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# **German Cost Management or Grenzplankostenrechnung (GPK)**

Elena Lipchenko  
Olga Smychkova  
Anna Elovskikh  
Martina Schroeder



*Good governance comes from strong processes and  
properly trained professionals inside an organization  
(Paul Sharman)*

# Why German Cost Management



- The explicit objective of supporting management decision making
- **Reason 1:** GPK is in wide use in German manufacturing and service companies
- **Reason 2:** It is a part of international economic environment
- **Reason 3:** Significant steps are made *to bring knowledge of GPK into the English-speaking management accounting*

# Historic Background



- Developed after World War II by H. G. Plaut
- First 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.
- Began in the manufacturing area and later branched out to service organizations with the focus on direct product costs only
- Integrated in modern cost accounting

# Definition of GPK 1/2



- Grenzplankostenrechnung (GPK) -German cost accounting, flexible analytic cost planning and accounting (H.G. Plaut)
- Developed in Germany 40 years ago
- Integrates measurement and management of the business into an accounting system
- Volume sensitive, meaningful information to manage the business – flexible budgeting / proper treatment of capacity costs
- Focus on operational costs and resource consumption, not financial / regulatory reporting requirements
- Einzelkosten- and DBRechnung (Prof. Dr. P. Riebel) integrated in the modern German cost accounting systems
- ABC has recently been incorporated (Prozesskostenrechnung)

# Definition of GPK 2/2



- Resource centric view of cost centres
- Most effective in manufacturing and service organisations that are highly routinized and repetitive
- key aspect: how cost centers are defined

# Definition of cost centers

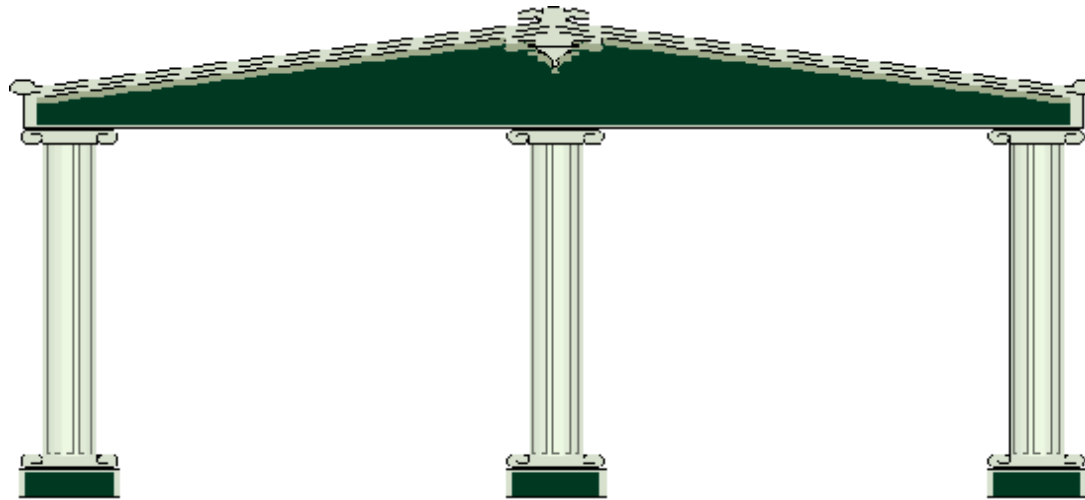


- Costs must be separable
- The output produced must be repetitive
- The output must be the responsibility of an individual manager
- Cost center size should be manageable
- Costs/ technology/resource type/ work performed must be similar
- Cost assignment drivers must be quantifiable and able to be planned
- The center must be either primary or support

# Foundational principles of GPK



3 pillars:



The view of  
resources and  
capacity

A quantity  
based model

The nature of  
costs: initial and  
changing



# GPK-Purpose



- GPK and other German cost accounting methods designed with the explicit objective of:
  - supporting management decision making over which products/services to offer
  - how to price those products and services
  - how to plan and control operations

→ *The “Controlling” department is typically separate and distinct from the Financial Accounting department in German organizations*

