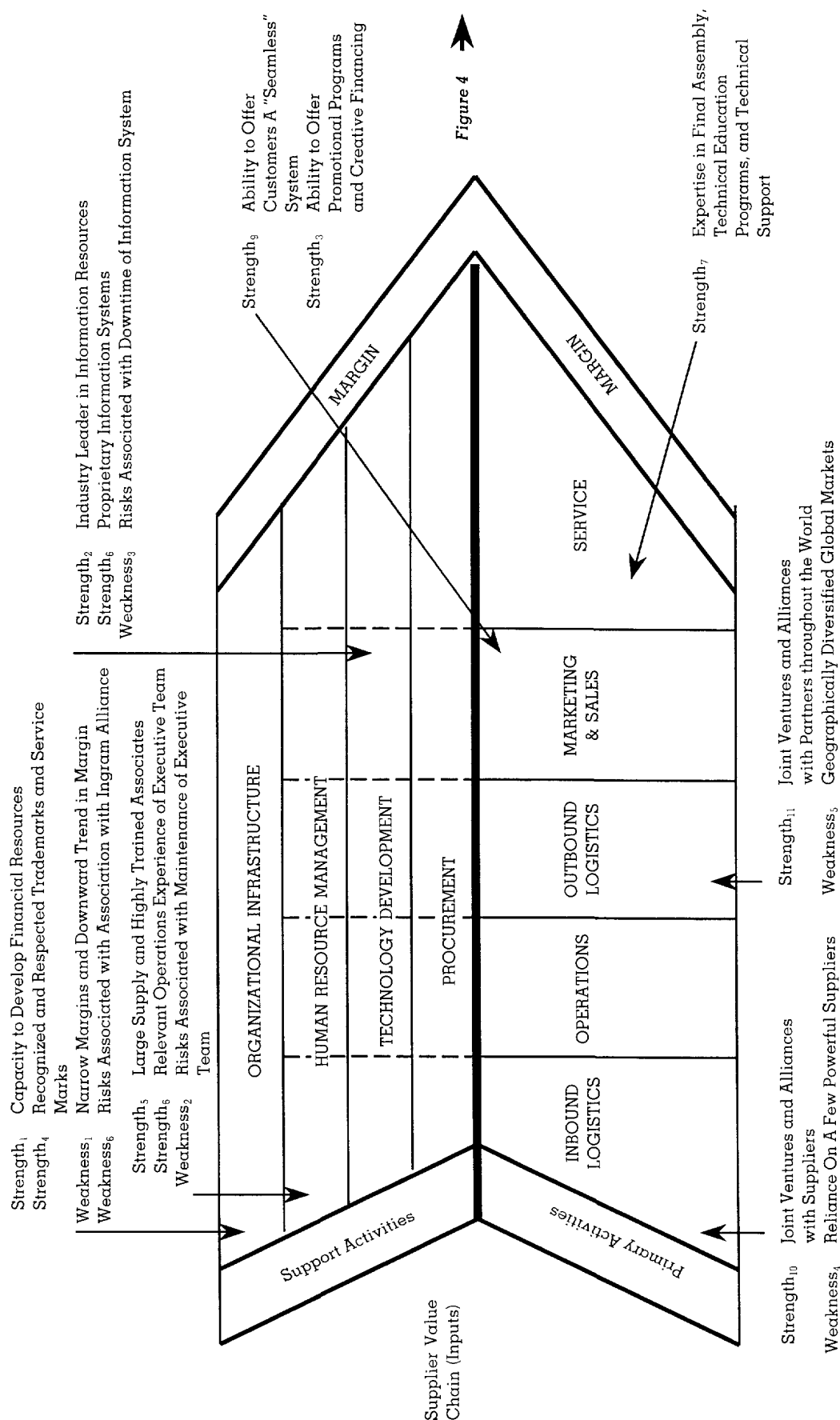


FIGURE 3
Strengths and Weaknesses Related to Primary and Support Value Activities in Porter's Modified Value Chain

marily by the presence or absence of the skills and experiences of employees relative to doing the actual work of the organization? Do they lie in managers' and employees' ability or inability to integrate and coordinate resources and skills? This reframing requires that one understand real and potential differences relative to competitors.

