

Case 4-2

Harley-Davidson: Enterprise Software Selection¹

We were in McDonald's having our initial SiL'K planning meeting when a gunfight erupted in the parking lot. Bullets started flying through the restaurant. Someone said, "Everyone down, lock the doors." We all hid under the table. I'm lying on the floor looking at Dave and Pat—I'm thinking, Holy smokes, this is unreal. It was just incredible—a real bonding experience!

—Garry Berryman, vice president,
materials management

David Cotteleer, information systems (IS) manager of the supplier information link (SiL'K) project, smiled as he recalled the terror and subsequent camaraderie that had grown out of that unusual beginning. It had set the tone for the partnership that developed between Berryman; Pat Davidson, manager of purchasing, planning and control; and himself as they worked collaboratively to develop the specifications for an integrated procurement system to support the new supply management strategy (SMS).

Now he and the SiL'K project team were gathered in their "war room" on the top floor of the Harley-Davidson corporate headquarters to face another critical moment in the project's history. After three hectic months of meeting potential software suppliers, reviewing documentation, and evaluating software packages, the SiL'K team had to make a decision. Who should they choose as their supplier and partner in implementing an enterprisewide procurement and supplier management system? On what criteria

should that decision be based? And had they done everything possible to enable them to make the right decision?

The Harley-Davidson Motor Company

The Harley-Davidson Motor Company was founded in a shed in 1903, when young William Harley and Arthur Davidson began experiments on "taking the work out of bicycling."² By 1920 the company had become the largest motorcycle manufacturer in the world, with production of over 28,000 motorcycles per year and dealers in 67 countries. In 1998 Harley-Davidson shipped 150,818 motorcycles, a 14 percent increase over 1997 and a step closer to its ambitious Plan 2003—the vision to increase production capacity dramatically over eight years by the company's 100th anniversary. In 1998, the company also

- Acquired a majority share of the Buell Motorcycle Company (a maker of sport-touring motorcycles)
- Successfully brought two new manufacturing facilities online
- Introduced a completely new twin-cam 88 engine into its Dyna and Touring motorcycle models

Most of Harley-Davidson's revenues and income were derived from motorcycles and related products (see Exhibit 1). The company employed approximately 6,000 people and supported over 600 independently owned U.S. dealerships. Headquartered in Milwaukee, Wisconsin, the company

This case was prepared by Doctoral Candidates Deborah Sole and Mark Cotteleer under the supervision of Professor Robert D. Austin.

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²See the Harley-Davidson website at <http://www.harley-davidson.com>.

EXHIBIT 1 Harley-Davidson Financial Highlights*

	1998	1997	1996	1995	1994
Revenues	\$2,063,956	\$1,762,569	\$1,531,227	\$1,350,466	\$1,158,887
H-D motorcycles	\$1,595,415	\$1,382,809	\$1,199,163	\$1,038,335	\$890,578
Parts and accessories	\$297,140	\$241,940	\$210,229	\$192,093	\$161,928
General merchandise	\$114,484	\$95,055	\$90,713	\$100,248	\$94,383
Buell motorcycles	\$53,527	\$40,305	\$24,380	\$14,154	\$5,791
Defense and other	\$3,390	\$2,460	\$6,742	\$5,636	\$6,207
Domestic sales as a percent of revenue	75.9%	74.0%	72.5%	70.3%	71.4%
International sales as a percent of revenue	24.1%	26.0%	27.5%	29.7%	28.6%
Gross margin	\$690,670	\$586,217	\$490,094	\$411,399	\$358,339
Operating expense—motorcycles	\$366,222	\$320,731	\$262,001	\$226,923	\$194,829
Operating expense—corporate	\$11,043	\$7,838	\$7,448	\$7,300	\$9,948
Eaglemark income [†]	\$20,211	\$12,355	\$7,801	\$3,620	
Pretax income	\$336,229	\$276,302	\$227,622	\$175,989	\$156,440
Net income	\$213,500	\$174,070	\$166,028	\$112,480	\$104,272
Earnings per common share					
Basic	\$1.40	\$1.15	\$1.10	\$0.75	\$0.69
Diluted	\$1.38	\$1.13	\$1.09	\$0.74	\$0.68
Weighted-average common shares					
Basic	152,227	151,650	150,683	149,972	150,440
Diluted	154,703	153,948	152,925	151,900	153,365
Dividends per share	\$0.155	\$0.135	\$0.11	\$0.09	\$0.07
Closing share price	\$47.38	\$27.25	\$23.50	\$14.38	\$14.00
Cash and cash equivalents	\$165,170	\$147,462	\$142,479	\$31,462	\$57,884
Total current assets	\$844,963	\$704,021	\$613,129	\$331,983	\$334,127
Total assets	\$1,920,209	\$1,598,901	\$1,299,985	\$1,000,670	\$676,663
Total current liabilities	\$468,515	\$361,688	\$251,098	\$233,210	\$154,769
Finance debt	\$280,000	\$280,000	\$250,000	\$164,330	
Other liabilities	\$141,783	\$130,545	\$136,167	\$108,561	\$88,662
Total liabilities	\$890,298	\$772,233	\$637,265	\$506,101	\$243,431
Total shareholders' equity	\$1,029,911	\$826,668	\$662,720	\$494,569	\$433,232

*Amounts are in thousands except per share amounts and share price.

[†]Eaglemark Financial Services, Inc., is a Harley-Davidson subsidiary that provides wholesale and retail financing, insurance, and credit card programs to Harley dealers and customers.

had manufacturing facilities in Wisconsin, Pennsylvania, and Missouri (see Exhibit 2A) and wholly owned subsidiaries in Germany, the United Kingdom, Benelux, France, and Japan.

Harley-Davidson competed primarily in the heavyweight (>651 cc) motorcycle market against the likes of Honda, Yamaha, Suzuki, and Kawasaki. Strong Japanese competition, cou-

EXHIBIT 2A Company Sites and Functions

Sites	Functions
Wisconsin	
Milwaukee	Corporate headquarters; parts and accessories; general merchandise; sales; research and development
Wauwatosa	Product development center; XL engine and transmission production
Menomonee Falls	FL engine and transmission production
Franklin	Parts and accessories distribution center
Tomahawk	Fiberglass parts production and painting
Pennsylvania	
York	Parts production; painting; motorcycle final assembly (custom and touring motorcycles)
Missouri	
Kansas City	Parts production; painting; motorcycle final assembly ("Sportster" motorcycles)

pled with Harley-Davidson's rapidly expanding production and the accompanying quality problems, had brought the company to the brink of bankruptcy in the mid-1980s. The crisis had prompted a management buyout, followed by a renewed focus on quality and, subsequently, Harley-Davidson's successful initial public offering (IPO) in 1986. The company's renaissance during this period had been interpreted by some as symbolic reassertion of American manufacturing prowess and proof that U.S. industrial companies could hold their own against increasingly powerful competitors.

