

January 2001

Advantageous Cost Structure: A Strategic Costing Case Study

Arvinder S. Loomba

San Jose State University, arvinder.loomba@sjsu.edu

M. Buckingham

Follow this and additional works at: https://scholarworks.sjsu.edu/org_mgmt_pub



Part of the [Other Business Commons](#)

Recommended Citation

Arvinder S. Loomba and M. Buckingham. "Advantageous Cost Structure: A Strategic Costing Case Study" *Production and Inventory Management Journal* (2001): 12-18.

This Article is brought to you for free and open access by the School of Management at SJSU ScholarWorks. It has been accepted for inclusion in Faculty Publications, School of Management by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

ADVANTAGEOUS COST STRUCTURE A STRATEGIC COSTING CASE STUDY

MATTHEW BUCKINGHAM

Pella Corporation, 102 Main Street, Pella, IA 50219

ARVINDER P.S. LOOMBA, PH.D.

Department of Organization and Management, College of Business, San Jose State University, One Washington Square, BT-556, San Jose, CA 95192-0070

With the increasing competition from domestic and foreign firms, organizations must find every way possible to control the new costs of competing globally. During the past decade strategic cost management (or strategic costing) initiatives such as advantageous cost structure have played a major role, helping organizations gain a better understanding of the processes they use to provide goods and services to consumers. In today's competitive environment a well-structured cost management system can provide an immense advantage in the marketplace. Understanding what drives their firms' costs can help managers focus on specific activities that contribute to major changes in organizational costs over time. The activities include those that facilitate the change process (internal to the organization) and those that are used for developing market capabilities and exploiting opportunities (external to the organization). Many firms, as a result, are recognizing the increased need for effective cost-management systems.

The notion of strategic costing deals with making proactive strategic decisions based on activity information and assessing the value-added content of work in the organization's processes [11]. The concept, which originated in the early works of Harvard researchers [2, 7], has been expanded by the Consortium for Advanced Manufacturers-International (CAM-I) in its cost management system [10]. Although managers at the strategic level embrace strategic costing principles, most organizations still struggle to effectively implement them at the operational level [12].

This article will examine how those principles can be applied operationally. Using a case study, we will explore some of the issues involved and answer some of the questions that may arise, for instance: What stra-

tegic costing techniques are most relevant? What kind of cost information can be crucial for strategic and operational purposes? Finally, how can strategic costing be implemented in other organizations? Addressing those questions will help us gain a more robust understanding of how strategic costing can help an organization become more efficient and competitive.

We begin this article by reviewing the background literature on cost management, with special attention to relevant strategic costing implementation approaches currently in use. Next, we present a case study of a large manufacturing corporation in the Midwest and examine how it is able to apply strategic costing initiatives at the operational level. Finally, we will discuss what implications strategic costing has for firms who choose to aggressively pursue such a strategy.

BACKGROUND LITERATURE

Strategic costing was developed to approach cost control more holistically. One of the premises of the concept is that a systematic process is needed. That approach helps focus management's attention on long-range, proactive cost-control goals. Without a systematic process, costs are likely to be managed on a purely or predominantly tactical basis [5].

Strategic costing offers a more coherent process for managing cost for both financial and competitive advantage. It spans functional boundaries in an effort to bring employees from all parts of the organization together to tackle costs. As shown in figure 1, strategic costing not only propagates a better understanding of what drives costs from both a product and a process perspective, but it also helps employees take a position of ownership in the new cost management system. In addition, strategic costing provides a platform for diagnosing the major sources of costs and focuses on overall cost reduction by maintaining control over efforts in these high-priority areas.

The company described in this article has been identified to the editor, but the name of the company and some of its programs and initiatives have been disguised to preserve anonymity.