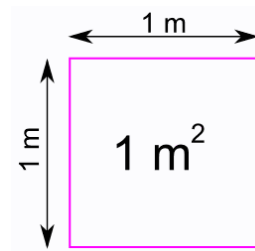
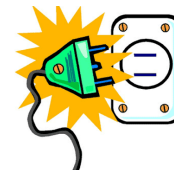
# 1. The view of resources



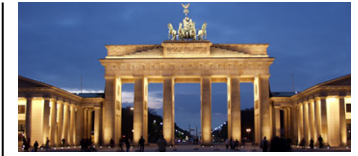
- GPK recognizes resource elements as the smallest element in the cost model.
- Resource elements can be both monetary (i.e. cost elements) or quantitative (i.e. utilization statistics, output consumed, etc.)

## Resource Elements:

- Salaries
- Fringe Benefits
- Uniforms
- Square Meters
- Payroll Processing
- Electricity
- Depreciation



# Resource pools



- **Related resource elements are group together in a resource pool. Resources within a resource pool must satisfy the following criteria:**

1. Be interchangeable
2. Be of similar technology
3. Be the responsibility of one manager/team
4. Have homogenous costs
5. Outputs and related costs are able to be planned.
6. Actual information (quantities and costs) can be collected or imputed.
7. Be geographically centralized



Plant 1:  
maintenance



Plant 2:  
Maintenance



HR



Corp IT



Corp IT

Resource:

Driver:

Labor hours

Labor hours

Labor  
hours

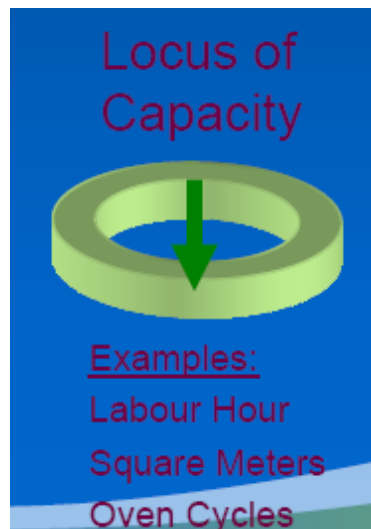
CPUMINs

Programmer labor  
hours

# Understanding Capacity



- Resources are invested to establish capacity.
- The quantified output of a resource pool provides a measure of capacity.
- Excess/Idle capacity represents idle resources, and is highlighted as a variance in a GPK product P&L.



## 2. Quantity-based cost model



- **GPK constructs the cost model using resource quantity consumption. Broad allocations are unacceptable.**
- **Dollars follow consumption quantities, not the other way around.**



### 3. The nature of costs



- recognizes two principles on the nature of costs:
  - (1) The Initial Inherent Nature of Cost Costs are inherent in resources invested to achieve a stated strategy, eg. technology, people, materials. GPK splits costs down to primary cost elements.
  - (2) The Changing Nature of Cost Costs change as they flow through consumption relationships: costs become more fixed as they flow through the cost model.



# GPK Cost modeling



- Cost pools differentiated by cost driver, within a multi-pool cost accounting system
- Costs segregated by resource-consumption characteristics, whether proportional to resource output or fixed
- No attempt to “fully recover” all overhead costs
- Creates a robust cause-and-effect relationship between resources consumed and cost drivers

# German Cost Accounting

-GPK is the best financial tool to monitor internal resource consumption



Cost Type	Unit of Measure	Fixed \$	Target \$	Total \$	Actual Spending \$	Spending Variance \$
Salaries	#Machine hours	11,582	19,500	31,083	32,505	1,422
Benefits		3,475	5,850	9,325	9,103	-202
Tooling			4,200	4,200	4,331	131
Equipment depreciation		16,667		16,667	16,667	0
Floor Space		4167		4,167	4,167	0
Electricity			3,300	3,300	3,400	100
Assigned costs from Quality Test		4267	10,017	14,284	14,221	-63
<b>Total</b>		<b><u>40.158</u></b>	<b><u>42.867</u></b>	<b><u>83.026</u></b>	<b><u>84.394</u></b>	<b><u>1.368</u></b>
Quantity / Cost per unit	1,500		<b><u>28.58</u></b>			