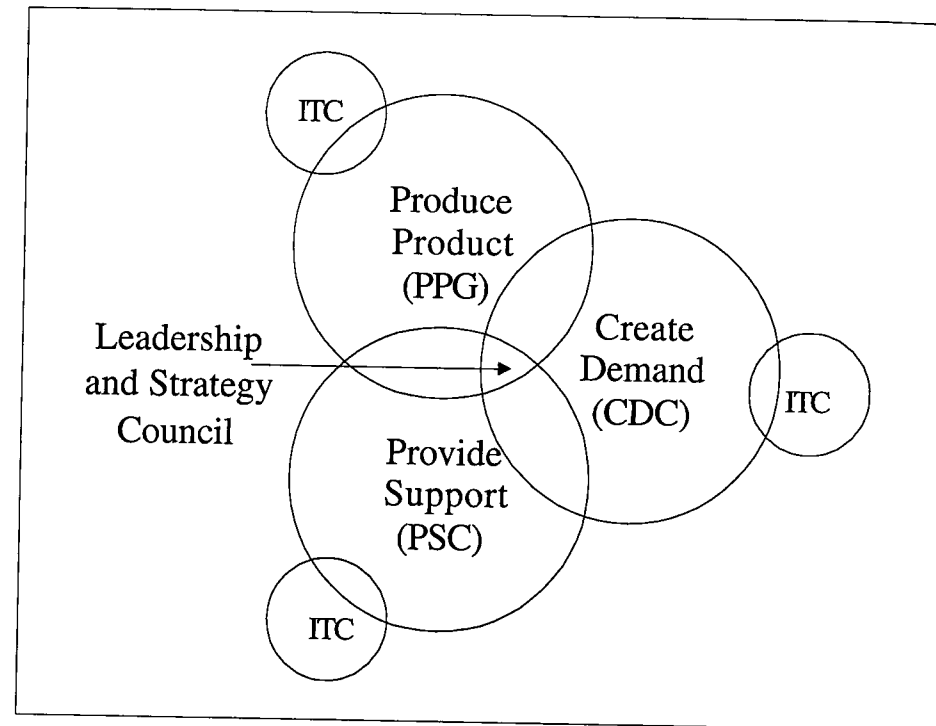
Although Harley-Davidson was still the largest motorcycle manufacturer in the United States, it was small by comparison with its Japanese rivals. Due to capacity constraints during sustained market growth in the 1990s it had been losing international market share. By implementing Plan 2003 to radically increase capacity, Harley-Davidson hoped to profit from the continued international growth of the heavyweight motorcycle market. Worldwide retail registration data through October/November 1998 showed that Harley-Davidson's target market grew by 13.8 percent over prior-year numbers. In the same period Harley-Davidson and Buell had

grown a combined 14.3 percent. Favorable demand, however, had also encouraged competitors in the form of the new domestic rivals Polaris and Excelsior-Henderson.

Over the course of its 95 years the Harley brand had acquired an almost mystical power. Many customers were willing to wait up to two years for a motorcycle. Harley-Davidson bikers were traditionally perceived as young, reckless, and "born to be wild." However, much of the recent growth trend had been fueled by riders in their forties with grown children who were no longer at home. These customers were drawn to the dream of adventure and freedom that motorcycling offered and had the wherewithal to fund such recreation. Despite the gentrification of its customer profile, Harley-Davidson continued to revel in its image of being, in the words of the chief executive officer (CEO), Jeff Bleustein, "a little bit special, a little bit mysterious, a little bit bad."³

Harley-Davidson's ideals of individuality and independence were accompanied by a strong sense of community. The 400,000 loyal members of the worldwide Harley Owners Group

³Gina Imperato, "Harley Shifts Gears" *FastCompany*, no. 9 (June 1997): 104.

EXHIBIT 2B
Circles of
Leadership

(H.O.G.) were considered part of the company. Many Harley-Davidson employees were also Harley owners and thus felt a close affinity to their customers. Harley-Davidson motorcycles in the parking lot and Harley-Davidson gear in the offices were a common sight. Pride of place near the headquarters entrance was reserved for motorcycles by the sign "NO CAGES."⁴

As a company that highly valued both individual participation and teamwork, Harley-Davidson applied the concept of self-directed teams from the factory floor to the executive level. Instead of employing a functionally separated hierarchy, the organizational structure consisted of three interlocking "circles": Create Demand (CDC), Produce Products Group (PPG), and Provide Support (PSC). CDC was responsible for sales and marketing issues;

PPG handled development and manufacturing; PSC fulfilled legal, financial, human resources, and communications needs. Circles were headed by standing committees, or "Circles of Leadership," as they were known. A Leadership and Strategy Council composed of executives from each group provided oversight of the circles to ensure that an integrated vision of corporate direction was maintained (see Exhibit 2B).

The Information Systems Organization

Teamwork also played a role in the structure of the IS function at Harley-Davidson. Instead of a chief information officer (CIO), Harley-Davidson had an "Office of the CIO" in which three "directors" filled the role of providing IS leadership. Cory Mason, director of information systems for PPG, maintained that "in the collaborative culture of this organization it is acceptable

to share leadership." He elaborated on the need to have three people share CIO responsibility:

Senior management looks to the CIO to be their internal consultant, to give them guidance and direction regarding technology's ability to create business value. The problem is that it's too much ground for one person to cover effectively. Instead, each IS director is tightly integrated in the business decisions of a circle and together, with the VP of strategic planning and information services, they are able to craft well-aligned business and enterprise-wide IS capabilities.

To guide IS results, each Circle of Leadership had an Information Technology Circle (ITC) made up of pairs of senior IS people and end users representing each site and function. The role of the ITC was to understand group processes and interactions and to decide from a business perspective where the group should focus its technology efforts. In PPG, the ITC was fully empowered to make technology investment decisions. Management considered the ITC to be in the best position to understand the needs of the business, since it was closer to the action.

The Purchasing Organization

As part of PPG, the purchasing organization was tightly integrated with the engineering and manufacturing operations. A purchasing development group was colocated with the engineering community at Harley-Davidson's Product Development Center (PDC). Purchasing operations groups were located with their manufacturing counterparts at plants and facilities. A centralized purchasing planning and control group was located at corporate headquarters in Milwaukee. Leadership for the purchasing function was provided by the Purchasing Unity Group (PUG), which was composed of purchasing managers representing the different Harley-Davidson sites. The PUG also included members representing the company's maintenance, repair, and operations (MRO), original equipment (OE),

parts and accessories (P&A), and general merchandising (GM) purchasing activities.⁵

Over the years, site independence had been encouraged, resulting in different methods for handling procurement, including the acquisition and/or development of different information systems for purchasing. Not only were there separate systems for MRO and OE, but systems provided by the same supplier had been modified to meet specific needs at local sites. For example, the OE system at Harley-Davidson's York, Pennsylvania, site was different from the OE system in Kansas City, and both differed from the OE systems at powertrain sites.⁶

Supply Management Strategy: Setting the Stage

When Garry Berryman joined Harley-Davidson in 1995, he became an important force for change in the purchasing organization. Drawing on prior experiences at John Deere and Honda, he sought opportunities to develop purchasing's role within the corporate vision of Plan 2003. Berryman's assessment was that the supplier relationship "wasn't viewed as a strategic opportunity to speed time to market, reduce costs, and improve product quality." Since purchased parts constituted 55 to 60 percent of a motorcycle's value, Berryman was convinced that if the purchasing organization could initially influence cost, everything else would follow in terms of the internal support needed to change the way the company interacted with its supplier community. Berryman envisaged the purchasing organization becoming a common

⁵MRO deals with items to be consumed during manufacturing, such as machine tool components and cleaning equipment. OE concerns components to be included in the product: bought-in motorcycle parts. P&A deals with aftermarket accessories and service parts, and GM deals with clothing, collectibles, and other licensed products.

