

Lessons from German Cost Accounting

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This is the third article in a series that began in October 2003 with “The Case for Management Accounting” and continued in December 2003 with “Bring on German Cost Accounting.” Here we delve further into German cost accounting to see how it has evolved over the years and to show how its latest form, when combined with the “made in America” activity-based costing (ABC), creates a much more capable management information and decision-support capability than has previously been experienced in the United States, Germany, or anywhere else in the world.

Management accounting and controllership practices are more highly developed in German-speaking countries (Germany, Austria, and Switzerland) than in the rest of the world, partly because of the recognition that good management accounting practices are critical to the successful performance of the enterprise. Contrast this to the U.S. where there’s a dominant emphasis on financial accounting and regulatory reporting and a high degree of

frustration on the part of CFOs and business managers with their lack of cost and management accounting information. The effect is that businesses are so overwhelmed by the requirements of outside parties that even most accountants fail to understand that the real “business of business” is represented by the management accounting personnel who work inside the organization.

Organizations that are successful are either lucky or have superior information with which to make decisions. Those that have strong and disciplined preparation, interpretation, and application of decision-support information have a greater opportunity to respond to threats and opportunities and to manage costs than those that don’t. We believe that some U.S.-led management accounting initiatives, particularly activity-based costing, haven’t survived in most organizations for two reasons. The first is a lack of emphasis on building a strong, professional management accounting community with clearly articulated and practiced standards. The second is a lack of attention

by academics to fundamental management accounting principles. In contrast, German companies and academics have demonstrated disciplined attention to management accounting (or what the Germans call “controlling”) to the degree that the majority of organizations recognize these capabilities as being the most important activities performed by the “inside” finance function. Financial reporting is respected but is considered less important to the successful performance of the organization.

A LITTLE BACKGROUND

Throughout the 20th century, German academics were engaged in deep and thoughtful debate about accounting systems. The list of participants is long, and their contributions to the evolution of accountancy as we know it are profound. Also during the last century, American academics, regulatory agencies, and practitioners evolved theories and practices, but they seemed to differ from what was practiced in the rest of the world. Management accounting is a good example of such divergence. Emphasis on financial reporting, which represents perhaps no more than 5% of the work of accountants inside organizations, has been used to influence public perception that the CPA (Certified Public Accountant) is the only accountancy certification of merit and that young prospective accountants should pursue it rather than the CMA (Certified Management Accountant). This has created the situation where the number of practicing management accountants in the U.S. is one-tenth the number in the U.K., Canada, and Germany. This means the capability of U.S. companies and their staffs to apply good management accounting techniques is deeply impaired, which creates a significant risk of organization failure due to poor decision support, planning, and control over value-adding operations. Another example is the development of rules-based GAAP in the U.S. vs. principles-based GAAP elsewhere.

Of course, it’s typical for good ideas and proven capabilities to move across oceans. For example, target costing was perfected in Japan as was the concept of “building quality in” rather than “inspecting” it in. Clearly, German management accounting also has been influenced by the work of American academics. An example is how a form of ABC was grafted onto the strong roots of a proven German cost accounting system to produce what now, arguably, represents the state of the art in management accounting.

After World War II, Grenzplankostenrechnung (GPK) became the most widely deployed management accounting methodology in Germany. It is most associated with Hans George Plaut, an automotive engineer who became involved with management accounting in the late 1940s. H.G. Plaut is important because he identified and delivered a long-term, sustained methodology that was designed to correct cost accounting information—to correct the arbitrary allocation of cost practiced in the U.S.—and that became the underpinning of the modern, strong “controlling” culture in German corporations. In 1946, he founded an independent consulting business in Hanover, which later grew to employ more than 2,000 consultants, and he was appointed Honorable Dr. by the University of Saarbruecken in 1985, a few years before he died in 1992.

While Plaut provided the practical elements of GPK, Wolfgang Kilger, an academic, provided discipline and thorough documentation in the form of one of the most important cost accounting textbooks used by universities in German-speaking countries, *Flexible Plankostenrechnung und Deckungsbeitragsrechnung*. (The 12th edition will be published in spring 2005. Sadly, there is no English-language version of Kilger’s book.)