Activity and Flex Budgeting at the Cost Center Level Yields Accountability



# Multiple Margin Reporting



- Admin, sales and marketing OH added after calculating product-specific cost
- Dedicated overhead (eg. Product group marketing costs) allocated by segment
- Equipment, product R&D cost applied at the product group level

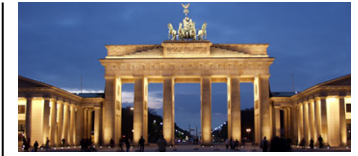
Company Result						
Region II : Summary						
Region II	Customer 2	Product A		Product B		Cost
Region II	Customer 1	Product A		Product B		Cost
Elements	Marginal Cost	Full Cost	Marginal Cost	Full Cost	Marginal Cost	Full Cost
Region I : Summary						
Region I	Customer 2	Product A		Product B		Cost
Region I	Customer 1	Product A		Product B		Cost
Elements	Marginal Cost	Full Cost	Marginal Cost	Full Cost	Marginal Cost	Full Cost
Revenues	xxx,xxx.xx	xxx,xxx.xx	xx,xxx.xx	xx,xxx.xx	xx,xxx.xx	xx,xxx.xx
Raw Material	x,xxx.xx	x,xxx.xx	x,xxx.xx	x,xxx.xx	x,xxx.xx	x,xxx.xx
Production Labor	xxx.xx	x,xxx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Production Machine	xx.xx	x,xxx.xx	xxx.xx	xxx.xx	xx.xx	xx.xx
Raw Mat.Movements	xx.xx	xxx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Fin.Goods Movements	xx.xx	xxx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Margin 1	xx,xxx.xx	xx,xxx.xx	x,xxx.xx	xxx.xx	xxx.xx	xxx.xx
Total Product Contributions			xx,xxx.xx	xx,xxx.xx	xx,xxx.xx	xx,xxx.xx
Finance: Invoicing			xxx.xx	xxx.xx	xxx.xx	xxx.xx
Shipping Costs			x,xxx.xx	x,xxx.xx	x,xxx.xx	x,xxx.xx
Returns			xx.xx	xx.xx	xx.xx	xx.xx
Margin 2			xx,xxx.xx	x,xxx.xx	x,xxx.xx	x,xxx.xx
Region I : Summary						
			Marginal Cost	Full Cost		
Total Regional Contribution			xx,xxx.xx	xx,xxx.xx		
Marketing			x,xxx.xx	x,xxx.xx		
Product Storage			x,xxx.xx	x,xxx.xx		
Regional Capacity O/U Absorption			-	xxx.xx		
Margin 3			x,xxx.xx	xxx.xx		
Company Result						
			Marginal Cost	Full Cost		
Total Operating Contribution			xx,xxx.xx	xx,xxx.xx		
Corporate Overheads			-	x,xxx.xx		
Capacity O/U Absorption			-	xxx.xx		
Operating Result			x,xxx.xx	xxx.xx		

# German vs American system



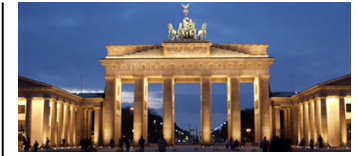
Features	GPK	ABC
<b>Comprehensive approach</b>		
<ul style="list-style-type: none"> <li>➤ <b>Levels</b></li> <li>➤ <b>Selling &amp; admin costs</b></li> <li>➤ <b>ACPP</b></li> </ul>	<p><b>Strategical, operational, tactical integration</b></p> <p><b>products and services</b></p> <p><b>yes</b></p>	<p><b>No</b></p> <p><b>no integration</b></p> <p><b>-</b></p> <p><b>no</b></p>
<b>Different approach</b>		
<ul style="list-style-type: none"> <li>➤ <b>Fixed costs</b></li> <li>➤ <b>Idle capacity</b></li> <li>➤ <b>Resource usage</b></li> </ul>	<p><b>Long-term period</b></p> <p><b>variance</b></p> <p><b>intensive</b></p>	<p><b>1 year or VC</b></p> <p><b>products</b></p> <p><b>extensive</b></p>