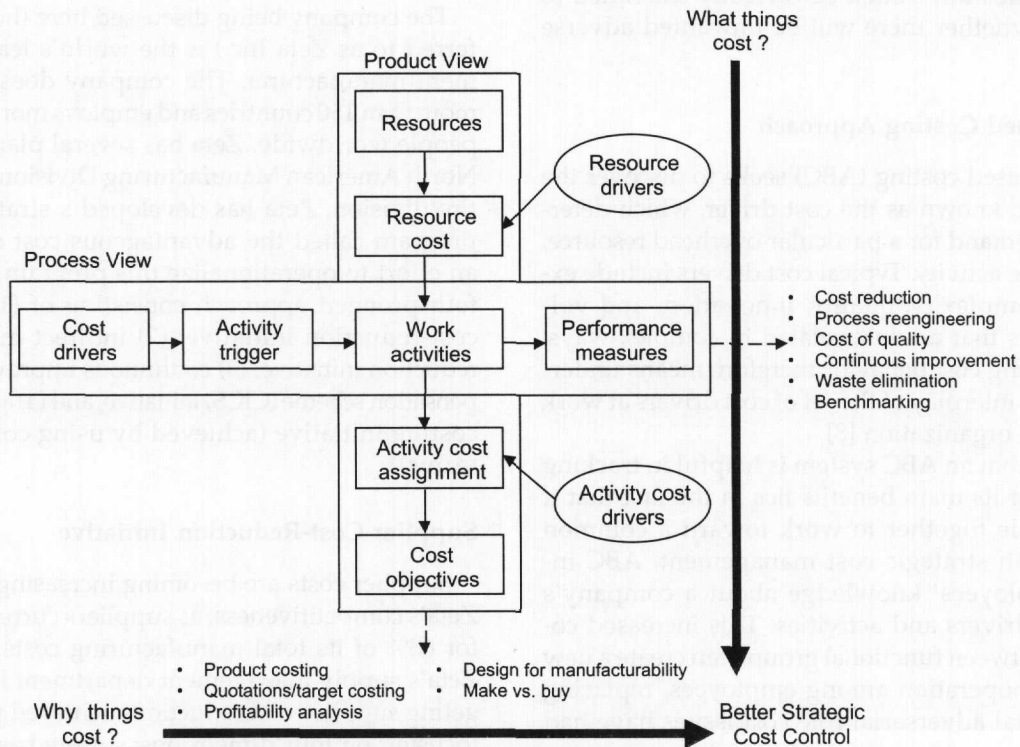


FIGURE 1: Product vs. process perspective in strategic costing (adapted from Cokins 1996 [1])

Reasons abound as to why a strategic approach to cost control may be advantageous over traditional costing methods. Few of the benefits such as a focus on longer-term goals as well as cross-functional employee involvement have been discussed. Because traditional costing systems have historically applied overhead costs in the form of direct labor time and machine time spent on producing a product, they are inappropriate in today's competitive, changing environment. That type of system depends on a close correlation between the level of labor or machine time and the amount of overhead. To address the growing inadequacies of traditional costing systems, many approaches have been developed within the strategic costing initiative in an effort to accurately track costs. Approaches for assessing and controlling costs include competitive benchmarking, value chain analysis, activity-based costing, and supplier cost reduction. A brief overview is provided below.

Competitive Benchmarking Approach

Benchmarking competitors' products and services and conducting a competitive evaluation on the basis

of "best in class" industry standards can give any organization valuable insights into its own costs. Through benchmarking activities an organization may identify ways in which competitors have provided comparable or superior products and services at reduced costs. Analyzing a competitor's product can offer insights into product designs that may prove more cost effective; it can also outline a firm's current strengths in cost management and reduction [9].

Value Chain Analysis Approach

The value chain for any firm in any business is the linked set of value-creating activities—from basic raw material sources to the ultimate products or services delivered to consumers [4]. Typical value chains include external value chains, consisting of supplier, competitor, distributor, retailer, customer, and end-customer, and internal value chains, consisting of procurement, raw material warehousing, material handling, manufacturing, work-in-process warehousing, assembly, finished goods warehousing, and shipping. Cost decisions that affect the customer

value chain—whether they are internal or external to the organization—must be carefully examined to determine whether there will be unwanted adverse effects.