⁶Powertrain refers to the motorcycle engine and transmission components.

⁴Biker lingo for "no cars."

enterprisewide point of contact with suppliers who would be real partners in Harley-Davidson's business.

Under Berryman's direction, the purchasing organization began the development of a corporate-wide supply management strategy (SMS) in 1996. The goal of SMS was "to ensure that Harley-Davidson is provided with the right product, at the right time, with the best quality, for the lowest possible cost."⁷ A key element was articulating the distinction between a vendor and a supplier. Berryman elaborated on the difference:

A vendor is what you'll find on a street corner. You're simply going to get the product that you see; you're not going to get anything behind that product in terms of innovation, creativity, and commitment to your business success. A supplier is an extension, is an opportunity to extend our primary business within organizations that can bring a competency to product development and innovation.

Throughout 1996 Berryman and the PUG engaged other functions and Harley-Davidson supplier organizations, articulating the SMS vision and enlisting participation in the refinement of the strategy. When it was published at the end of 1996, Berryman was confident that it truly incorporated the contributions of all stakeholders.

At the heart of SMS was the need to shift the organization from a short-term transaction mentality to a long-term focus on supplier relationships. Colocation of suppliers with production facilities and their integration into Harley-Davidson's development process were important parts of long-term relationship development but could not be achieved by purchasing alone. Berryman remarked how platform teams⁸ developing new products slowly became aware that purchasing could not leverage supplier resources

single-handedly and that they themselves were responsible for developing a work plan to convince suppliers of the value of colocation.

Harley-Davidson's values and willingness to experiment were instrumental in facilitating the shift to the supplier relationship perspective. Berryman acknowledged that being an equal player with engineering and manufacturing was also key to achieving the vision of a new role for supply management. Finally, the involvement of each functional area was essential in selling the strategy. Berryman commented:

It's simply having a presence in each one of the major segments of the company so you've got a voice there and people don't forget about the role of supply management. You've got to have a strong voice in every major forum and discussion that goes on around the company to make certain [the strategy] isn't forgotten.

Berryman argued that a slow and steady approach was necessary to build the necessary trust, enthusiasm, and engagement in SMS. He insisted that the new way of thinking become institutionalized before process and technology changes were addressed. He emphasized his point by quoting from his pocket copy of *The Art of War*:⁹

"When your strategy is deep and far reaching, what you gain by your calculations is much. So you can win before you fight." And I think that's what we are driving home. Too many times, we do just the opposite. "When your strategic thinking is shallow and nearsighted, what you gain by your calculations is little. So you lose before you even do battle." We can afford to take the time to do it right. You're better off being a little slow, a little deliberate to make certain you get it right because you don't have a second chance. For me, the key is building a depth of understanding around the strategy.

⁹Sun Tzu, *The Art of War*, (Penguin Classics, 1974), p. 10.

Time for Transformational Thinking: Let's Get Wild!

After a year of indoctrination and a couple of revisions, we finally said this thing is rock solid. We started to hear across the company people talking about the supply management strategy as their own. We knew then it was time to begin to create a change in our process and the tool sets that we had to manage that process.

—Garry Berryman

Mason foresaw two main hurdles to introducing changes in purchasing processes and systems. The first was Harley-Davidson's absolutely overriding concern with unmet demand and a resulting wariness of any change that might affect production. He commented:

We have people that are *passionate* about making sure the lines continue to run. When you've got that kind of "I'm not going to bring the line down" attitude, there are some really interesting barriers that you're going to have to go through when you are trying to convince somebody to, in some cases, radically change their processes and procedures.

Mason's second hurdle, a common problem faced by project teams, was the company's "natural proclivity to continuously improve rather than to transform business functions."

Davidson explained why change did not come easily to the company:

We're rooted in our heritage. I think part of it is the way our product line has evolved. We've got these big long life cycles on our products.¹⁰ They don't change frequently. We always have continuous improvement, but larger-scale, sweeping changes haven't occurred unless significant events presented reason to change.

¹⁰For example, the design of the original V-twin engine, first produced in 1909, is still used in motorcycles produced today. It should be emphasized that Harley-Davidson product evolution is strongly influenced by enduring customer loyalty and attachment to tradition.

The combination of huge potential value and the change effort likely to be incurred made IS management wary of this strategic initiative gravitating toward a continuous improvement project. Given Harley-Davidson's historical functional autonomy, Mason knew that if transformational change was to take place, it was imperative to get purchasing leadership excited and committed before asking it to provide resources for a major systems project. In an effort to get the organization to "think out of the box," Mason took the PUG off-site for a brainstorming session and encouraged its members to "get wild" in thinking about radical changes to their procurement processes. Reflecting on the results of the day, Mason commented, "That discussion with the procurement leadership was a good foundation to start getting them to really think about procurement differently."

Supplier Information Link

While Berryman and Mason were building commitment to SMS among Harley-Davidson's leadership, Cotteleer and Davidson started investigating the possibilities for new systems and processes. There was a high degree of dissatisfaction with the existing systems as well as a mismatch with the SMS, which depended on people having the skills, resources, and time to focus on building supplier relationships. In October 1997 the pair made a presentation to the PUG that laid out a "value proposition" for investigating significant changes in terms of people, processes, and technology.¹¹ Elements of the value proposition included estimated purchasing cost reductions over five years on the order of \$34 million as well as a number of intangible benefits (see Exhibit 3).

¹¹All Harley IS projects were framed around these three elements—processes, people, and technology—which constituted its business integration (BI) model.

⁷Sil'K newsletter 1998, no.1.

⁸A platform team is a multifunctional new model development team which includes representatives from engineering, manufacturing, purchasing, and marketing.