After Plaut made the transition from engineering to cost accounting, he questioned the same things that still bother U.S. academics and business executives. He would always remind students and clients that the main purposes of management accounting are to control costs, manage profits, and provide information to managers that would enable them to make informed decisions. Indeed, these were the very issues that were documented so eloquently in 1987 by Robert S. Kaplan and H. Thomas Johnson in *Relevance Lost*. Plaut’s vision had been articulated in a 1953 magazine article titled “Die Grenzplankostenrechnung,” in *Zeitschrift für Betriebswirtschaft*, and it motivated a widespread and sustained response.

His vision was:

- ◆ To correct errors made by allocation of fixed cost to products, and
- ◆ To provide clear and reliable cost information to help managers make better decisions.

Plaut and his associates went on to implement GPK in hundreds of organizations, many of which are still using it decades after they first implemented it. As reported in “Bring on German Cost Accounting,” when we asked

controllers at companies we visited what would happen if their organization abandoned GPK tomorrow, we were told “nothing for a year, and then we would lose control.” Contrast this with the response we would receive from many U.S. corporations to “What would happen if your organization abandoned activity-based costing tomorrow?” The answer would be “Nothing. We already did!”

It isn't our intent to disparage ABC but rather to explain how two initiatives, 30 to 40 years apart, should have such different results. One, GPK, was deployed with great care and discipline. Essential elements or standards were established for it, its methodology has evolved, and its application has been sustained for more than 60 years in many companies. Indeed, every management accounting student in German-speaking countries learns about GPK. The other initiative, ABC, was deployed toward the end of the 1980s with much marketing hoopla but without any professional body establishing standards for it. Hence its introduction and implementation became an undisciplined, money-oriented, feeding frenzy for consultants and software companies alike. The outcome has been a serious disappointment and, for most implementations, abandonment.

A GOOD COSTING SYSTEM

Plaut described what he considered to be the essential elements of a good costing system in the 1953 article to which we referred earlier.

Cost Centers should:

- ◆ Be the clearly defined responsibility of a manager.
- ◆ Represent homogeneous purpose and costs.
- ◆ Be economic in design (not too complex).
- ◆ Represent the cost of resources employed, where a resource equals machines, people, buildings, etc.

Fixed and Proportional cost splitting should:

- ◆ Be done for each cost center by account/activity.
- ◆ Apply resource drivers to distribute costs.
- ◆ Employ capacity limitations/utilization.
- ◆ Consider how costs behave under changing output levels.

Activities and Drivers should:

- ◆ Be applied so that each cost center has at least one representative output measure, such as machine hours.
- ◆ Ensure that the relationship between the output measure and the proportional cost pool is linear.
- ◆ Ensure that the relationship between the output measure and the object (product) is linear.

Analytical Cost Planning should:

- ◆ Be an integral component of budgeting and operational planning.
- ◆ Be done for every cost center.
- ◆ Reflect demand under effective, efficient, and economic conditions (realistic expectations vs. “last year plus %”).

Correct allocation of internal services cost should:

- ◆ Reflect true supply-and-demand conditions.
- ◆ Apply “pull” logic (see Figure 1, which demonstrates the flow of resources toward output or Cost Objects as products “pull” cost to them).
- ◆ Ensure that the categorization of costs as proportional and fixed is sustained as costs cascade through the system.

Use of standards should:

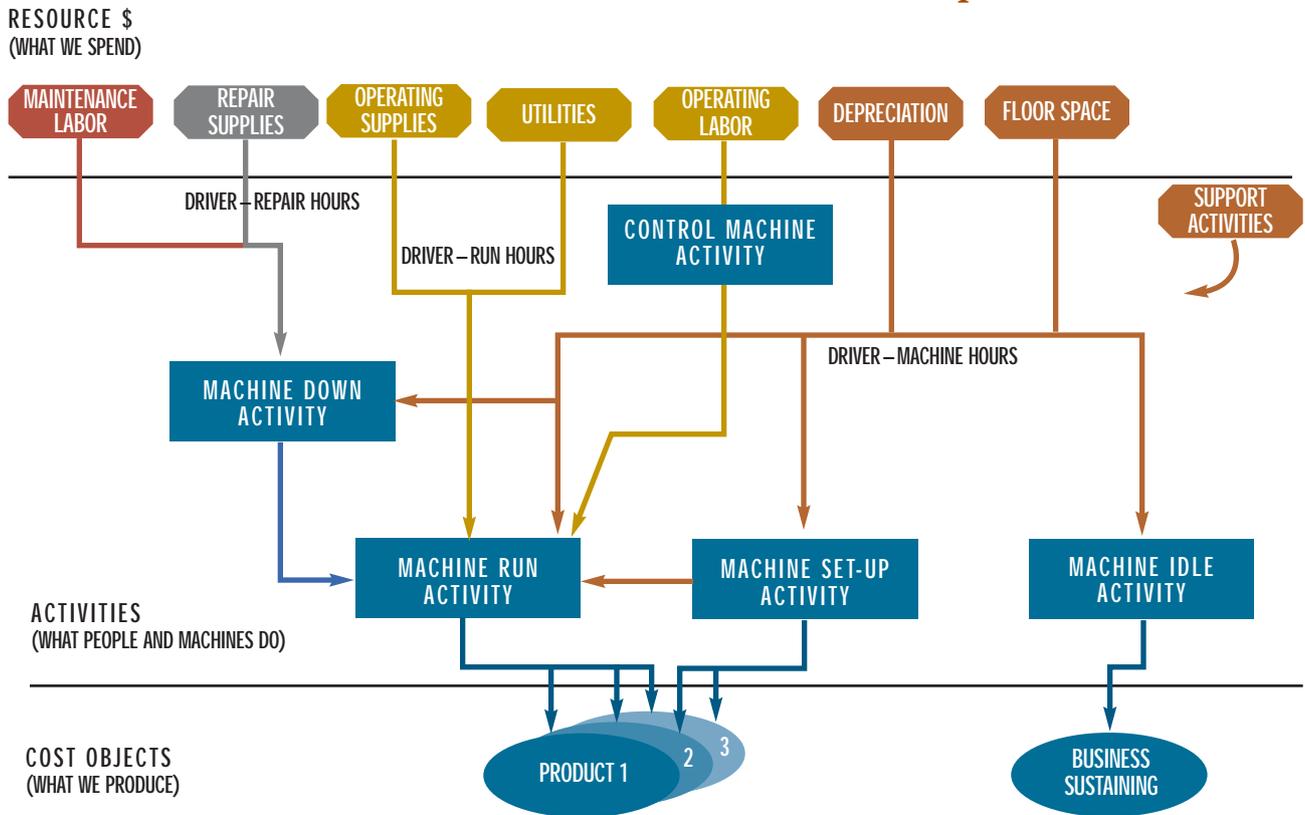
- ◆ Be stable throughout the planning period.
- ◆ Be the basis of and provide for comprehension of variances (price, usage).

GPk'S ROOTS

GPk began in the manufacturing arena and later branched out to service organizations. Initial applications focused on direct product costs only, creating the impression that it was simply a marginal costing methodology. Later manufacturing adopters such as Steyr Daimler Puch (now Magna Steyr), BMW, Porsche, Daimler Benz, Stihl, and others allocated fixed as well as direct costs in their GPk systems. Here are some critical aspects of the manufacturing application:

- ◆ More emphasis was placed on analyzing direct costs or costs that vary in proportion to the output of the activity (what the Germans describe as “proportional”).
- ◆ Cost control at the cost-center level was critical (as output volumes varied, cost-center managers were held accountable to adjust resource consumption accordingly).
- ◆ Manual calculations were extensive as there was little use of computers in early applications.
- ◆ Marginal costing was used to decide which products to eliminate and which products to place marketing and sales efforts on.
- ◆ Contribution margin was calculated for products and customers and was used to influence the efforts of sales staff.
- ◆ Lack of standard software created a dependency on IT departments for data processing, which brought with it the associated problems of long development cycles. As computing capabilities evolved, Plaut and his consulting associates worked with each individual client to produce their own customized, stand-alone software to facilitate data capture and to calculate results. The process

Figure 1: Linear Cost Flow Relationships



Source: Focused Management Inc.