In stage two, potential strengths and weaknesses are categorized as strategic resources or capabilities, and more specific measures are developed for each. This is important because it is these resources and capabilities, along with a firm's purpose and aspirations, that ultimately make it different and suggest the path or paths to sustained competitive advantage.

The resource-based view argues that the key to sustained competitive advantage are those factors available for use in producing goods and services that are valuable and costly to copy.¹⁰ Resources, as we use the term, may be tangible or intangible human assets. Human resources are often skill based and involve expertise in designing, producing, distributing, and/or servicing the products or services of the firm. They relate to skillfulness in accomplishing tasks required by one or more of the primary value activities. Tangible resources include things such as land or location, while intangible resources include such things as goodwill. The basic assumption is that resources are unevenly distributed and developed across firms, and explain, to some extent, the ability of an organization to effectively compete. Organizations with marginal resources break even, those with inferior resources disappear, and those with superior resources make profits.¹¹ One writer noted: "Basing strategy on the [resource] differences between firms should be automatic rather than noteworthy."¹²

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Yet another potential source of sustained competitive advantage is the "purposeful coordination of resources."¹³ An organization's ability to deploy and integrate to produce desired results is defined as a capability.¹⁴ Unfortunately, "there are almost as many definitions of organizational capabilities as there are authors on the subject."¹⁵ We will use the term to describe the ability to integrate or link skills and resources. Whereas human resources relate to expertise in actually doing the work of the

organization, capabilities relate to putting things together in unique and innovative ways. Capabilities involve the integration of primary value activities, support activities, and/or primary and support value activities.

Capabilities, therefore, may be thought of as architectural abilities or bonding mechanisms whereby resources are combined in new and innovative ways. As a result, they accomplish learning, change, and ongoing renewal for individuals and organizations.¹⁶ Capabilities, or the linking activities in the value chain, represent the collective learning in organizations, coordinating diverse operational skills and integrating multiple streams of technologies.¹⁷ Sustained competitive advantage is based on the acquisition of resources that possess a unique relationship to the external environment and are integrated in innovative ways. An important element in judging sustained competitive advantage is understanding precisely what are our tangible and intangible resources, what skills and experiences do our employees possess, and how good are we at coordinating resources and skills. An important question is how competitively relevant are our resources, competencies, and skills?

Deeper Inspection

ASSIST Analysis (an acronym for assessment of internal factors for strategic advantage) is useful for systematically determining the competitive relevancy of our resources and capabilities. This technique is an attempt to more effectively integrate into the strategy formulation equation internal factors leading to competitive advantage.

As illustrated in Figure 4, the first step in ASSIST analysis begins after the reframing of each potential strength and weakness as a resource or capability. In the second stage, each strength and weakness is then subjected to a series of questions to better understand whether or not it represents a real or potential competitive advantage or disadvantage. The questions are:¹⁸

1. *Question of Value.* Does the resource or capability represent something of worth to customers? Do competitors have something of worth to customers that the organization does not possess?
2. *Question of Rareness.* How many competitors possess the resource or capability? If it is rare and others do not possess it, it is a strength. If it is rare, and competitors possess it, but the organization does not, it is a weakness.
3. *Question of Imitability.* If competitors do not possess the means of obtaining the resource or

