

Getting down to specifics on RCA [Resource Consumption Accounting]

Krumwiede, Kip; Süßmair, Augustin

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Getting Down to

It's time to move the discussion of German cost accounting practices—an integral part of what is known in the U.S. as resource consumption accounting (RCA)—from concepts to specifics. To get down to specifics, we conducted a head-to-head survey of U.S. and German companies to find commonalities and differences. We also did follow-up site visits and interviews with managers in both countries to determine the obstacles U.S. firms have to overcome to use RCA.

Our results are based on 148 surveys from German companies, which is a response rate of 36%, and 130 from U.S. firms, a 27% response rate. Although a cross-section of industries responded, 72% of the U.S. responders and 58% of the German responders were in manufacturing. Overall, the U.S. responders came from companies with higher average sales revenues: \$201 million to \$250 million vs. \$151 million to \$200 million.

Our survey confirmed what other articles have suggested: German firms are generally far more satisfied with their costing systems than U.S. firms are. Seventy-seven percent of German firms rated their system the overall right tool compared to only 24% of the U.S. firms. The percentages are similar for manufacturing and nonmanufacturing firms. German manufacturing firms consistently gave their systems higher marks for budgeting, planning, and evaluation, as well as for product decisions, process improvement, and customer-profitability analysis.

Let's now look at the differences between German and U.S. firms, RCA practices, and key obstacles facing U.S. firms that want to implement RCA and use it to its full benefit.

DIFFERENCES BETWEEN GERMAN AND U.S. FIRMS

Why are German firms much more satisfied with their costing systems? It isn't just because they tend to use more advanced costing practices like *Grenzplankosten-*

rechnung (GPK). We found through our survey and interviews that German culture, long-term thinking, stronger information systems, and a stronger focus on management accounting all contribute to this higher satisfaction.

Focus on Precision and the Long Term

We've all heard about German precision engineering. As expected, German firms scored higher than U.S. firms regarding the need for precision in information, analyses, and answers to questions (5.35 vs. 4.96 out of 7). They also showed a stronger long-term perspective on long-term goals and staying with an unprofitable product with a promising future (4.72 vs. 4.31 out of 7). These traits help German executives invest in more accurate cost and information systems.

Information Systems Quality

German firms also scored higher than U.S. firms on questions relating to information system integration, query capability, data availability, and data accuracy (5.04 vs. 4.25 out of 7). They were also more likely to have enterprise resource planning (ERP) systems (81% vs. 65%), and, of firms with ERP systems, SAP is far more likely to be the vendor (62% vs. 18% in the U.S.). This is important because SAP designed its Controller (CO) module with GPK/RCA costing practices in mind.

Focus on Management Accounting

Our surveys and site visits have consistently shown that German firms tend to place much higher emphasis on management accounting than U.S. firms do. Top management support for management accounting, known as controlling in Germany, and for the pursuit of advanced cost accounting methods was much higher for German firms than for U.S. ones (5.22 vs. 4.34 out of 7). Support from the top is crucial in order to improve costing sys-

Specifics on RCA

BY KIP KRUMWIEDE, CMA, CPA, AND AUGUSTIN SUESSMAIR

tems. One U.S. assistant controller wrote, “[RCA] may be useful in certain settings; however, the most important factor is having upper-management interest in cost activities. That is the only way that everything will fall into place.” Torsten Slawik at Karl Könecke Fleischwarenfabrik GmbH & Co. in Bremen, Germany, said, “Management wants GPK information, so we use it.” The company also has separate managers for controlling and financial reporting.

Simpler or More Complex?

We asked managers in both countries whether they expected their cost accounting system in the next five years to be simpler, more complex, or about the same. Even though German firms tend to already have more complex systems than U.S. firms do, 58% responded more complex vs. 50% of the U.S. firms. Alternatively, 17% of the U.S. firms (and only 6% of the German firms) predicted it would be simpler, while 29% said about the same. As one U.S. controller wrote, “Most manufacturing companies I have been with are very much ‘embedded’ within their costing systems. Cost/benefits prevent movement to more accurate systems.”

COSTING METHODS

We also asked respondents which label best describes their cost accounting system. There wasn’t much difference between the two countries in the percentage of firms indicating plantwide overhead rate (about 21% each) or activity- or process-based costing (about 20% each). More U.S. firms, however, characterized their systems as departmental or multiple overhead rates (45% vs. 35%), while more German firms said direct or variable costing (52% vs. 21%).