EXHIBIT 3 Envisaged Benefits of SiLK**People**—Changes in behaviors that affect the way work is done

- Reduced nonstrategic staff time and tasks
- Error correction/resolution
- Elimination of duplicate data entry
- Increase in strategic procurement activities
- Supplier development
- Strategic sourcing

Process—Changes in methods used to get work done

- Reduced complexity through uniform procurement process across all sites
- Enabling of the MRO strategy
- Reduced procurement cycle time
- Reduced manual activity
- Reduced confusion in supply base caused by site-specific processes
- Increased supplier integration in procurement process
- Achieve quality, cost, and timing (QCT) target for procurement related to new product launch

Technology—Changes in tools used to get work done

- Reduced complexity through common tools and systems
- Reduced system maintenance and obsolescence costs
- Data consolidation for decision making
- Enterprise view of supply base activity and performance
- Enterprise aggregation of demand to leverage suppliers and contracts (across sites and functions)
- Increased supplier access to quality, cost, timing, and demand data

All the benefits listed above have direct impacts on the Harley-Davidson/supplier relationship. Best practices data from similar implementations demonstrate that these benefits manifest themselves as follows:

1. Lower material costs due to decreased labor and supply chain costs
2. Decreased inventory costs due to more predictable demand and better visibility in the supply chain
3. Lower carrying costs due to less inventory in Harley-Davidson plants

Source: Harley-Davidson internal document.

Forming a Project Team

At the PUG presentation, Cotteleer and Davidson asked for part-time resources from each of the procurement organizations to pursue the project. With Berryman's endorsement, they were able to handpick influential players from across the PPG (see Exhibit 4). Cotteleer explained their selection:

We wanted the best person. Someone who would be thought of as an opinion leader in their organization, someone who was intimate with the existing processes, and who would be a tough customer during implementation should we get that far. We wanted to know that when we were finished, we had the hard sell done already, these people would be able to influence their

EXHIBIT 4 SiLK Team Composition and Team Member Profiles**Sponsors:**

- Garry Berryman (purchasing)—VP of materials management
- Dave Storm (IS)—VP of planning and information services

Steering Committee:

- Garry Berryman (purchasing)—VP of materials management
- Dave Storm (IS)—VP of planning and information services
- Tom Cullen (IS)—systems manager, produce products group
- Pat Davidson (purchasing)—manager, purchasing planning and control
- Cory Mason (IS)—CIO produce products group

Project Team:

- Julie Anding (IS)—change management representative
- Chuck Braunschweig (PI)—process innovation representative
- Chuck Carter (purchasing/PDC)—purchasing representative for product development with experience as a senior MRO buyer in the Powertrain organization and previously a member of the MRO Best Practice Circle
- Glenn Christianson (purchasing/THK)—materials manager at Tomahawk with over 30 years of Harley-Davidson experience
- Dave Cotteleer (IS)—project manager
- Eric Doman (purchasing/GM)—purchasing representative for general merchandising
- Eileen Jarosz (purchasing/PDC)—purchasing engineer for product development with several years' experience as an OE buyer at York
- Maxine Peissig (purchasing/PTO)—purchasing representative for the Powertrain organization
- Rick Pues (purchasing/KC)—process manager for purchasing planning and control, also representing the Kansas City production facility
- Kerry Sarder (purchasing/P&A)—senior buyer and purchasing representative for parts and accessories
- Bob Walker (purchasing/York)—purchasing representative for York production facility, having more than 20 years' experience in materials management at Harley-Davidson
- Blaine Webster (IS)—systems analyst

organizations to say, "Hey, you know this is what we need to do."

Using SMS as a starting point, the SiLK team tried to move from "strategy to action" to define the requirements and capabilities necessary to realize the strategic vision. The team met three to four days a month between November 1997 and April 1998. Chuck Braunschweig from Harley-Davidson's process innovation group joined the team in January 1998 and acted as a driver of two important activities: mapping the "as is" procurement processes and conducting a stakeholder survey.

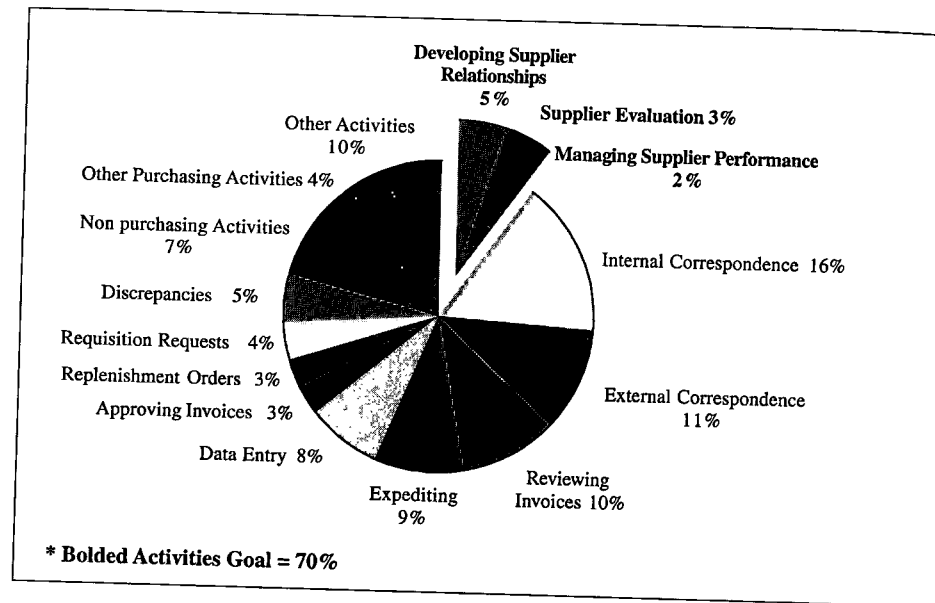
Mapping "As Is" Processes

We really started gaining momentum as a team when we started trying to talk about the process flow. We had at least three different central processes, but we kept driving it home, saying that we want to think about this in terms of why are we more similar than we are different. And if we can think about it in terms of common practices and common processes, then we may be able to get to a common system.

—Chuck Braunschweig

EXHIBIT 5 Breakdown of Purchasing and Materials Professionals' Time by Activity

Source: Harley-Davidson internal document.



Using recently developed maps of the MRO and OE processes from each site, the SiLK team created an enterprisewide process map of procurement, sequentially incorporating the procedures of the P&A, MRO, and OE purchasing units. Despite the diversity of their processes, the team was able to identify many commonalities across sites through this exercise.

Stakeholder Survey

Although many team members felt that they already knew the main problems and that they should go forward with developing system requirements, Braunschweig persuaded them that a stakeholder survey was important to identify the purchasing organization's requirements accurately. One survey sought to discover exactly what purchasing did on a day-to-day basis and was distributed to all purchasing representatives within the company. A second survey targeted key stakeholders such as accounts payable, human resources, and logistics, which interacted with purchasing. Although there were only about 200 individuals in the purchasing organization,

more than 2,000 individuals generated purchase order requests.

The survey results were sobering (see Exhibit 5). In contrast to the SMS goal of having personnel spend at least 70 percent of their time on supplier management activities,¹² the results indicated that a huge proportion (85 percent) of time was being spent on nonstrategic activities such as reviewing inventory, expediting, and data entry. As Braunschweig described it, "[the survey] became a battle cry for the sponsors of the team. The PUG was blown away."