# German vs American system



<b>Detailed approach</b>		
➤ <b>Cost centers</b>	<b>Meet 5 criteria</b>	<b>control over costs</b>
➤ <b>Costs</b>	<b>primary/secondary</b>	-
➤ <b>driver rates methods</b>	<b>iterative</b>	<b>step-down</b>
➤ <b>Variance</b>	<b>Product</b>	<b>Products</b>
<b>Willingness to make estimates</b>		
➤ <b>Cost estimation</b>	<b>greater</b>	<b>less</b>

# German vs American system



<b>Accurate assignment of costs</b>		
➤ <b>Value assets</b>	<b>Replacement costs</b>	<b>Historical costs</b>
➤ <b>R&amp;D costs</b>	<b>Over time: costs expected to benefit</b>	<b>Period costs</b>
<b>Use of different costs</b>		
➤ <b>Costs for purposes</b>	<b>different</b>	<b>-</b>
<b>Clear conceptual separation</b>		
➤ <b>State-of-the-art software</b>	<b>yes</b>	<b>no</b>

# Advantages



- More comprehensive approach
- Different approach to cost drivers
- detailed approach to cost control
- greater willingness to make estimates
- accurate assignment of costs to the right year
- Better use of different costs for different purposes
- Clear conceptual separation between financial accounting and management accounting

# Disadvantages



- Computer support and cost management expertise required
- May produce too much information for some managers and organizations
- Expensive (to implement system company-wide)
- Some companies might not need such a complex system
- Require managers to go through a detailed conceptual design phase when GCM is adopted (everyone has to buy in to this process)
- Top management must buy in to the German Cost Management approach

# Who is using GPK



PORSCHE



**STIHL**<sup>®</sup>

**ruhrgas**



■ ■ ■ ■ **T** Deutsche  
Telekom

**BRAUNION**  
ÖSTERREICH



Deutsche Bank



# Example of GPK implementation Magna Steyr



## PROFILE:

- A supplier to original equipment manufacturers in the automobile industry
- does vehicle engineering and assembly
- the company is flexible and changes its structure as needed
- has long-term clients like Mercedes and DaimlerChrysler
- 80 % of the work is outsourced, but there are still many cost drivers affecting the other 20%
- company's controllers use a GPK system with 455 cost centers and about 900 cost drivers
- with a range of 1/8 cost drivers per cost center



# Example of GPK implementation Magna Steyr



One of the biggest benefits of the GPK system for the company:

*It helps management decide where to focus cost reduction efforts*

Example: when the paint shop was identified as a weak spot, the company changed production to need less capacity and worked with suppliers to increase outsourcing of painting.

The company is currently trying to make its GPK system simpler for senior management to understand.

# Sustainability of GPK



- GPK successfully sustained over the long term in continental Europe -why?
  - Disciplined design & methodology
  - Management accounting clearly separated from financial accounting; considered to be its own “science” in Germany
  - Integration into organizational management systems for planning & control
  - Evolution of IT systems to support GPK management accounting

# Implications of GPK for North America



- ***Potential for deeper understanding of cost***
- ***Disciplined GPK methodology already developed***
- ***Possible combination of GPK with successful elements of ABC implementations***
- ***ERP IT solutions already widely implemented***
- –SAP is a German company -leverage what is already owned!

# GPK Implementation gains



- Big buy-in from most operational managers -feeling that areas are “better understood”
- Higher quality of operational/financial information for decision-making
- Integrated ERP system make implementation easier than it could have been
- Good grounding for future expansion of methodology

# Implementation issues



- Some lack of buy-in from others in organization
- Data integrity -need for clean-up prior to project
- High amount of set-up work
- Some lack of trust as to how data would be used by others
- Not a perfect fit for all areas –eg. Information Services

# Future



- Integrate GPK with ABC ( done properly) German term is Prozesskostenrechnung
- Develop the combined logic into a set of standards and practices which are appropriate for the USA and other markets
- Create public awareness and a name for the new methodology. Probably Resource Consumption Accounting (RCA)
- Work with Software vendors (Microsoft and SAP) to deploy the logic