Activity-Based Costing Approach

Activity-based costing (ABC) seeks to discover the causal factor, known as the cost driver, which determines the demand for a particular overhead resource, known as the activity. Typical cost drivers include experience, complexity, quality, innovation, and volume—factors that are interrelated in complex ways. Understanding cost behavior therefore means understanding the interplay of the set of cost drivers at work in any given organization [8].

It is clear that an ABC system is helpful in tracking costs. One of its main benefits lies in the fact that it brings people together to work toward a common goal. As with strategic cost management, ABC increases employees' knowledge about a company's major cost drivers and activities. This increased cooperation between functional groups can create a new culture of cooperation among employees, replacing the traditional adversarial role cost issues have had in the past.

Another major benefit of an ABC system is the useful data it provides. The data obtained from such a system can be used to direct attention toward the major drivers of cost. The system helps managers track costs over large periods of time, allowing them to focus on long-term objectives.

Supplier Cost-Reduction Approach

Another way to reduce costs under a strategic costing initiative is through supplier cost reductions. As mentioned earlier, many cost-reduction decisions affect both internal and external customers. A firm's overall strategic cost advantage can be improved by reducing the number of suppliers and the supplier base through the proper evaluation and selection of potential suppliers. Several tools are available to help users make decisions about supplier selection and supply cost management [3].

Given the importance of strategic costing to a firm's competitive position, it becomes imperative to study the aspects of implementing strategic costing at the operational level. In this article we focus on a major manufacturing organization that has effectively operationalized strategic costing concepts to its competitive advantage and we discuss the benefits that can be obtained from a well-implemented strategic costing system.

THE ZETA INC. EXPERIENCE

The company being discussed here (henceforth referred to as Zeta Inc.) is the world's leading equipment manufacturer. The company does business in more than 150 countries and employs more than 25,000 people worldwide. Zeta has several plants under its North American Manufacturing Division. For this entire division, Zeta has developed a strategic costing program called the advantageous cost structure. In an effort to operationalize this program, Zeta uses a four-pronged approach consisting of (1) a supplier cost-reduction initiative; (2) indirect material cost-reduction initiative; (3) continuous improvement compensation scheme (CICS) initiative; and (4) activity-based costing initiative (achieved by using cost-reduction teams).

Supplier Cost-Reduction Initiative

Supplier costs are becoming increasingly critical to Zeta's competitiveness, as suppliers currently account for 68% of its total manufacturing costs. As a result Zeta's supply management department has been targeting supplier cost reductions achieved primarily by focusing on four dimensions: supply base reduction, continuous quality improvement, early supplier involvement, and total cost management [6].

Recently, one of Zeta's U.S. plants dealt with more than 600 suppliers, with a goal to reduce that number to 300 by the year 2000. In its efforts to reduce its supplier base, Zeta has already gained inherent strategic benefits. For one, building relationships with suppliers is a feasible option now that there are fewer suppliers. Zeta has seen reduced administrative costs because fewer employees are needed to deal with the decreasing supplier base. In 1998 alone Zeta experienced a reduction in overall purchase costs (including transportation, inventory carrying and ordering costs, and suppliers' selling price margins) in the 8 to 12% range.

Zeta has introduced a supplier development process initiative known as achieving excellence, which offers a subjective measurement of supplier performance in technical support, attitude, relationships, and cost management. This program also offers feedback to suppliers regarding their performance in quality and delivery and in the subjective areas. With fewer suppliers to deal with, the chances of Zeta receiving a high-quality product have increased because suppliers are willing to go through a quality certification program to maintain a long-term alliance. The achieving excellence program has also reduced the number of inspections needed for incoming material. Continuous quality improvements in the supply chain are being realized as a direct result