Mapping "To Be" Processes

Near the end of March 1998 the team started developing the "to be" process that represented a future vision for purchasing at Harley-Davidson. Shortly thereafter the team concluded that part-time involvement was inadequate. Team mem-

¹²Strategic supplier management activities at Harley were seen to include supplier relationship development, supplier performance management, and improvement of quality, cost, and timing measures.

bers resolved to request a few full-time resources who would be empowered by the rest of the team to define the future processes.

In early April, Cotteleer went to the PUG with a recommendation for full-time resources from OE, MRO, and product development. Again, Berryman's support was indispensable in retaining access to key people. A reduced core team continued to work full-time while original team members stayed loosely connected to the project through videoconferences and occasional meetings. For the purposes of the project, "full-time" actually meant Tuesday to Thursday only. On Mondays and Fridays the three purchasing team members returned to their respective sites or organizations. Cotteleer explained the importance of keeping these team members plugged into their organizations:

If we were to take those three out of their jobs full-time, they'd start becoming disconnected from what was happening day to day. We didn't want that to happen because we knew that it was going to be a long-term project. We knew that we needed to keep in contact with the sites so that we wouldn't wind up designing something that met requirements that didn't exist anymore.

Despite external pressure for visible activity by the team, Cotteleer was determined to be systematic about identifying processes to ensure appropriate software selection and smooth implementation. By May 1998, having mapped the existing enterprisewide process and completed the stakeholder surveys, the core team started refining the "to be" process into requirements for Harley-Davidson's new purchasing information systems.

People, Processes, and Technology

Similar to other systems projects, the SiLK team used Harley-Davidson's BI model, which highlighted people, process, and technology, when considering change initiatives. Under SMS the "people" element had been restructured from a

decentralized to a hybrid organization,¹³ and a group of purchasing managers had been assigned to redefine roles and responsibilities. "Technology" decisions had been deferred to Harley's architecture integration (AI) group.¹⁴ AI was made responsible for ensuring that the technical solutions defined by the SiLK team would be compatible with the existing IS architecture in place at Harley-Davidson. Thus, the SiLK team turned its focus to the "process" element of the project.

A critical step in early process development was defining project scope. The "as is" process flow developed by the SiLK team had identified a number of interfaces with other functions. By viewing product development as a progression from idea to obsolescence, the team was able to identify a series of broad activities in which purchasing was involved. Each of those activities disaggregated into subactivities, with associated stakeholder groups (e.g., purchasing, engineering, manufacturing, finance, suppliers). Once stakeholders were identified, the team was able to decide whether purchasing should be the owner and driver or merely a participant in an activity (see Exhibit 6A). The team then clustered project activities into three implementation phases (see Exhibit 6B).

Throughout this process the team focused on managing expectations. There was frequent communication between the team and the target internal audience of approximately 800 people: 200 in procurement and 600 in related functions. Team-led communication updates regarding the project status were held at each site on a quarterly basis. Cotteleer gave monthly updates to the PUG and

¹³Harley-Davidson's organization is neither fully centralized nor fully decentralized. Some activity and decision making occurs at a corporate or central level (e.g., all product development activity), and some happens at the operational or site level (e.g., ongoing operations support).

¹⁴AI is responsible for defining the strategic direction of IT at Harley-Davidson. This group sets standards for hardware and software configuration.

EXHIBIT 6A
SiLK Project
Scope

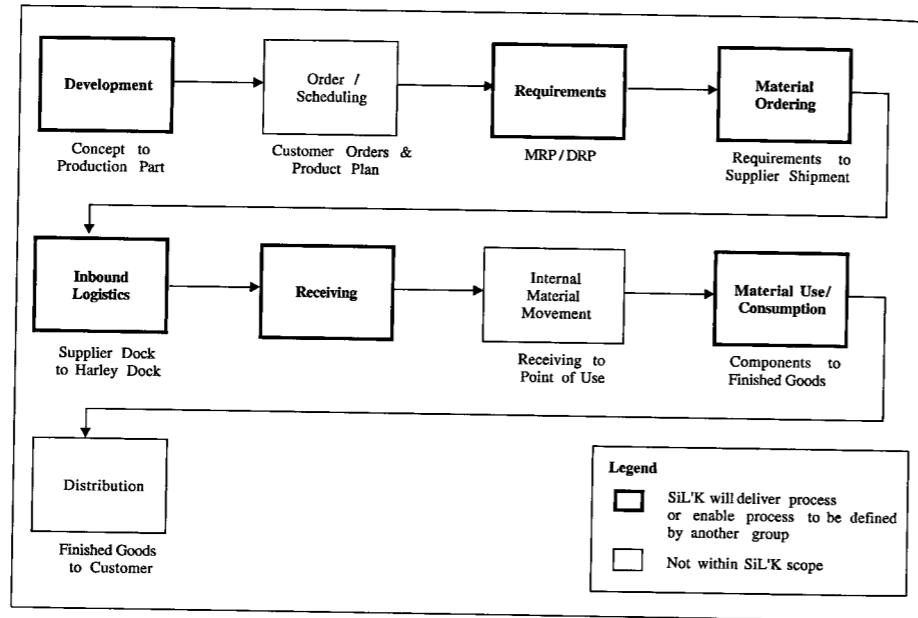


EXHIBIT 6B
SiLK
Implementation
Phases

Source: Harley-Davidson internal document.

- Phase 1: Transaction Processes / Systems.** These are processes and systems used to support the execution of fundamental purchasing activities, including:
- Requirements / Requisitions / Timing
 - Creating Purchase Documents (Ordering)
 - Receipts / Tracking
 - Invoice Processing
- Phase 2: Supplier Information Processes / Systems.** These are processes and systems used to manage relationships and information exchange within the supply web, including:
- Supplier Performance Reporting
 - Supplier Communication and Integration
 - Contact Management
- Phase 3: Project-Tracking Processes / Systems:** These are processes and systems that support purchasing activities related to:
- Concurrent Product and Process Delivery Methodology
 - Product Planning
 - Resources Allocation
 - Target Costing
 - Build and Launch Readiness

EXHIBIT 7 Summary of SiLK Project Activities and Milestones

January 1997	SMS rollout begins
July 1997	Initial SiLK planning meeting at McDonald's
October 1997	Value presentation to Purchasing Leadership Group
Fall 1997	"Let's get wild" brainstorming session
November 1997	Allocation of resources from purchasing to form the SiLK project team
November 1997–March 1998	Mapping "as is" procurement process; identification of commonalities across sites
April 1998–September 1998	Developing "to-be" processes; systems team engaged
May 1998–ongoing	Change management communication to stakeholder community
September 30, 1998	Completion of functional specification (RFQ); distribution to internal stakeholders for review
October 9, 1998	Feedback from internal stakeholders
October 16, 1998	Distribution of RFQ and invitation to bid to selected software providers
October 25, 1998	Software providers confirm intention to bid
November 5, 1998	Software provider conference
November 16, 1998	Proposals due from potential software providers
December 1–4, 1998	Formal presentation of proposals to Harley-Davidson
December 7–11, 1998	Review of proposals and presentations
December 11, 1998	Short-list selection of three potential providers
January 10–22, 1999	Two-day presentations and scripted demonstrations at short-list providers' sites and reference checks with installed customers
January 30, 1999	Finalist selection

quarterly updates to Harley-Davidson's Supplier Advisory Council.¹⁵ Julie Anding, the team's change management representative, was responsible for regular project newsletters that communicated objectives, activities, and progress to the community at large.