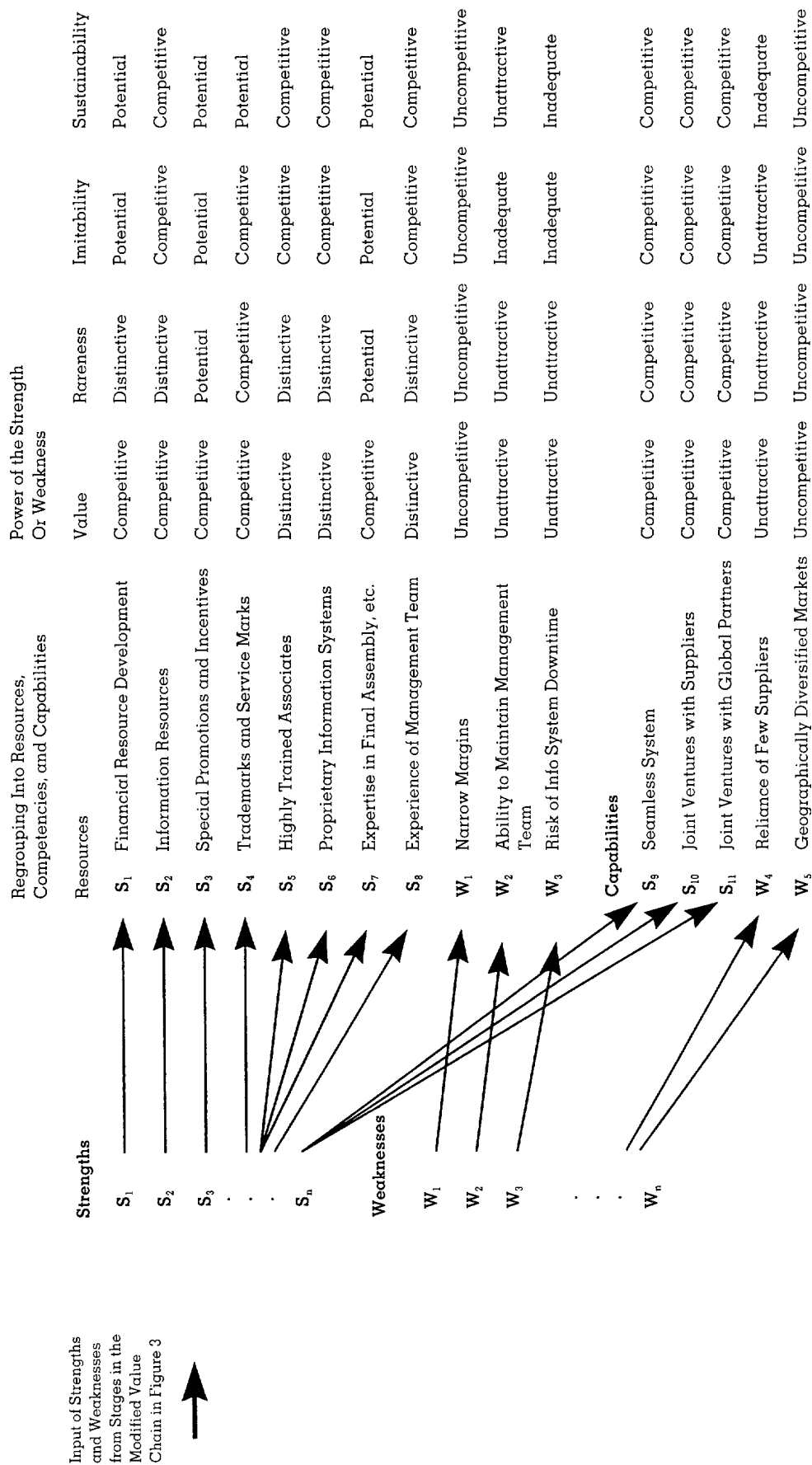


FIGURE 4

Assessment of Internal Factors for Strategic Advantage (ASSIST)

capability, it is a strength. If the organization does not possess the resource or capability, and has no means of obtaining it, it is a weakness.

4. *Question of Sustainability.* How able will the organization be to maintain the value, rareness, and lack of imitability of the resource or capability? Can the competitors sustain their advantage?

Assessing the Extent of Competitive Advantage

The third step is to assess the extent of the competitive advantage or disadvantage possessed by each of the identified strategic resources and capabilities. Alternative values are assigned according to the following definitions:

- *Inadequate.* The resource or capability is below the minimum required to be in the business.
- *Adequate.* The resource or capability is the minimum required to be in this business or to minimally compete.
- *Attractive.* The resource or capability is better than the minimum required to compete but does not represent a particular advantage (or disadvantage in the case of a weakness). It will merely get the attention of appropriate individuals.
- *Potential.* The resource or capability is sufficient to attract attention and represents an important strategic consideration.
- *Competitive.* The resource or capability represents a clear competitive advantage/disadvantage relative to members of the strategic group.
- *Distinctive.* The resource or capability cannot be duplicated by competitors.

