

Is GPK Right for U.S. Companies? Possibility of Its Application in Bangladesh

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Abstract

One of the current costing practices of interest used in Germany today is called Grenzplankostentechnung (GPK). GPK can be roughly translated as “flexible standard costing.” GPK is a unique method of costing that allows for more accurate allocation of costs to products and services provided by a company. Under GPK, only one output measure is allowed to be identified with each cost center. As a result, cost centers tend to be small and often include only a few employees. A GPK company must accurately determine each cost center’s quantity of their single chosen output measure. This is in contrast to activity-based costing that typically requires tracking the level of many cost drivers. Some U.S. companies question the ability of GPK to provide benefits that will exceed its cost. GPK is expensive to put into action, and it is expensive to maintain. The biggest upfront adaptation often required in any new implementation is how managers use information. GPK and RCA are quite different from prevailing U.S. approaches, so the adaptation is significant. Management of U.S. companies is not satisfied with the information provided by their management accounting systems.

The representatives from the Institute of Cost and Management Accountants of Bangladesh (ICMAB) or a research team of Centre for Socio-economic Research of ASA University should visit the local companies to explore the manner in which they can use GPK and should pinpoint future GPK research opportunities.

Introduction

While U.S. companies put a great deal of emphasis on financial reporting, they have not put a considerable amount of emphasis on their cost management accounting systems. In comparison, German companies generally place a great deal of emphases on their cost management systems. One of the current costing practices of interest used in Germany today is called Grenzplankostentechnung (GPK). GPK can be roughly translated as “flexible standard costing.” GPK is a unique method of costing that allows for more accurate allocation of costs to products and services provided by a company. Use of GPK by the appropriate U.S. companies could provide long-term financial benefits.

Traditional costing systems primarily focus on product costing that is used to assist in financial reporting including the measurement of income. This function is necessary to comply with financial standards, and/or the demands of regulatory bodies. The objective of GPK is to provide

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both: (1) input into decisions by management, as well as more accurate product costing, and (2) costing information to be used for financial reporting and regulatory requirements.

The primary components of GPK include Grenzkosten and Plankosten. The Grenzkosten component is a marginal costing method that assigns proportional costs to products or services. This idea is similar to contribution accounting where revenues and proportional costs are traced to different segments of a company. Plankosten involves using the planned cost (i.e., cost budgets) to control costs in each cost center. Further, a GPK system splits fixed costs from proportional costs when comparing budgeted versus actual costs of cost targets (Krumwiede 2009).

Contrasting GPK versus U.S. Cost Centers

Important differences exist between German (GPK) cost centers or cost center managers, and those in the U.S. These differences may have the potential to explain the differences found between German versus U.S. management accounting systems.

Portz and Lere (2010) identify some of potentially significant differences between German (GPK) cost centers and those typically found in the U.S. These include:

- (1) German (GPK) companies' have a large number of fairly small cost centers, whereas U.S. companies have relatively few cost centers that are fairly large;
- (2) German (GPK) cost centers use one activity measure, whereas U.S. companies have multiple measures of activity; and
- (3) German (GPK) cost center managers have responsibility for controlling proportional costs for several different cost centers, whereas U.S. cost center managers have responsibility for controlling all costs incurred in only a single cost center.

Implementing a GPK System

There are four cost-center features that are important in GPK implementation, including: (1) the identification of cost centers; (2) the determination of a suitable output measure for each cost center; (3) the accurate categorization of costs as proportional or fixed, and (4) the determination of managerial responsibility for each cost center (Portz & Lere 2009).

Under GPK, only one output measure is allowed to be identified with each cost center. As a result, cost centers tend to be small and often include only a few employees. A GPK company must accurately determine each cost center's quantity of their single chosen output measure. This is in contrast to activity-based costing that typically requires tracking the level of many cost drivers.

Next, each cost center's costs needs to be classified as proportional or fixed. If an increase (decrease) in the output of the cost-center is associated with proportional increase (decrease) in cost, then that cost is deemed to be proportional. All other costs are said to be fixed. This is a marginal-based approach to classifying costs. Proportional costs can be useful for many short-run decisions since they can be used to determine initial contribution margins.

That is, the profitability of the product or service can be determined by subtracting proportional costs from revenue (Portz & Lere 2009).

GPK in Practice

Krumwiede and Suessmair (K&S) (2008) surveyed 286 companies in German-speaking countries, and examined the types of managerial accounting methods that are currently being practiced. Twenty-four percent of the companies surveyed use GPK for their cost management, and 40% are classified as GPK adopters. The survey finds that GPK is most frequently used in such industries as wholesale/retail trade, printing/paper/chemicals, and mining/construction.