The team's shared vision of new processes and activities made it easy to complete a jointly written functional specification or request for quote (RFQ). On September 30, 1998, a draft copy of the RFQ was circulated through the purchasing organization to give internal stakeholders a chance to review it and offer feedback. In-

ternal acceptance and validation of the RFQ were prompt and positive. The supplier selection process began to pick up speed (see Exhibit 7).

Supplier Selection

On October 16, 1998, the RFQ for new systems to support SMS was submitted to a short list of potential suppliers. Identification of candidates had begun months earlier when Cotteleer had sent a document that described Harley-Davidson's SMS goals to a well-recognized industry research organization, requesting recommendations for potential software suppliers. To the six names the research organization offered, Harley-Davidson added several more based on incumbency issues

¹⁵The Supplier Advisory Council includes 16 of Harley's strategic suppliers who meet on a quarterly basis to discuss supply management issues.

EXHIBIT 8
Harley-Davidson Business Values and Issues

Business Values
Tell the truth
Be fair
Keep your promises
Respect the individual
Encourage intellectual curiosity

Business Issues
Quality
Participation
Productivity
Flexibility
Cash flow

(i.e., the presence of the potential suppliers' products within Harley-Davidson) and other information to which the team had access. Potential suppliers were requested to notify Harley-Davidson of their intent to bid by October 25.

The Provider Conference

I think we shocked a lot of people in that room. Here we were, a bunch of purchasing people, a project manager, a change management person, and a process reengineering person, really no executives in the room, no high-level decision makers. Here's this team of worker bees that is ultimately going to make a decision about the software. I don't think they were ready to deal with that.

—Julie Anding

The provider conference was the suppliers' first exposure to the team that would make the selection decision. Davidson started the session by providing the background to Harley-Davidson's purchasing organization. Chuck Carter, a senior MRO buyer, took the stage next with a strong statement of Harley-Davidson values and the team's expectations of the process. Carter emphasized that Harley-Davidson considered its values sacred (see Exhibit 8). One supplier representative described his impressions:

What Carter said struck me as fascinating. He said: "We sell an image and we sell fun. Our products are cool! The stuff you guys sell is boring. Okay, it's bits and bytes and it's like the necessary evil. We're really sorry, but that's the way it is." In terms of them telling us what their values were, it was very clear that

this was their culture, their company, and they were looking for partners who had the functionality and could adapt to their culture.

Next, Cotteleer explained the link between the supply management strategy, operational requirements, and capabilities (see Exhibit 9) and emphasized Harley-Davidson's "ground rules" for the process. The SiL'K team was explicit about not seeking a full ERP solution,¹⁶ stating that the scope was well defined and that suppliers shouldn't waste time pitching additional functionality. Cotteleer stressed two-way accountability, adding, "We expected them to hold us accountable, so if they thought at any time that we were not dealing fairly, then we expected them to check us as well."

The supplier representative commented afterward: "We walked out of there very confident that this was a company that knew what they were doing and had a process in place. We knew that the team was the decision maker."

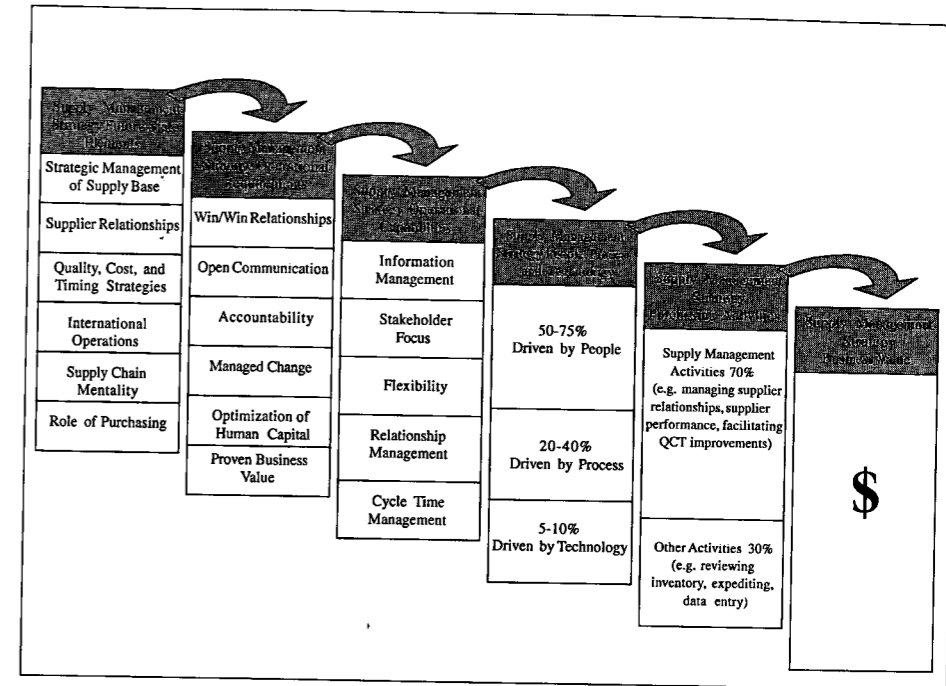
Proposals and Presentations

Eight suppliers submitted both a response to the RFQ and a completed self-evaluation checklist. The team used the checklist as a quantitative measure of the initial functionality fit (see Exhibit 10). From this functionality checklist, two

¹⁶ERP (enterprise resource planning) refers to a class of software packages that seek to integrate nearly all the internal functions of the organization. See Harvard Business Technology Note No. 699-020, "Enterprise Resource Planning (ERP)," for more information on these types of packages.

EXHIBIT 9
SiL'K Strategic Road Map: From Strategy to Action

Source: Harley-Davidson SiL'K newsletter, no. 3.



groups immediately emerged: those that rated themselves 90 percent or more fit and those that were less than 90 percent fit.

Although the team had planned to allocate review responsibility to pairs of team members, in the end there was sufficient time for each member to view all the proposals. Questions were submitted to the company teams in advance of a three-hour presentation scheduled for each one. To assist in the evaluation, the team developed a booklet in which it could document the supplier's proposal for each section of the specification, record weaknesses and strengths, and check off critical requirements.