Figure 4 illustrates how the potential strengths and weaknesses of Ingram Micro were "categorized." This more detailed categorization and the corresponding appraisal of each resource and capability reduced the number of competitively relevant strengths and weaknesses to six resources (financial resources development, information resources, trademarks and service marks, highly trained associates, proprietary information systems, and experience of top management team) and three capabilities (a seamless distribution system, joint ventures with suppliers, and joint ventures with global partners). In addition, there were three strategically relevant disadvantages (narrow financial margins, questionable ability to retain management team, and geographically diverse markets). The competitive relevancy of each strength and weakness was determined by its ratings on the four questions in Figure 4. In order to be competitively relevant strength, a substantial

number of distinctive or competitive ratings must be obtained. To be a competitively relevant weaknesses, a substantial number of inadequate and noncompetitive ratings must be obtained.

Stage Three: Investigating the Source of Competitive Advantage

Competitive advantage is ultimately built and maintained by adding value to customers.¹⁹ Value is added by cost leadership, i.e., offering equal quality products or services at a lower cost than competitors, or by differentiation, i.e., offering products or services that are perceived to be unique relative to some important characteristic. Understanding how each competitively relevant resource and capability affects costs and uniqueness is an important aspect of understanding how, or if, each adds value to the services provided.

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Once strategic strengths and weaknesses have been translated into terms of resources and capabilities and the potential for creating competitive advantage is accomplished through systematic categorization, it is important to investigate deeper relationships and determine how and where these factors actually add value. This is the critical task of stage three—pinpointing the primary or support value activity that possesses the potential for building or losing competitive advantage. Porter's modified value-chain (Figure 3) is useful again for breaking the organization "into its strategically relevant activities in order to understand the behavior of costs and the existing and potential sources of differentiation."²⁰ Understanding the value-chain enables decision makers to better understand and control the primary cost drivers and differentiate their services by capitalizing on their uniqueness drivers.

In the case of Ingram Micro, each competitively relevant resource and capability that emerged from the ASSIST process is evaluated below in terms of its ability to contribute to competitive advantage either as a cost or uniqueness driver. Note that only those strengths and weaknesses that were identified as competitively relevant are subjected to more probing investigation. This deeper investigation is conducted to determine where along the modified value chain the strength or weakness adds or subtracts value and if the stra-

tegic implication lies in its ability to enable cost leadership or develop perceived uniqueness. The summary investigation is shown in Table 1.

Stage Four: Evaluating Competitive Advantage

Evaluating competitively relevant resources and capabilities in terms of possible generic strategies is the critical task of stage four. The evaluation suggests that Ingram Micro possesses potential competitive advantages because of uniqueness drivers located throughout the modified value chain—inbound and outbound logistics, operations, marketing and sales, as well as organizational infrastructure and technology development. This evaluation indicates that differentiation strategies are the firm's most promising means to competitive advantage. The competitive nature of this industry and the narrow margins of all competitors underscore the need for cost controls. However, cost control is essentially a requirement to compete in the industry and provides no genuine competitive advantage. The strategic implications of the internal organizational analysis is provided in Table 2.

The summary in Table 2 leads us to the conclusion that Ingram Micro possesses resource driven opportunities for differentiation with regard to organizational infrastructure, name identity, access to capital markets (although its debt load is becoming extremely large). These resources, in turn, allow Ingram to leverage its marketing and sales expertise. Ingram also has substantial ability to differentiate itself in the areas of technology development, managerial expertise, customer service, and the promise of a seamless sales and service system. Its worldwide marketing, sales, and technology support network provides it with clear integrative capabilities that represent opportunities for sustained competitive advantage.

Although Ingram possesses numerous uniqueness drivers, it also possesses competitive disadvantages relative to costs and uniqueness. In 1996, for example, Ingram Micro entered the equity market to acquire the resources necessary to split off from Ingram Industries. While this split-off would reduce some of the risk factors associated with being a subsidiary of another firm, it would also entail the loss of funding through intracompany transfers, infrastructure economies, and related factors. As a result, the increasing cost of capital represents the potential strategic weakness of even smaller gross margins. Moreover, the coordination issues inherent in global operations present dangers to cost control and service quality.