Regarding GPK, about 23% of German firms described their system as GPK, with the highest percentage from manufacturing firms, especially chemical, paper, and printing firms as well as metal, rubber, and plastic firms. Eighty-nine percent of German manufacturing firms using GPK rated their system as the right tool for managing costs at the company, compared to 64% of the non-manufacturing firms. As to the general satisfaction of U.S. firms, about 24% rated their cost systems as the right tool.

So who uses GPK? The answer may shed light on which firms are most likely to be interested in RCA. Table 1 features the differences between the German firms that use GPK and those that don’t. GPK firms tend to have well-developed ERP systems (usually by SAP), produce in batches or continuously with complex

processes, face strong competition, and place high importance on cost data, decision support, and control.

RCA IN THE U.S.?

Only a few U.S. survey respondents said they use RCA, and only 41% had even heard of it, so clearly there’s a need to understand more about what RCA really is. Prior articles have discussed some principles and a few case studies. Our observation is that RCA is *not* a black-or-white, either-you-do-it-or-you-don’t, costing tool. It looks different for each company. RCA is more like a continuum representing the level of implementation of German costing practices and activity-based costing (ABC). For companies with an ERP system by SAP, it’s the level of implementation of the Controller (CO) module. As one U.S. accounting manager commented, “[RCA] has limited applicability to our distribution facility and job-shop manufacturing environment. That said, we look forward to leveraging aspects of RCA as we get our new ERP system in place.”

You can consider RCA in terms of the various costing practices often associated with it. We analyzed the feasibility of RCA practices at U.S. firms through both survey data and discussions with managers at U.S. companies. Table 2 compares the average usage of specific RCA practices at U.S. and German firms. U.S. firms don’t commonly use many of the practices.

A CLOSER LOOK AT RCA PRACTICES

We’ll now discuss RCA practices in detail, including variable costing, contribution accounting, replacement cost depreciation, and using capacity to compute internal cost center rates.

Contribution Margin Accounting

Almost every German firm that we met with has a very detailed contribution margin (*Deckungsbeitragsrechnung*) income statement that it uses for most management decisions. Our survey showed that 71% of German firms use contribution margin accounting compared to only 48% of U.S. firms. Of course, generating accurate contribution margin statements is contingent upon accurate segmentation of variable and fixed costs at the cost center level.

Separating Fixed and Variable Costs

Surprisingly, we found similar percentages of German and U.S. firms distinguishing cost behavior for each cost center. Even the German firms with hundreds or even thousands of cost centers don’t necessarily segment

Table 1: Characteristics of German and U.S. Firms Regarding GPK

Firm Characteristic	German GPK Users	German Non-GPK Users	U.S. Firms
Use ERP systems by SAP	62%	48%	12%
Batch or continuous processors	62%	33%	58%
Manufacturing firms	76%	51%	71%
Complex set of processes*	73%	54%	47%
Operating cost data extremely important to cost reduction efforts*	80%	71%	73%
Major differences in product volumes or lot sizes*	60%	49%	59%
Cost information critical to success of firm*	69%	49%	74%
Intensive and strong competition in our end markets*	84%	71%	66%
Internal decision support, planning, and control are as important as financial reporting*	82%	63%	44%
Wide array of cost and performance data available in IS*	67%	52%	32%

*Percentages represent number of respondents answering 6 or 7 on a 7-point scale with 7=strongly agree and 1=strongly disagree.

Table 2: Use of RCA Practices by German and U.S. Firms

RCA Practice	German	U.S.
Contribution margin accounting*	71%	48%
Separate fixed and variable costs for each cost center	36%	46%
Costs from support cost centers transferred to primary cost centers while maintaining distinction between fixed and variable costs	39%	38%
Direct (variable) costing	52%	21%
Idle capacity is identified, computed, and not allocated to products (manufacturing firms)	35%	21%
Capacity used to compute internal cost center rates	46%	18%
Standard costs used for most costing purposes (manufacturing firm)	64%	73%
Variances are reported by resource cost center (manufacturing firms)	83%	53%
Higher number of resource cost centers	254	54
Consumption is estimated for each resource cost center	44%	33%
Identify at least one output measure per cost center (manufacturing firms)	31%	46%
Activity- or process-based cost drivers	22%	41%
Replacement cost depreciation (instead of historical)	30%	7%

*Percentages represent number of respondents answering 6 or 7 on a 7-point scale with 7=strongly agree and 1=strongly disagree.