In addition to the SiL'K team, IT specialists including Tom Cullen, systems manager for PPG, and Karen Kaminski, manager of architecture integration, attended the provider presentations. Their role was to review each

package's architectural requirements and identify likely interface issues with existing Harley-Davidson systems and IT initiatives in progress. In all, seven presentations were completed within a week.¹⁷ The team then settled down to seriously evaluate what it had seen and read and to eliminate unsuitable candidate proposals.

Narrowing the Field

We didn't just say, "Hey, everybody, vote for your top three and we will go," even though some people wanted to do that. I wanted to make sure that we were focusing on the process and the functionality and the pluses

¹⁷After the conference two suppliers declined to bid, and an additional contender dropped out after submitting a proposal.

and minuses. So we went through each company and did a pro and con list.

—David Cotteleer

In attempting to narrow the field of potential suppliers, the team evaluated a combination of written proposal, presentation, and notes from each member. Suppliers who had self-rated their ability to meet the specification at less than 90 percent (three were in the 70 percent range) were unlikely candidates. However, the presentations did create some surprises for the team. One supplier with “great functionality” was eliminated on the basis of architectural incompatibility with Harley-Davidson’s current and planned infrastructure standards. Another supplier, specializing in purchasing systems, charmed the team with its “sweet package.” However, that company ultimately was eliminated after an objective consideration of its small size and potential ability to meet future support needs. The team

consciously chose to focus on functionality and to avoid consideration of economic (cost) factors at this stage. After intensive discussions, the team reached a consensus on three finalists.

The next step involved setting up visits to those three suppliers’ sites, where an extended demonstration of each software package was to be conducted. In this round, the SiL’K team created 10 scenarios based on process and technology requirements from the functional specification that providers used to demonstrate their products. During January 1999 two full days were spent with each finalist in an effort to develop a deeper understanding of both the package and the organization. Again, the entire SiL’K team was involved in these visits, and both qualitative and quantitative methods were used to evaluate the finalists’ proposed solutions. See Exhibit 10 for decision criteria and evaluations and Exhibit 11 for a selection of team members’ impressions.

EXHIBIT 10 Software Provider Selection: Decision Criteria and Evaluations

Each provider was evaluated using a quantitative and qualitative approach. The quantitative method was based initially on each provider’s self-rated match to the technology and process requirements outlined in the functional specification. Technology robustness and ease of use were also considered.

Functional Criteria	Provider 1		Provider 2		Provider 3	
	Value	Percent Fit	Value	Percent Fit	Value	Percent Fit
1. Design and foundation	118	98.33	120	100.00	115	95.83
2. Request definition	232	92.06	244	96.83	247	98.02
3. Documentation	140	89.74	156	100.00	156	100.00
4. Receiving	150	93.75	156	97.50	142	88.75
5. Supply management	48.8	76.25	64	100.00	59.2	92.50
6. Project tracking	22.4	100.00	22.4	100.00	22.4	100.00
7. Miscellaneous	236	93.65	248	98.41	248	98.41
8. Interfaces	59	98.33	60	100.00	58	96.67
9. Training	24	100.00	24	100.00	24	100.00
10. Other	112	100.00	112	100.00	112	100.00
Total provider score	1142.2	93.44%	1206.4	98.69%	1183.6	96.83%

EXHIBIT 10 Software Provider Selection: Decision Criteria and Evaluations (continued)

The three finalists were also evaluated (L = low; M = medium; H = high) on a number of qualitative criteria. These grades were chosen to highlight the potential providers’ understanding of Harley-Davidson’s current and future requirements, their ability to provide implementation and ongoing technical support, and the overall likelihood of a mutually beneficial long-term relationship.

Qualitative Criteria	Provider 1	Provider 2	Provider 3
1. Long-term relationship potential	H	H	MH
2. Research and development	MH	H	MH
3. Training approach	H	MH	ML
4. Implementation / education / change management methodology	H	MH	M
5. Understanding Harley’s requirements	H	MH	M
6. Enabling the SMS	MH	H	MH
7. Out-of-the-box fit	MH	H	MH
8. Financial viability	MH	H	MH
9. Cost	H	L	M
10. Technical support offerings	H	H	M
11. Overall functionality	H	H	MH
12. Number of partner providers included in solution proposal	MH	H	MH
13. Architecture compatibility	H	MH	H
14. Platform portability	H	M	H
15. Web functionality “to go”	M	H	ML
16. Manufacturing experience	H	MH	M

EXHIBIT 11 SiL’K Members’ Impressions of the Three Finalists

Provider 1
 Cotteleer: “They did a dynamite job. They truly distinguished themselves as understanding what it was we were trying to do. As we understand it, our needs are fairly similar to [another Provider 1 client]. Beyond that, they worked very hard and paid very specific attention to what we wanted. They are a very attentive company, and they have been extremely honest. . . . I’m actually pretty impressed.”
 Christianson: “Out of the box, they were impressive. The people were the right group of people to send. They knew the software. They knew what they wanted. When they came in for their presentation, the entire team had Harley shirts on. It gives you the impression that they value being here. When we went to them for the demos, everybody had Provider 1 shirts on. It gives you the idea that there’s a big potential that the culture of that team matches with ours. . . . I think that their goal was to answer all of our questions and to try to meet with our culture and try to sell us the fact that they really wanted to do this job at Harley-Davidson without being obnoxious, condescending, or pushy or anything like that. I think they made a real good case. And the other thing was that their [core] team exhibited the kind of cultural diversity important in today’s world.”
 Carter: “I think it was very evident that they understood what I had said in the first part of November. The people involved in the demonstrations were passionate about their product, and they understood

(continued)

EXHIBIT 11 SiLK Members' Impressions of the Three Finalists (*continued*)

what their product could do. They were also quick when there was something in our demo script that didn't match the functionality. They provided us with a work-around—"We can't do it this way, but this is how we can do it." That shows that they read [the RFQ], and they understand what their software can do. And to me that's impressive."

Anding: "Provider 1 probably did the best job of paying attention to the people dynamics in terms of who had ownership or investment in certain pieces of the process. They were very, very good about making sure that they engaged each of us on an individual level relating to where we fit in on the team. They focused their attention toward me when they talked about training and change management issues; they focused attention toward the purchasing people when they were talking about specific functionality."

Jarosz: "Provider 1 was very impressive. They stood out in all our minds because the enthusiasm of those folks was just fabulous. It was also the most diverse group we had, which was interesting. They did an excellent presentation that addressed all areas. It was strong on the change management side as well as functionality. From the people side they've been very, very strong. That, to me, appears to be their strength right now."

Provider 2

Jarosz: "Provider 2 was exactly as I had anticipated. They were on time and very formal. Very 'shirt-and-tie' approach, but that's the kind of impression we're getting of Provider 2. They did a very nice job on the demos—we got this vision of "Oh, this flows through beautifully." They have a major strength in their software product. It comes very close to the line-by-line detail that we had spelled out in our specifications in a lot of areas."