Strategic Challenge

The technique outlined in this paper is an efficient and effective aid for assessing an internal organization and relating strengths and weaknesses to achieving competitive advantage. Admittedly, its focus on the modified value chain does not overcome the possibility of long and superficial lists of organizational characteristics. It does, however, encourage thinking about strengths and weaknesses in terms of their strategic relevance, rather than merely auditing functional subsystems of the firm.

The strategic challenge for any organization does not end with the evaluation of strategically relevant strengths and weaknesses. In fact, strategically relevant strengths and weaknesses provide decision makers with only one of several important parts of the strategy puzzle. The challenge is to integrate the understanding of strengths and weaknesses with the opportunities and threats facing the organization and with the strategic preferences provided by a clear, understood, and shared sense of mission and vision.

Ingram Micro is a leader in a growing and developing industry. Microcomputers will, no doubt, continue to be the hardware of choice for individuals and businesses in the foreseeable future. There are, of course, significant threats. Opportunities attract competitors and evolving technologies possess the potential of redefining how both hardware and software are marketed, disseminated, and delivered. Splitting off from the parent company means stepping out into a dangerous competitive environment without the financial and managerial support of a concerned and sympathetic parent. However, independence creates the opportunity to innovate, invent, and experiment in ways that are rarely possible for subsidiary operations.

The greatest strategic potential for Ingram Micro lies in a differentiation strategy. There is a systematic way of arriving at this conclusion. Costs are not unimportant but primarily represent a constraint. The competitive nature of the industry demands cost efficiency. Strategic success for Ingram Micro, however, lies along the path of differentiation through the provision of distinctive services and support. For another company with different strengths and weaknesses in another industry, this analysis could have suggested another strategy.

This paper is not intended as an analysis of Ingram Micro. It is meant instead as an illustration of a technique for internal organizational assessment that can be used along with other techniques for external environmental assessment. It ad-

Table 1
Strengths and Weaknesses As Potential Sources of Competitive Advantage and Disadvantage

Strength/Weakness	Description	Potential Source of Competitive Advantage/Disadvantage	Location on Modified Value Chain
S ₁ Resource	Capacity to rapidly develop financial resources with growth rates of more than 40 percent and almost 30 percent in net sales and net income respectively.	Uniqueness Driver	Organizational Infrastructure
S ₂ Resource	Industry leader relative to investments in information resources, warehousing systems, and administrative infrastructure. In the past five years, Ingram has reduced its general and administrative expenses by more than a percent through the use of leading-edge information technologies.	Cost Driver	Organizational Infrastructure
S ₃ Resource	Ability to offer special promotions and incentives.	Not Competitively Relevant (See Figure 4)	Organizational Infrastructure
S ₄ Resource	Company possesses a number of trademarks and service marks that are visible and respected throughout the world.	Uniqueness Driver	Organizational Infrastructure
S ₅ Resource	Highly trained associates that receive training through the company's extensive in-house training system.	Uniqueness Driver	Human Resources
S ₆ Resource	Only wholesale distributor of microcomputers with a centralized global information expertise illustrated by its Impulse system. On a typical business day the company's systems handle 12 million on-line transactions, 26,000 orders, and 37,000 shipments.	Uniqueness Driver	Technology Development
S ₇ Resource	Expertise in final assembly.	Not Competitively Relevant (See Figure 4)	Operations
S ₈ Resource	Top management team with experience in number of industries relevant to company's operations. Members of the team have substantial international experience in software development, telecommunications, transportation, and shipping.	Uniqueness Driver	Human Resources
S ₉ Capability	Ability to offer reseller customers a "seamless" supply system of one-stop shopping.	Uniqueness Driver	Marketing and Sales
S ₁₀ Capability	Joint ventures with suppliers that allow many of the effects of vertical integration while avoiding the most significant risks.	Cost Driver	Inbound Logistics
S ₁₁ Capability	Joint ventures and strategic alliances with firms outside the United States leverage company's international management expertise. In addition to the United States, Ingram has almost twenty locations in Europe, three in Canada, seven in Mexico, and three in Asia. More than 100,000 reseller customers are serviced in more than 120 countries worldwide. Over 30 percent of net sales are derived from operations outside the United States.	Uniqueness Driver	Inbound and Outbound Logistics
W ₁ Resource	Narrow margins accentuated by downward trend. Gross margin has declined from a little over eight percent to about 6.8 percent over the past three years.	Cost Driver	Organizational Infrastructure
W ₂ Resource	Dependent on company's ability to retain and motivate current executive team.	Uniqueness Driver	Organizational Infrastructure
W ₃ Resource	Dependence on information system and risk of downtime.	Not Competitively Relevant (See Figure 4)	Technological Development
W ₄ Capability	Over reliance on a few suppliers.	Not Competitively Relevant (See Figure 4)	Inbound Logistics
W ₅ Capability	Geographical diversity of operations and markets makes effective coordination a challenge even in light of state-of-the art information system.	Uniqueness Driver	Inbound and Outbound Logistics