Note: Numbers that are bold are statistically different at 95% confidence level (two-tailed).

fixed and variable costs within each cost center. The two countries also transfer costs from support cost centers to primary cost centers while maintaining the distinction between fixed and variable costs at about the same rate. The main difference? Typically, German firms separate fixed and variable costs for a much larger number of cost centers, but U.S. firms tend to simplify things by assuming a cost center is entirely fixed or entirely variable.

A U.S. example of separating fixed and variable costs is

juice producer Cliffstar Corporation in Dunkirk, N.Y., which differentiates labor cost behavior by examining how closely the workers are tied to actual production. Cliffstar considers the production line workers variable, so distinguishing payroll and workcenter costs as variable or fixed helps Cliffstar communicate about cost drivers. For utilities, they look at periodic consumption rates. The company considers most utilities to be variable, but they added meters for different parts of the plant and use a formula to break out the utility bills.

Variable Costing

Far more German firms than U.S. firms labeled their costing system as direct or variable costing (52% vs. 21%, respectively). This practice charges only variable costs, not fixed costs, to products or services. Variable costing can provide great benefits. Michael Gutsmann, manager and CIO at Servit GmbH & Co. in Hamburg, Germany, said that his company doesn't apply overhead because it's trying to reduce overhead. Allocating overhead spreads it out and makes it less visible. Slawik at Karl Könecke Fleischwarenfabrik GmbH & Co. pointed out that fixed costs are mostly for facilities, so it's hard to handle them in a product-costing system.

In the U.S., Mike Beverly, director of cost and general accounting, likes the idea of using variable costing at Holophane, which produces high-end lighting solutions for streetlights, stadiums, factories, etc. He says that fixed overhead is the hardest part to estimate because volumes vary so much and because it distorts the product's cost. Cliffstar adds an average cost per case of juice for fixed overhead for GAAP purposes. "We like variable costing because it doesn't 'muddy up' the waters with less controllable fixed overhead," Winston "Woody" Woodward, director of cost accounting and internal audit, notes. "It helps the sales guys be more proactive because the costs are more controllable."

Computing Cost of Idle Capacity

We found that 35% of German firms compute the cost of idle capacity and don't charge it to products (compared to about 21% of U.S. manufacturing firms). Also, 46% of the German firms use available capacity rather than normal volume when computing internal cost center rates, but only 18% in the U.S. do. Tim Winkler, plant controller at a large U.S. food manufacturing plant, would like to measure the cost of unused capacity at his facility. He said that using a capacity base for absorption rates would give higher visibility to unused capacity. "Tying resources to cost centers would provide more clarity for resource consumption in setting overhead rates and therefore product margins."

But estimating capacity by work center can be challenging. Slawik explains: "It is hard to estimate unused capacity for so many cost centers. When a company can predict capacity usage consistently, this is not as big a problem—but we cannot." Winkler said it would also be a challenge at his plant because his company currently defines resources based on certain process sequences. Making a change to defining capacity by resource would

require separate budgeting/costing outside of the way the production flow is tracked and planned.

Use of Standard Costing and Variance Analysis

German and U.S. manufacturing firms use standard costing at about the same rate (64% and 73%, respectively), but German firms are more likely to report variances for each cost center (83% vs. 53%). Standard costing and variance analysis aren't always optimal, especially for job shop environments, such as the lighting company Holophane. "We want to account for costs like a job shop, but the cost system is set up like a standard cost system," Mike Beverly said. "It is therefore hard to get the 'true' cost of jobs."

Many Cost Centers

German firms reported an average of 254 cost centers compared to about 54 for U.S. firms. Having that many cost centers sounds pretty extreme to most U.S. managers we talked to. One challenge is estimating the activity volume, and another is forecasting the supplies, utilities, and labor costs for that many cost centers, which German firms typically do. Kurt Knowlton, Holophane's budget and operations analyst, worried: "It would double the time to forecast." Optimally, the cost center managers should do the forecasting, but Beverly countered that it's hard to get production people to be responsible for budgeting because they feel it belongs to the finance department.