A critical aspect of GPK is to establish a clear “diagram” or tracing of the flow of the cost of resources to the activities of processes and then to the receivers of output (Objects) of activities or processes. Relationships depicted in such a fashion define the nature of quantitative relationships. For example, the machine running hours (number of hours the machine will run) will determine the quantity of electricity and supplies to be consumed, which, in turn, determines cost for the same.

was inefficient, cumbersome, and repetitive. After a while, companies began to talk with each other, creating user groups to establish best practices. This, in turn, led to companies sharing software, which created many problems because of a lack of disciplined product introduction practices and inconsistent applications. Such problems eventually prompted Plaut to develop a standard, stand-alone management accounting system.

But being in the software business created a set of business problems that Plaut wasn't willing to sustain. Having to keep pace with changing software technology and wanting to take advantage of data made available by integrated solutions prompted him to approach the world-leading German integrated systems supplier, SAP, in the mid-1980s to have them build his solution into their systems. SAP did so, and Plaut exited the software business, yet he worked with SAP clients to help them implement GPK properly.

SAP employed Plaut consultants and some of the brightest academics available in Europe to design the operations of their integrated cost accounting systems in which they applied Plaut's essential elements. Over the next 20 years, SAP deployed the new, integrated cost system to hundreds of companies around the world. The methodology was incorporated into the “Controlling” module, which drew operational data from other modules such as billing or production management and financial data from the financial information module. The new system provided integration and standardization, thus eliminating problems associated with stand-alone systems.

At a Harvard colloquium in 1989, representatives of SAP discussed German cost accounting methods and applications, comparing them to activity-based costing as it was beginning to emerge in the U.S. ABC software was in its infancy in the U.S., and, as in Germany, stand-alone sys-

tems and custom-built solutions were being developed by organizations that were struggling to sell or implement ABC. Consequently, most American organizations that had invested millions of dollars in SAP software failed to take advantage of the full capability of the SAP Controlling module (CO). The decision by these organizations not to use SAP CO seems odd given the amount of money they had spent to acquire and implement SAP software. Possibly it's because the SAP approach was different from ABC as it was becoming popular in the U.S., and practitioners, academics, and consultants didn't understand it. Fortunately, SAP has continued to evolve their system to incorporate good ABC practices and standards.

THE NEXT LEVEL OF GPK

Plaut's work with SAP clients led to the next level of evolution of GPK. An early change was assigning fixed cost on the same basis as proportional cost. This came some 10 years after the initial applications, which had focused on proportional cost and marginal contribution. Even at this stage marginal contribution was still considered to be the most reliable cost information for price determination and decision-support purposes.

Before 1985, applications of GPK to service organizations were rare, but a major breakthrough was achieved when the German Post Office (Bundes Post) undertook an implementation. (The implementation was described in detail in a white paper by Wolfgang Kilger, which he presented to the Minister for Bundes Post in 1985, and in a 1988 book by Kurt Vikas titled *Controlling im Dienstleistungsbereich mit Grenzplankostenrechnung*.) The implementation effort involved using methods that hadn't previously been necessary for manufacturing organizations, but, fortunately they already existed at Bundes Post when the work began, making implementation feasible. These included:

- ◆ Workflow and processes were already analyzed and documented, and activities had been identified.
- ◆ Work time standards had been established for activities.
- ◆ Actual activity performance information was captured every month.

The application of GPK to Bundes Post provided a wealth of new information for specialists and academics. Here are some of the lessons from the implementation:

Lesson 1: GPK functions the same way in service organizations as in manufacturing companies where there are direct product activities and where there are many repetitive processes.

Lesson 2: The essential elements that Plaut identified in the early application of GPK were equally applicable to service organizations.

Lesson 3: Proportional costs should increase or decrease in response to changes in product volume that were facilitated by the existence of flexible human resource practices (temporary staff employed in peak times, etc.).