Table 2
Strategic Implications and Competitive Advantage

Strategic Strength/Weakness	Strategic Implication
Strengths:	
S ₁ Resource–Uniqueness Driver–Organizational Infrastructure	Ingram Micro’s ability to generate financial resources in an industry characterized by low margins in association with the name recognition it possesses because of its trademarks and service marks provide significant opportunities for further differentiation its services and deeper market penetrations
S ₂ Resource–Cost Driver–Organizational Infrastructure	
S ₃ Resource–Uniqueness Driver–Technology Development	Ingram Micro’s resources in the areas of state-of-the-art information systems, highly trained sales associates, and experienced management team offers the opportunity for differentiation through the continual introduction of market relevant service innovations, technical assistance, after service sales, and a seamless distribution system.
S ₄ Resource–Uniqueness Driver–Organizational Infrastructure	
S ₅ Resource–Uniqueness Driver–Human Resources	Ingram Micro’s financial resources, managerial expertise, and sales resources in combination with its worldwide network of suppliers and strategic alliances along with the information system that can link them provides a unparalleled opportunity for service differentiation in a highly competitive industry where cost advantage is difficult to achieve.
S ₆ Resource–Uniqueness Driver–Technology Development	
S ₈ Resource–Uniqueness Driver–Operations	
S ₉ Capability–Uniqueness Driver–Marketing and Sales	
S ₁₀ Capability–Cost Driver–Inbound Logistics	
S ₁₁ Capability–Uniqueness Driver–Inbound and Outbound Logistics	
Weaknesses:	
W ₁ Resource–Cost Driver–Organizational Infrastructure	Ingram Micro’s narrow margins and downward trend in margin underscores the difficulty of obtaining a competitive advantage in the industry though cost leadership. Cost control is essential to survival but cost leadership is not a viable path to competitive advantage for the company.
W ₂ Resource–Uniqueness Driver–Organizational Infrastructure	
W ₃ Capability–Uniqueness Driver–Inbound and Outbound Logistics	Ingram Micro’s need to maintain the management team and focus on coordination of internationally diverse operations are potential issues that could erode the opportunity for competitive advantage through service differentiation.

dresses Jay Barney's lament about tools for analyzing strengths and weaknesses. However, it is important to emphasize that just as external environmental threats should be used as warning signs and never as excuses to ignore opportunities, so it is with internal weaknesses.

Although organizations possess cost advantages and may successfully differentiate their products and services, resources and capabilities should not be looked on as absolute determinants of competitive abilities. Even the most oppressive resource and capability limitations can be overcome by innovative leaders and heroic employees. In fact, it has been argued that the essential character of new directions in strategic thinking is the acceptance of "an aspiration that creates, by design, a chasm between ambitions and resources." It is further argued that creating this stretch or chasm "is the single most important task senior management faces."²¹ Understanding competitively relevant resources and capabilities is impor-

tant, even critical, for systematic strategic decision making. This understanding, however, should not blind us to opportunities or make us timid in thinking of new and innovative ways of overcoming limitations.²²

Endnotes

¹ Barney, Jay B. 1995. Looking inside for competitive advantage. *Academy of Management Executive*, 9: 49-61.

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³ Stalk, George, Evans, Philip, & Shulman, Lawrence. 1992. Competing on capabilities: The new rules of corporate strategy. *Harvard Business Review*, 70 (2): 57-69.