Christianson: "Equally impressive. And they were impressive during the four-hour session. It would appear that they had software that really had to be included in the final round. In the demo visits, they also provided work-arounds where they couldn't meet what we actually were asking for. We walked out of there with what we were looking for."

Pues: "Provider 2 was more classic. [The distinction] between the two is Provider 1 was more laid-back, fit the Harley mentality and personality a little bit more. Provider 2 gave more of the traditional sales pitch, and you could see the hierarchical situation. You could see where they focused their attention within the group, and you know they paid more attention to the people 'higher up' in the group than others. However, the bottom line is they have a very, very nice package there."

Provider 3

Cotteleer: "When we went through the plus and minus thing, our review, we were really left with a dilemma with them, which was: Strictly on a personality thing it's easy for us to dismiss them, but as far as functionality goes, we didn't have enough information to dismiss them. They had a very high score, but we also didn't see enough of the product in the presentation. There is a third factor here—that Harley-Davidson recently engaged Provider 3 on a separate project."

Webster [explaining the rationale for the extra session]: "We can't discount or discard them because they haven't done anything to get selected. But if you look at all the publications out there, Provider 3 does have some good press in terms of their overall ERP package, as well as their purchasing package."

Carter: "We've got to get past the people and the presentation and see if there is any value to their software. And we think there is, between the [partner] front end and their software—that's why they're still in it. And we're aware that Harley's in the early stages of dealing with Provider 3 on another project. So for us to have the information that we needed in case there was some internal pressure to go to Provider 3, we felt that we had to take a little bit harder look at them. There may be some economic benefit in going to them."

EXHIBIT 11 SiLK Members' Impressions of the Three Finalists (*concluded*)

Jarosz: "I didn't feel I could give them a grade on functionality, though I could certainly grade them on timeliness and presentation skills. We hadn't had a chance to see the actual software, which is a big chunk of the functionality we need to understand. [During the extra session] we started to recognize that the software was very competitive with everything else we had seen. . . . There are probably price advantages. There are certainly integration advantages to staying with the same company if they can provide the right solution."

Three Final Contenders**Provider 1**

Right from the start, Provider 1 distinguished itself. Its representatives asked appropriate questions, clearly acknowledged Harley-Davidson's values, and seemed comfortable with the casual but competent Harley-Davidson style. The written proposal from the Provider 1 team was precisely tailored to the requirements documented in the RFQ and clearly addressed each of the SiLK team's issues. On the self-evaluation checklist, Provider 1 scored 93.4 percent. During the initial presentation the SiLK team felt a natural affinity to its representatives, who seemed to have a similar company culture. At the provider conference they had stood out in the SiLK team's eyes by buying Harley-Davidson gear for the whole team. During the company visits in January, the SiLK team felt extremely comfortable with the broader Provider 1 team members who might become potential teammates.

In terms of functionality, Provider 1 was not the leader, although none of the three finalists offered a perfect fit to the specifications. Its package did not provide "Web enablement" directly, but its team proposed integrating a partner solution to achieve that. On the organizational side, however, Provider 1 was very aware of change management issues, and change management and training processes were an integral part of its implementation methodology.

Provider 2

Provider 2 was also one of the early leaders in the selection process. It was a major ERP sup-

plier and was widely admired in the industry, although its products tended to be more expensive than those of its competitors. The proposal documents submitted to the SiLK team were comprehensive, and it achieved the highest scoring on the quantitative functionality checklist (98.7 percent). Provider 2's representatives were extremely professional although perhaps somewhat more formal than Harley-Davidson was used to. Their presentation was equally immaculate and comprehensive.

The company visits and demonstrations confirmed the superior functionality of Provider 2, including a seamless Web-enabled interface. Although the supplier team provided a package for writing training documentation, it didn't emphasize methods or processes for assessing organizational needs and preparing people for change. A few SiLK members were also wary of the heavy "consultant" attitude that prevailed.

Provider 3

Provider 3 was a major ERP player and had recently been engaged by Harley-Davidson to provide systems in a different functional area. The company had not initially distinguished itself. The software proposal was considered "boilerplate stuff," and some questioned whether the supplier had even read the RFQ. The initial presentation was a disaster. The supplier representatives were late; they hadn't even met a representative from the company with whom they would be partnering; they overran their time; and they didn't demonstrate much functionality. The Harley-Davidson team also felt antagonized by the condescension of the

supplier representatives. However, Provider 3's score on the self-evaluation functionality checklist was very high (96.8 percent), and the team felt it could not dismiss this company out of hand. After much discussion, the team had agreed to give Provider 3 two more hours to make its case. A subsequent presentation did indeed confirm the functional possibilities of Provider 3's software.

Consistent with earlier signals, the company visit in January revealed solid functionality but a weaker focus on social dimensions. The team was skeptical but could not overlook the potential political and economic advantages associated with Provider 3.

Making the Decision

The SiL'K team had sought to include in its decision all the factors that might substantially influence the ultimate implementation success of the procurement software project. Some of them had very clear thoughts on the relative importance of different dimensions:

Braunschweig: "Functionality, I think, is the key thing that we were looking for. Even if there're personality conflicts, we can work with those. All three of the providers have the architecture. Cost is going to be added in there. I certainly hope that functionality is going to be number one in terms of what we get out of it. Because that's what people are going to see, that's what they're going to use day to day. And that's what's going to cause them pain or discomfort."

Jarosz: "If all I had to do is say: 'End user, here's your functionality,' I'd be a fool not to select Provider 2. But I am very concerned that the change people are going to go through is going to be 10 times more difficult than software implementation. You can take a terrible product and if you get the people behind it, you'll succeed, and you can take a wonderful product, and everybody fights it,

you'll fail. So we need to put some serious thought into the whole issue of change management and the implementation."

Anding: "We need to do the right thing; we need to pick the software that's truly going to provide the most functionality to the purchasing community and to the strategy and direction that we want to move into for the future. I think the team is very conscious of that."

Pues: "People like to do business with people they like. So a big part of this is looking at the organizations that we see—Provider 1, Provider 2 and Provider 3. We need to understand the personality of their organizations and try to get a better understanding of the support that they have behind it. Because implementation is when the real work starts, and we have to be comfortable with who we go with."

Cotteleer: "Harley-Davidson is a very relational company. We are looking for partners. But we really want to pick the best product for our process. If we need to, we can deal with [personality conflicts] for the implementation. . . . That is not as insurmountable as implementation risk based on functionality that doesn't exist."

As the SiL'K team members took their places at the table, everyone looked around the war room at the volumes of information they had gathered. The process had been long, and the choice of a supplier and partner still loomed. Cotteleer wondered whether Harley-Davidson's approach of linking the software selection process to the overall SMS had been appropriate. Would all the steps they had taken during the selection process add value to their decision? How should the team balance the various strengths and weaknesses of each supplier candidate in making a final selection? With these questions and others circulating in his mind, he turned his attention to the team and opened the discussion.