GPK then spread to service organizations in almost every conceivable sector, including financial services—Deutsche Bank, Post Bank; transportation services—Deutsche Bahn (German Railway), Lufthansa; utilities—Ruhr Gas; healthcare services—Universitätsklinik Heidelberg, Stuttgart Krankenhauser; and many others. Here are some of the differences between these implementations and the German Post Office implementation:

- ◆ Workflow and processes were *not* analyzed and *not* documented, and activities had to be identified.
- ◆ Work time standards *had to be* established for activities.
- ◆ Actual activity information was captured every month.
- ◆ Complexities arose from the existence of nonroutine activities and the variability of routine activities.
- ◆ Each industry has unique characteristics with respect to cost categories, factors of production, and objects.

These applications of GPK yielded additional lessons. The most important were:

Lesson 1: Each application had to reflect the unique characteristics of the industry (which meant that, for example, after the first hospital implementation had been completed, further hospital applications should be relatively more straightforward).

Lesson 2: Lack of workflow and process information caused the implementations to take much longer than expected. Data processing products like ARIS from IDS-Scheer were helpful because of their analytic capability and because they provided direction on what information should be gathered and how it should be analyzed.

In addition, service organizations derived many benefits. Deutsche Bank, for example, gained a meaningful analysis of the cost of processing stock transactions because GPK provided a previously unavailable level of cost transparency and acceptance of rational transfer pricing for internal services. Also, the bank identified and realized significant cost improvement opportunities as a result of combining cost and workflow/process reengineering. Managers received reliable, applicable information and were able to focus on important opportunities to reduce costs and improve profits.

A Note from Paul Sharman

A number of people who know me and my past involvement with activity-based costing and the management accounting profession have asked why I am so interested in German cost accounting. The answer is because I am frustrated with what I see as being excessive emphasis placed on financial reporting and auditing in the U.S. Our corporations are able to produce value and satisfy society's expectations only if the financial professionals inside are doing a good job. The Germans have managed to get it right. In the U.S., regulators and auditors, for whatever reason, seem to like the disproved concept that quality can be inspected in. The problem is that it is overdone to the extent that management accounting capabilities inside organizations are deteriorating badly. Good governance comes from strong processes and properly trained professionals inside an organization. Good audit results come from the existence of well-designed and properly operating processes, not more checking. The primary way to regain confidence in the accountancy profession is for the professionals inside organizations to design and deliver such processes. It seems that few in government, academia, or senior financial organizations in the U.S. know this or are willing to acknowledge it. But without these well-designed and properly operating processes, corporations fail.

If there were a theme for IMA this year, it might be "Building Quality In." The association is making the point that good governance and solid audit results occur only because of the efforts and good practices of those finance function staff who work inside each organization. The same is true for superior financial performance. Compare this to the role of auditing, which is really intended to inspect the work of the inside financial professionals.

Finally, budgeting and planning of head count became a relatively straightforward process in the context of a properly designed process and costing system. The bank realized these benefits because of the newly available fact-based measurements rather than what had previously been the subject of highly emotional and subjective negotiations.

STATE-OF-THE-ART APPLICATION

During the past 10 years, German academics and practitioners have monitored the progress of management accounting, particularly ABC, in the U.S. and the rest of the world. The lack of standards in ABC was noted by German Prof. Peter Horváth, who worked to create a more disciplined version of ABC known as "Prozesskost-