Guidelines can help U.S. firms decide how to divide their operations into cost centers. Here are some that were adapted from the article "German vs. U.S. Cost Management" in the Fall 1999 issue of *Management Accounting Quarterly*:

- ◆ The costs within each cost center should be as homogeneous as possible. There can be different types of costs (e.g., labor, supplies, depreciation, utilities, etc.), but the variable (proportional) costs generally should be driven by one or a few cost drivers.
- ◆ The firm must be able to record actual data and estimate costs and activity volume for the individual cost center.
- ◆ The cost center should have only one person responsible for it and should not be geographically dispersed.

Activity Cost Drivers

RCA calls for using activity- or process-based cost drivers where more appropriate than volume-based drivers.

Although we didn't find much difference between the two countries in the percentage of firms labeling their costing systems as activity-based costing, we did find a significantly higher percentage of U.S. firms than German firms (41% vs. 22%, respectively) using activity- or process-based cost drivers. The percentage was even higher at 69% among U.S. nonmanufacturing firms. This high usage bodes well for RCA in the U.S. One U.S. finance director wrote, "I consider [RCA] a 'refined ABC' approach."

Use of Replacement Cost Depreciation

Advantages of using replacement cost instead of historical-based depreciation include a more current cost of production, less incentive to hold onto outdated equipment, and better equalizing of plants for sourcing decisions. Yet this practice is virtually unheard of in the U.S. Thirty percent of German firms use replacement cost depreciation for internal cost analysis vs. only 7% of U.S. firms. Some common reasons for not using replacement cost depreciation are that it's treated as a sunk cost or that it's not part of EBITDA (earnings before interest, taxes, depreciation, and amortization), an increasingly important performance measure. Still other firms admit that they rely on capital assets with low net book value in their product costing and pricing.

KEY DIFFERENCES TO OVERCOME

We find some hope for RCA in the U.S. Of the 13 RCA-related practices we studied (see Table 2), German firms use an average of 5.4, and U.S. firms use an average of 4.5. Although the average number of practices is close, the degree of usage for each practice is usually higher for German firms. For example, many U.S. firms separate variable and fixed costs and estimate costs by cost center, but they do it for far fewer cost centers than is typical for German firms. To implement RCA, U.S. firms will probably need to consider identifying more cost centers and, for each cost center, segmenting costs by behavior and type, estimating activity volume and capacity, and tracking variances from standard.

The level of detail that the RCA approach suggests could be a stumbling block to large-scale U.S. implementation. As one former CEO commented, RCA is a "good approach as long as [the] number of cost centers is limited and a system is set up that efficiently reports volume and activity-based cost drivers on a monthly basis." A U.S. finance director agrees with keeping the number of cost centers down: "[I] believe it would work best if kept

simple, meaning avoid oversplitting resource cost centers. My experience is that technical refinement can overwhelm the local management. That said, this approach is usually more intuitive to nonaccounting folks. Having local management *understand* costs is a noble [undertaking], regardless of approach." Regarding chances for implementation success, the finance director added, "Management buy-in would be key and may be difficult due to the change factor."

Another change factor is the lack of knowledge about advanced costing systems, such as RCA, and their benefits. As one U.S. cost accountant commented, "[RCA] is great, but U.S. companies and people need education and training on how to use it and how it can be effective for decision making."

To sell an initiative like RCA to upper management, try identifying some recent specific business decisions in which cost information was used to help make the decision. Show how RCA information might have affected the outcome of the decision. It's hard to quantify the benefits of improvements to a costing system, but you can often quantify the benefits for specific decisions and use them as examples.

THE BOTTOM LINE

The bottom line is that many U.S. firms use RCA practices, just not to the degree to get real benefits. It will take a deeper implementation level of firms' ERP systems and a deeper commitment to management accounting information by U.S. executives to make that happen. Both of these can be daunting challenges, but U.S. firms shouldn't ignore the low satisfaction with their current costing system or the extremely high satisfaction of most German firms. It's hard to fully appreciate the benefits of advanced costing practices until you actually use them. ■

Note: For more detailed results of our study and site visits with RCA users, see the companion article in a future issue of Management Accounting Quarterly.

Kip Krumwiede, CMA, CPA, Ph.D., is an associate professor of accounting at Boise State University in Boise, Idaho. You can reach him at (208) 426-2288 or kipkrumwiede@boisestate.edu.

Augustin Suessmair, Prof. Dr., is a professor of strategic management and control at the University of Lueneburg in Lueneburg, Germany. You can reach Augustin at (+49) 4131-677-743 or suessmair@uni-lueneburg.de.