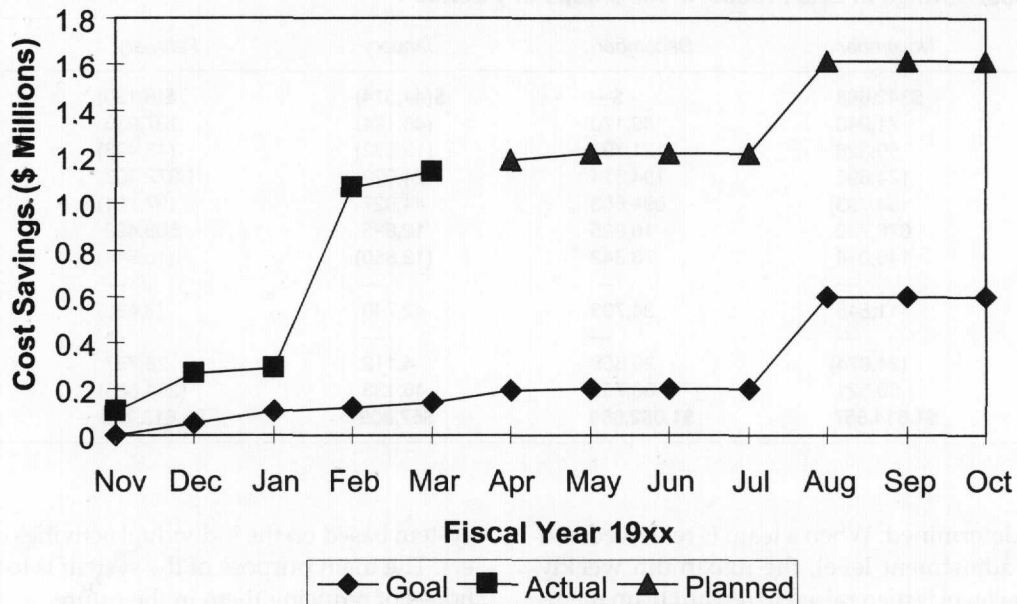


FIGURE 2: Cost savings in Zeta product in y series and z group

of the reduction in the supplier base and the institution of a supplier quality certification program.

Early supplier involvement is a critical element of the achieving excellence program at Zeta. The company involves suppliers before and during the design stage of many of its products. The cost and reliability of Zeta's products are largely established during the design phase, making early supplier involvement critical in cost control. Costly design changes are prevented and rework needed because of poor part design is limited.

Total cost management at Zeta encompasses many aspects of the product cost. Zeta works with suppliers to determine relevant costs and cost drivers in design, manufacturing, and acquisition of each product. This includes elements such as lead times, inventory, packaging, material flow, logistics, and electronic data interchange. Using a total cost management approach with suppliers helps Zeta focus on both short- and long-term changes in costs.

Indirect Material Cost-Reduction Initiative

Zeta has taken a serious look at the costs it incurs from the consumption of indirect materials. These costs can come from a number of sources, for example, janitorial services, food service, and printers and print cartridges. The indirect materials and services department reviews these costs and develops methods and procedures for reducing them. For instance, Zeta's

decision to outsource its janitorial and food services reduced the overall cost of indirect materials by about 20% and helped Zeta focus on its core business strength as an equipment manufacturer.

Reduction of indirect materials costs at Zeta has also come in the form of recycling activities. As an example, under Zeta's printer cartridge recycling program, used toner cartridges and printer ribbon cartridges for LaserJet printers are sent back to manufacturers for recycling. This activity not only reduces costs for both Zeta and printer manufacturers, but it also helps Zeta's initiative of being environmentally friendly.

Continuous Improvement Compensation Scheme Initiative

The third initiative for an advantageous cost structure program at Zeta is the implementation of the continuous improvement compensation scheme (CICS). CICS is a team incentive-based pay plan designed to compensate Zeta employees according to team performance instead of individual output. Its objective is to encourage team culture throughout the company and help employees achieve continuous improvement in the processes and operations to which they are assigned.