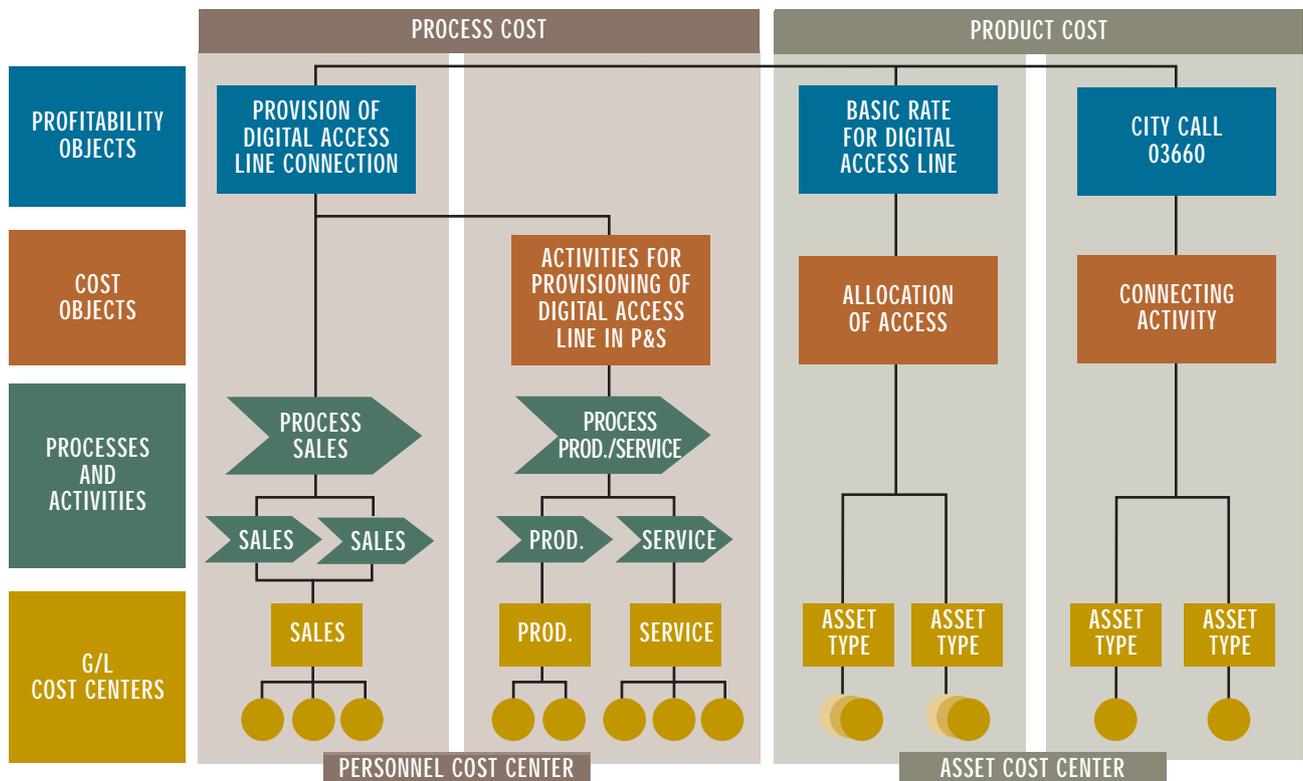
enrechnung" or process-based costing (PK). PK has been incorporated into a recent application of GPK on a very large scale at German Telecom (Deutsche Telekom, DT).

DT had been a division of the German Post Office until 1989, when it was spun off, so it had participated in the Post Office's implementation of GPK and marginal costing with its cost-center-level flexible cost planning system. DT recognized that its existing costing system didn't go far enough in assigning support department costs, and it wanted to change that. The new system is known as Integrated Cost and Accounting System (IKE). Inconsistencies in the way that the old costing system was applied by various departments led to different interpretations of results, so the company decided to extend and redesign its existing system to accomplish the following objectives:

1. To integrate stand-alone solutions with the SAP R/3 system:
 - a. Cost Center Accounting
 - b. Activity-Based Costing
 - c. Product Costing
 - d. Profit and Loss Accounting
2. To associate a detailed understanding of processes and activities with operating quantitative and financial information to facilitate reporting, planning, and controlling of costs and profits at all managerial levels in an integrated fashion.
3. To harmonize internal management accounting/controlling information with externally reported financial information as much as possible to provide data for business unit reporting.
4. To satisfy government reporting requirements.
5. To provide quick turnaround of product cost information and customer profit information.
6. To have a fast monthly, quarterly, and annual financial close.
7. To provide a common and user-friendly interface for all staff.

The IKE system took approximately 27 months to develop and implement and was completed in early 2004. Half the time was spent making sure that the system would satisfy requirements of the telecommunications authority that supervises telephone companies. The authority demands a high level of transparency, so new features are evolved and implemented every three months. Developed within the SAP CO module, IKE captures cost information about the efforts of approximately 120,000 people working in 40,000 cost centers. Cost-center information is organized and captured in approxi-

Figure 2: **Deutsche Telekom Integrated Design** (provided by Deutsche Telekom): Resource, Activity, Process, and Cost Object Cost Structures Linked



With permission of Deutsche Telekom T-COM

mately 200 profit centers. DT developed this large, complex application with the help of consultants from a number of firms, including Plaut Consulting and Booz Allen Hamilton, and a number of respected and experienced academics.