⁴ Denison, Daniel R. 1990. *Corporate culture and organizational effectiveness*. New York: Wiley and Denison, Daniel R. & Mishra, Aneil K. 1995. Toward a theory of organizational effectiveness. *Organizational Science*, 6: 204-223. See also Hall,

Richard. 1993. A framework for linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14: 607-618.

⁵ Information on Ingram Micro obtained from Prospectus for issuance of Class A Common Stock. September 9, 1996.

⁶ Porter, Michael. *Competitive advantage: Creating and sustaining superior performance*. New York: Free Press. Chapter 2. See also Porter, Michael E. Porter. 1991. Toward a dynamic theory of strategy. *Strategic Management Journal*, 12: 95-117.

⁷ Carroll, Glen R. 1993. A sociological view on why firms differ. *Strategic Management Journal*, 14: 237-249 and Azzone, Giovanni & Bertele, Umberto. 1995. Measuring resources for supporting resource-based competencies. *Management Decision* 33: 57-58.

⁸ Information was collected by two independent readers who were familiar with the historical development of the resource based view of competitive advantage. Both readers had been involved in discussions regarding the need for more precise definitions of resources and capabilities and the role each might play in achieving sustained competitive advantage. The readers developed lists of strengths and weaknesses through independent readings of the Prospectus of Ingram Micro. Consensus discussions were held and agreement was obtained on proper classifications. The same evaluators developed consensus on the appraisals of the four questions in the ASSIST model. It is important to note that the researchers limited their use of information to those sources easily obtained by any executive decision maker in order to illustrate how systematic internal assessment of an organization can be conducted using the recommended approach without large investments in information search and research.

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¹¹ Peteraf, Margaret A. 1993. The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14: 179-191.

¹² Wernerfelt, Birger. 1995. The resource-based view of the firm: Ten years after. *Strategic Management Journal*, 16: 173. Insert added.

¹³ Henderson, Rebecca & Cockburn, Ian. 1994. Measuring competence? Exploring firm effects in pharmaceutical research. *Strategic Management Journal*, Special Issue, 15: 63-84 and Marino, Kenneth E. 1996. Developing consensus on firm competencies and capabilities. *Academy of Management Executive*, 10: 40-51.

¹⁴ Amit, Raphael & Schoemaker, Paul J. H. 1993. Strategic assets and organizational rent. *Strategic Management Journal*, 14: 33-46.

¹⁵ Collis, David J. 1994. Research note: How valuable are organizational capabilities. *Strategic Management Journal*, 15: 143-152. See, for example, Ulrich, David & Lake, Dale. 1991.

Organizational capability: Creating competitive advantage. *Academy of Management Executive*, 5: 77-85.

¹⁶ Henderson & Cockburn, Measuring competence, 66 and Amit & Schoemaker, Strategic assets and organizational rent, 35.

¹⁷ Black, Janice A. & Boal, Kimberly B. 1994. Strategic resources: Traits, configurations, and paths to sustainable competitive advantage. *Strategic Management Journal* 15: 131-148.

¹⁸ Barney. Looking inside for competitive advantage. Note that the "question of organization" was not included because of its similarity with our definition of capability.

¹⁹ Prahalad, C. K. & Hamel, Gary. 1990. The core competency of the corporation. *Harvard Business Review* 68 (3): 82 and Markides, Constantinos C. Markides & Williamson, Peter J. 1994. "Related diversification, core competencies, and corporate performance," *Strategic Management Journal*, 15: 149-165.

²⁰ Porter, *Competitive advantage: Creating and sustaining superior performance*. Chapter 2 and Porter, Toward a dynamic theory of strategy, 95-117.

²¹ Hamel, Gary & Prahalad, C. K. 1993. Strategy as stretch and leverage. *Harvard Business Review*, 71 (3): 75-84.

²² This discussion has been adapted from Hamel, Gary & Prahalad, C. K. 1994. *Competing for the future*. Boston, MA: Harvard Business School Press. Chapter 7 and Hamel, Gary & Prahalad, C. K. 1996. "Competing in the new economy: Managing out of bounds," *Strategic Management Journal*, 17: 237-242.

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