CICS sets a maximum weekly pay level for a particular team. Hours in excess of that amount are allocated to a reserve fund. A base adjustment level, which is higher than the maximum weekly compensation

TABLE 1: Cost Savings in Zeta Product in All Groups of y Series

Team	November	December	January	February	Total
A	\$342,688	\$—	\$(44,514)	\$(8,190)	\$289,984
B	71,246	89,170	(46,124)	137,236	251,528
C	50,328	(121,792)	(13,532)	(43,423)	(128,419)
D	124,896	194,314	24,922	1,372,708	1,716,840
E	(34,793)	694,603	44,027	(97,751)	606,086
F	676,782	16,325	12,895	508,498	1,214,500
G	146,018	73,342	(12,850)	(16,544)	189,966
H	—	—	—	—	—
I	411,545	34,793	42,740	(3,430)	485,648
J	—	—	—	—	—
K	(24,674)	20,562	4,112	28,787	28,787
L	50,521	80,752	46,133	(264,665)	(87,259)
Total	\$1,814,557	\$1,082,069	\$57,809	\$1,613,226	\$4,567,659

level, is also determined. When a team is reviewed and exceeds the adjustment level, the maximum weekly compensation level is then raised to reward team members for their performance.

In this way CICS provides the incentive for teams to continually strive to make process improvements, which tend to reduce the overall costs of production. The dynamics of this team-based pay approach therefore support not only the advantageous cost structure initiative, but also the continuous quality improvement program at Zeta.

Activity-Based Costing Initiative

Another approach that Zeta uses to support its strategic costing program is the activity-based costing (ABC) initiative operationalized by using cost-reduction teams. Much of the information used by Zeta's cost-reduction teams comes from the ABC system. In addition, cost-reduction teams gather information from various internal and external stakeholders, including strategic buyers, process engineers, design engineers, and industrial engineers.

Strategic buyers provide purchasing and supplier cost data primarily. In contrast, process engineers provide information from the shop floor about tooling and parts usage data, design engineers provide input about new products and existing product designs, and industrial engineers offer data on labor costs. This information, along with the ABC data, provides the cost-reduction teams with relevant, cross-functional data needed to identify various cost-reduction opportunities at Zeta.

Zeta is among the early adopters of the ABC initiative. Each Zeta plant has the ability to use the corporate cost management model or to modify it to its particular needs. This allows each Zeta plant to tailor-make its ABC

system based on the individual activities and cost drivers. The main purpose of the system is to track costs in hopes of reducing them in the future.

At Zeta the ABC data and data gathered from individual inputs have been used to track the costs of producing different product models. Cost-reduction groups are split into departments according to the types of products they make. Cost increases and decreases are tracked monthly, and action is taken accordingly. The costs are broken up by individual model, and reasons are given for each cost change. In this way each cost can be tracked to a specific cause with a definite value assigned to that cause. The information can accurately track the changes in cost for each individual model and represents a major improvement over traditional costing methods used in other organizations.

The functional area teams then review each of the reasons for change to determine its impact on product cost. In this way the data focus the teams' attention on those changes that have the biggest impact on cost and allow them to pursue an appropriate course of action. For instance, if the costs associated with producing a particular part are determined to be higher than the bid from an outside supplier, the company may decide to outsource that part. Therefore, one potential application for cost data is in make-or-buy determinations.

After cost-reduction actions have been undertaken, each department holds a meeting to track its performance. All functional teams from the department and the departmental manager attend. Each functional team has a monthly, as well as an annual, goal for cost reduction. The groups report on their progress in reaching their goals and what cost savings they have initiated. Often, the exchange of information between the teams triggers new ideas for cost savings. All the department managers then meet with Zeta's plant manager to discuss current

progress toward their cost-reduction goals. In this way detailed information from each functional group is transformed into two easily understood numbers: its current cost-reduction number year to date and its goal.

The cost-reduction activities have started paying off at Zeta. Cost-saving activities in the product (in a specific group and specific series) alone have saved the Zeta assembly division approximately \$1.14 million from November to March of a recent fiscal year (see figure 2). Also, it is worth noting that teams in almost all groups of that specific product series experienced cost savings as listed in table 1 (numbers are disguised). In a relatively short time, the cost-reduction teams at Zeta have made significant cost improvements by industry standards. Through teamwork, dedication, and the exchange of knowledge, Zeta has proved that strategic costing initiatives can be supported at the operational level.