Many of the companies that did not categorize their costing system as a GPK system, did however, say they used GPK-type practices to: (1) determine contribution margins; (2) analyze cost center variances; (3) determine standard costs; (4) analyze cost center utilization; (5) have each cost center determine one or more measure of output; (6) separate fixed and proportional costs for each cost center; (7) assign indirect costs to many cost centers and using a system of cost assignments; (8) keep track of fixed costs versus proportional costs when transferring costs from support to productive cost centers; and (9) identify and compute the cost of idle capacity (Krumwiede & Suessmair 2008).

German companies are found to have an increased probability of implementing a GPK system if they: “have higher levels of information system integration and quality, higher proportional (variable) costs, low-cost competitive strategy, emphasis on management accounting, and strong use of budgeting systems, benchmarking methods, product and customer profitability analysis, and transfer pricing” (Krumwiede & Suessmair 2008, p. 41). Also, the use of total quality management practices for manufacturing firms gives a greater likelihood of GPK adoptions among nonmanufacturing firms.

There are also many differences between users and non-users of GPK. GPK adopters more frequently adopt ERP adoptions, as well. Such adopters have higher quality information systems than non-adopters. Top-management support is considerably higher for GPK users than non-users. Lastly, GPK is more likely in firms where precision is desired by management.

Five major benefits were noted by controllers at GPK companies included in the K&S study. These include: (1) a greater ability to perform make versus (buy decisions because they can disaggregate cost down to any lever with relative ease); (2) more educated decisions about capacity, particularly for decisions to eliminate capacity; (3) an increased ability to control costs because of the separation of fixed from proportional costs (this provides a more accurate variance analysis of cost centers than the methods commonly employed in the U.S.); (4) greater transparency for cost information; and (5) better planning of sales and production due to the use of contribution margins to manage production bottlenecks, and making sure that each product covers its fixed costs.

Reasons for Lack of GPK Implementation by U.S. Companies

Krumwiede (2005) finds many U.S. companies are not interested in GPK. Some U.S. companies question the ability of GPK to provide benefits that will exceed its cost. GPK is expensive to put into action, and it is expensive to maintain. There is also significant uncertainty as to the potential benefits until after the GPK system is put into place. This is of particular concern since U.S. companies do not have the same level of emphasis on managerial accounting as German companies.

Another reason that German companies realize a need to implement GPK is their greater need to be aware of fixed costs. U.S. companies are able to change the amount of labor costs rather easily. Comparatively, German companies have great difficulty reducing their labor cost because of strict German labor laws. Lastly, it appears that U.S. companies are unfamiliar with GPK systems.

Portz and Lere (2009) find additional justification for U.S. companies not to implement a GPK cost management system. Primarily, the GPK focus has two important (negative) implications for those considering GPK: (1) it may limit the cost control opportunities that managers consider, and (2) it reflects a short-term decision-making focus.

Several differences between Germany cost center managers and those in the U.S. are identified by Portz and Lere (2010). These differences may reduce the tendency of U.S. companies to adopt a GPK system. These include cultural, educational, and cost center management responsibility differences.

Cultural Differences

U.S. cost center managers do not strongly avoid uncertainty compared to German managers. Therefore, they are better able to cope with less structure and more flexibility. Frequently, U.S. cost center managers work with other managers to increase overall company production and efficiency, and thus require flexibility. Smaller GPK cost center are smaller and more rigidly structured. Therefore, GPK cost center managers do not require and/or desire the flexibility afforded U.S. managers.

Educational Differences

U.S. cost center managers generally have more formal management education than their German counterparts. The German cost center managers' lack of formal education may make them more comfortable with the structure afforded by a GPK system.

Differences in Managers' Responsibilities

The assigned tasks of cost center managers in the U.S. are usually more extensive than those of German cost center managers. "In order to make the types of decision typically made by a United States cost center manager, the cost center must be more broadly defined to allow for cost trade offs. This is consistent with the larger size of a typical United States cost center and with the smaller number of cost centers in a typical United States firm" (Portz & Lere 2010, p. 50).

These cultural, educational and managerial responsibility differences may be a source of explanation for why companies in the U.S. choose not to use GPK as a tool for managing cost centers.

A Comparison of Costing Methods

The many benefits of a GPK system make it appear to be a reasonable choice for a cost management system. However, there needs to be a comparison of GPK to other cost management methods in order to determine the best system for a particular company or country. Clinton and Van Der Merwe (2006) compare of five costing methods. They include standard costing, normal costing, activity-based costing, resource consumption accounting, and GPK.