The system was implemented for the DT terrestrial telephone system, which covers all of Germany and serves 40 million customers. The application of operational modeling for all departments and cost centers involved disciplined quantitative analysis and business modeling. Models were based on mathematical functions (definitions) and relationships among cost-center resources, processes, activities, and cost objects such as products and customers. The integration of standard cost per unit of output and disciplined “pull” ABC principles provides for performance monitoring and comparison between actual performance and planned cost and quantitative usage variances. “Pull” ABC calculates demands for activity-driver quantities and resources (per Figure 1) based on quantitative relationships. Contrast this to “push” ABC, which simply allocates down from accounts to activities and activities to cost objects.

BENEFITS OF THE NEW SYSTEM

The new system, illustrated in Figure 2, provides many benefits:

1. It provides consistent representation of profit-and-loss reporting by customer/product/region profitability along with multidimensional reporting of critical information using online analytical processing (OLAP) technology. The new system replaced a number of disparate systems that had previously been the source of conflicting information and much disagreement among managers.
2. GPK and ABC (or PK) were integrated into a new, single system.
3. Contribution margin was determined in the new system by combining cost information from accounting records with quantitative data from operations systems and data sources.
4. The new system provides a single source of information for all users at all levels in order to satisfy their business requirements. For example, a product manager is able to obtain profitability analysis by product and by market from the same system. This has uni-

formly created a common language, understanding, confidence, and trust in a way that wasn't possible previously.

5. Information produced by the system identifies opportunities to reduce costs and reengineer processes by providing an analysis of activity and process costs by cost center to operations teams to eliminate those that are high cost or nonvalue adding.

IKE dramatically reduced the need for individual departments/profit centers to perform calculations, and the company eliminated nine different systems. As a result, DT reduced the number of people assigned to cost accounting activities and has been spending less on consultants. All information is now provided by a single integrated system. For their work and the IKE system, DT was awarded first prize in the 2003 "Controlling World Awards" (author Kurt Vikas participated on the jury). In applying for the award, DT reported that the net present value of the project was 15 million euros, with payback in four years.

IMPLICATIONS FOR U.S. FIRMS

Recent surveys report that U.S. CFOs continue to be dissatisfied with their cost accounting efforts even though these efforts meet the need of regulatory reporting. This dissatisfaction is premised on the failure of cost accounting to accomplish what H.G. Plaut established as the essential elements of a good costing system. German organizations, however, have applied these essential elements and have consequently achieved a high degree of satisfaction with their ability to manage costs and make meaningful decisions. Moreover, the underlying principles have remained consistent throughout the years and have been applied in a variety of industries with the effect of evolving implementation practices and business lessons. The most important lesson from DT is that incorporating what is good from ABC with what is good from Grenzplankostenrechnung in an integrated system yields significant human and operational benefits by combining correct direct (marginal cost) information with properly assigned indirect and support activity costs, thus giving managers relatively more correct profit data for decision-support services.

In the U.S., we have yet to recognize and implement the essentials of good management accounting practices. Instead, we have focused on financial reporting. In so doing, we have missed the most important role for financial professionals, whether they be engaged in controllership activities, financial reporting, establishing reg-

ulations, processing transactions, or auditing. Working inside organizations to provide fiduciary controls, proper governance, and business planning is the biggest and most important job of all. With properly trained and affiliated managerial finance professionals to partner with business managers at all levels to create value for shareholders and customers alike, we don't need all the regulators, auditors, and investment analysts. The big job is inside. Somehow the U.S. has forgotten that. The Germans have not. They have it right.

LESSONS FOR GERMANS

Although German CFOs and other executives are quite satisfied with their management accounting systems and the systems' outputs, global regulators are emphasizing governance and financial reporting, so there's a movement in Germany to adopt a more American-style simplification. Germans should remember that there are different objectives, one for management accounting and one for financial reporting, and they should move to protect the good work they have already accomplished. ■

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