DISCUSSION AND CONCLUDING REMARKS

The benefits of a well-implemented strategic costing system are extensive. Whether it involves the reduction of setup times, elimination of material-handling activities, reduction of costs, improvement in product/process design, improvement in employee morale, improvement in the understanding of production processes, or an increase in overall profits, a good strategic costing system can provide detailed information to management about what really drives the costs within the organization. Its power lies in its ability to focus management's attention on true cost activities and decide their impact on internal and external customers. The strategic costing program accounts for the impact of cost decisions not only on an organization's internal environment, but on its external environment as well. It forces the firm to consider the effect cost decisions have on entities in its supply chain (suppliers, distributors, customers, etc.). Strategic costing also brings employees from different areas within the organization together to develop and implement the cost-reduction initiative. This cross-functional team-based atmosphere fosters the exchange of knowledge and increases employee awareness of business processes.

Zeta has been effective in implementing the strategic cost initiative at the operational level. By using ABC data and input from various cost-reduction teams, the company has managed to surpass all its cost-reduction goals and is well on the way to achieving an advantageous cost structure. The benefits of supporting this strategic initiative have been seen in the form of reduced costs, increased productivity, improved morale, and improved processes. The experiences at Zeta speak well for those seeking to support this initiative.

The time has come to recognize the worth of strategic costing in today's competitive environment. Seeing business costs as a systematic whole provides for a richer understanding of what really drives the costs within, and outside, the firm. Above all, strategic costing can be supported at the operational level and can give any firm a great advantage over its competitors.

REFERENCES

1. Cokins, G. *Activity-based Cost Management—Making It Work*. Chicago: Irwin Professional Publications (1996).
2. Cooper, R., and R.S. Kaplan. "Measure Costs Right: Make the Right Decisions." *Harvard Business Review* 66, no. 5 (Sept.–Oct. 1988): 96–103.
3. Ellram, L.M. "A Structured Method for Applying Purchasing Cost Management Tools." *International Journal of Purchasing and Materials Management* (winter 1996): 11–19.
4. Govindarajan, V., and J.K. Shank. "Strategic Cost Management and the Value Chain." *Journal of Cost Management* 5, no. 4 (winter 1992): 5–21.
5. Grundy, T. "Cost Is a Strategic Issue." *Long Range Planning* 29, no. 1 (February 1996): 58–67.
6. Zeta Inc. "1997 Supply Management Strategic Plan." *Zeta Strategic Plan*. Zeta Inc. (1997).
7. Kaplan, R.S., and R. Johnson. *Relevance Lost—The Rise and Fall of Management Accounting*. Boston, Mass.: Harvard Business School Press (1987).
8. Kennedy, A. "ABC Basics." *Management Accounting* 74, no. 6 (June 1996): 22–24.
9. Mallick, P., S.W. Meador, R.F. Shangraw Jr., and J.R. Selman. "DOE Benchmarking for Cost Management." *Transactions of the American Association of Cost Engineers. Annual Proceedings of 38th Annual Meeting of AACE International* (1994): ENV6-11.
10. Raffish, N., and P.B.B. Turney (eds.). *The CAM-I Glossary of Activity-Based Management*. Arlington, Tex.: CAM-I, Inc., 1991.
11. Shank, J.K., and V. Govindarajan. *Strategic Cost Management: The New Tool for Competitive Advantage*. New York: The Free Press, Macmillan, 1993.
12. Turney, P.B.B. "Ten Myths About Implementing an Activity-Based Cost System." *Journal of Cost Management* 4, no. 1 (spring 1990): 24–32.

About the Authors—

MATTHEW BUCKINGHAM is currently a production manager in manufacturing at Pella Corporation in Pella, Iowa. Prior to this, he served as a business process manager, as a scheduling materials manager, and as a cost center manager, all at Pella. At the time this article was written, he was associated with the procurement department of the manufacturing company profiled in this study. His research interests are in the stra-

tegric cost management implementation of activity-based costing systems in repetitive environments. He is an active member of APICS.

ARVINDER P.S. LOOMBA, Ph.D., is an associate professor of organization and management at San Jose State University in San Jose, Califor-

nia. His research interests are in the management of functional linkages, strategic cost management, supply chain management, product/service quality, and total quality management in manufacturing and service organizations. He is an active member of APICS, CLM, DSI, IEEE-EMS, and POMS.