Each of the five cost management methods are compared across several criteria, including: (1) consumption and cost behavior, (2) integration, (3) self-updating, (4) flexibility, (5) capacity treatment, (6) relevant decision support information, (7) implementation, (8) adaptability, and (9) exposure.

Consumption and Cost Behavior

Coming to terms with consumption and the behavior of costs is arguably the most crucial condition for any managerial accounting method. Lack of clarity in this understanding adversely affects the approach's ability to deliver on the other criteria, including decision support. In particular, this criterion is concerned with accurately reflecting the cost structure of the enterprise and a consistent treatment of consumption and related cost behavior as resources consumed in enterprise operations. Traditional approaches are limited because they usually examine cost behavior as it relates to changes in production volume or sales levels. "ABC highlighted this problem, but it faltered in implementation by not recognizing the role and importance of resources" (Clinton & Van Der Merwe 2006, p. 16). GPK defines resource consumption by quantities, and regards costs as being either fixed or as proportional relative to outputs.

Integration

Modern managerial accounting solutions are dependent on integration. Standard and normal costing have virtually non-existent integration ability. ABC suffers from a number of integration maladies. Its problems stem mostly from its failure to recognize resource consumption and cost behavior issues, and activity-to-resource relationships that are not often preserved. GPK achieved conceptual integration several decades ago. This is due to its quantity-based nature. RCA inherits a similar level of conceptual integration, as it uses GPK as its baseline, but adds intergraded activity-based methods.

Self-Updating

To reduce the time and expense of accumulating and classifying data that is timely and useful we examine the "self-updating" or "self-maintaining criterion." This criterion is composed of two components: "the ability to assign objective measures to impute quantity-based standards as actual data, [and] the degree of value-chain integration the approach achieves" (Clinton & Van Der Merwe 2006, p. 18).

Both traditional standard and normal costing have a lack of value-chain integration. A major downfall of ABC is its lack of ability to self-update based on actual outputs. GPK is the benchmark approach when it comes to this criterion. GPK brought value-chain integration and the practice of imputing actual consumption quantities to the main stream, particularly in Germany. GPK has an ability to determine the actual quantity consumed from the budgeted standard, as well as the ability to determine target consumption volume by flexing the budget based on actual output volume (Clinton & Van Der Merwe 2006). RCA adds to GPK's abilities through more extensive value chain integration and by subjecting its activity-based logic to GPK's low maintenance and self-updating principles.

Flexibility

Flexibility refers to how well an approach adapts or changes in three respects: cost modeling options, adaptation to changes in the enterprise environment, and ability to support dual modeling (i.e., quantity-based and value-based) (Clinton & Van Der Merwe 2006).

Standard, normal, and activity-based costing approaches all lack flexibility. The traditional approaches because they are predicated. The activity-based view is presented as an all or nothing proposition, when in fact it is neither always appropriate nor necessary. The lack of value chain integration in both approaches hinders, and in most cases defeats, environmental adaptation and dual modeling. With the introduction of ABC, GPK has been criticized in German circles for its rigidity in cost modeling. In particular, the absence of an activity-based view in GPK means that its preference for direct resource charging results in an inappropriate lack of weight on indirect cost areas due to practical limitations. RCA addresses the GPK flexibility weaknesses through its integrated activity-based view and more wide-ranging value chain integration.

Capacity Treatment

Capacity evaluation considers the ability to provide quantity-based resource information, and appropriately treat fixed costs. Quantity-based resource information is essential for effective capacity management, regardless of the particular capacity management model a manager selects.

Capacity treatment is one of the largest problems of traditional cost methods. Apart from using a plant-wide rate with a volume-based denominator that is generally a poor driver of overhead consumption, management typically uses budgeted levels (i.e., direct labor hours) for the denominator volume in cost allocations. Thus, while managers should base product costs on actual usage, they inappropriately base them on available capacity instead. Product costs often fluctuate widely during the year as well as over the product life cycle leading to great cost distortion within traditional approaches. In addition, even the best of traditional approaches typically neither capture nor report excess/idle capacity (Clinton & Van Der Merwe 2006).

ABC reflects some ability to advance over traditional methods when it is done properly. This is because activity-based drivers are not restricted to the cost-to-volume correlation of traditional methods. ABC provides an enhanced ability to reflect capacity used where resource-to-activity consumption relationships are accurately tracked. However, to capture information on excess/idle capacity, the denominator volume must be compared to the amount available for use rather than the amount budgeted. Otherwise the activity-based system can appear even more inaccurate than the traditional system.

GPK and RCA both offer consistent and valuable treatment of the cost of capacity. This is a natural result of their resource treatment (using a quantity-based model) and the consistent concept of consumption and cost behavior. In the case of RCA, this consistency is applied to both resource-to-resource and resource-to-activity relationships. RCA proposes a supply based volume denominator-theoretical capacity. This not only addresses the fixed cost issues but also serves to provide stretch targets in capacity management.

Relevant Decision Support Information

Information for decision support is concerned with the provision of information for all types of decision cost concepts. Typically, normal costing and standard costing information is intended primarily for external reporting functions. These approaches can only provide inadequate or

inappropriate information for decisions that require information other than external reporting information (i.e., much of managerial decision making).

ABC is also lacking in the area of decision support because in practice it is not able to deal with the behavior of costs and consumption, and is usually used for full absorption costing. GPK and RCA both offer significantly complete information for decision support. However, one drawback of GPK is its use of practically capacity as the volume denominator. This makes it unsuitable for complete costing founded on causality. RCA can provide the most comprehensive information for decision support because it “adds resource classification that enables accurate throughput information and satisfies the attributable cost concept as a primary objective in cost modeling” (Clinton & Van Der Merwe 2006, p. 20)

Implementation

The implementation effort related to GPK and RCA is likely the biggest constraint to widespread adoption. These approaches require more analysis, more thoughtful design, and ideally, an ERP system because of their requirements of conceptual and value chain integration. This implies time-intensive work to establish the relationships involved. The capability to track resource quantity consumption, capture sufficiently detailed data in cost centers, and have a capacity management mechanism in place might expect less costly implementations when the company already uses an ERP system.

Most standard costing and normal costing systems have been designed for financial reporting, and not for optimization. Consequently, they are economical in that they provide what's required for external reporting. Companies must have the minimal capabilities of these approaches to satisfy legal requirements, and thus they are already well understood and present at the vast majority of companies. The typical stand-alone ABC approach is reasonably easily implemented in most companies due to less value chain and technology integration (Clinton & Van Der Merwe 2006).

Adaptability

Adaptability refers to the degree of change required by the typical organization to successfully implement and use an approach. Most companies already have traditional systems for external reporting, and the adaptation criterion is not an issue. ABC implementations require that companies make initial changes and continual maintenance activities thereafter. The biggest upfront adaptation often required in any new implementation is how managers use information. GPK and RCA are quite different from prevailing U.S. approaches, so the adaptation is significant.

Exposure

Exposure is an indication of risk based on the established level of knowledge in the market. A buyer with insufficient knowledge of a particular approach cannot distinguish a poor design or implementation from a good one. Other factors that benefit the buyer include formal certification of service providers and an approach with clearly defined methods/rules. Approaches like GPK

and RCA have less exposure in the U.S. RCA is in its early years and accordingly bears the most exposure risk of all the approaches. Traditional approaches clearly provide the least exposure risk given the rules-based environment of external reporting (Clinton).

Concluding Comments and Implications

Management of U.S. companies is not satisfied with the information provided by their management accounting systems. These systems are satisfactory for meeting the needs of financial reporting and other regulatory requirements. However, the U.S. systems do not provide the necessary information to satisfy the requirements of a “good costing system,” as discussed above. The primary focus of U.S. firms has been on financial reporting. This has not allowed them to take advantage of the benefits that can come from an accurate and detailed costing system (Sharman & Vikas 2004).

There are many companies throughout the U.S. that could benefit from implementing a GPK system. Even though the cost of implementation would likely be high, such companies would be able to gain a competitive advantage by gaining a better understanding of their costs, improving margins in the long-term, and increasing their ability to make quality decisions. If supported by company management, firms in the U.S. can make the changes necessary to implement a GPK system, and realize cost savings and the improved firm performance currently found in many German companies.

Possible Application of GPK in Bangladesh

The representatives from the Institute of Cost and Management Accountants of Bangladesh (ICMAB) should visit the local companies to explore the manner in which they can use GPK and should pinpoint future GPK research opportunities. Based on these findings, ICMAB should commission additional studies through its Foundation for Applied Research to get a more in-depth view of the use of GPK and the feasibility of implementing it in Bangladesh. Once again, the greatest hurdle the management team had to overcome was educating the employees who would be affected by the change brought on by the GPK implementation. So a very careful rollout to staff must be planned. The management team wants to assure that staff members are going about the project in a manner that was consistent with the company's overall intent.

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