Arbeitsberichte zur Wirtschaftsinformatik

Executive Information Systems and
German Asset Management Companies

Thomas Sassmann

Bernd Jahnke

Executive Information Systems and German Asset Management Companies

von

Dr. Thomas Sassmann

Prof. Dr. Bernd Jahnke

Abteilung für Betriebswirtschaftslehre,
insb. Wirtschaftsinformatik
Universität Tübingen

Summary:

The utilization of Information Technology in the present business environment is, surely one of the most important success factors. However, conventional Information Systems often do not sufficiently cover the extremely complex information needs of Executives. This essay deals with this problem. It presents the latest results as well as an internet compatible Prototype, on how to reduce the existing information deficit especially at German Asset Management Companies through Executive Information Systems.

II

TABLE OF CONTENTS

IV

TABLE OF FIGURES AND CHARTS

VI

1 STATUS OF INFORMATION SUPPLY IN GERMAN ASSET MANAGEMENT COMPANIES

1.1 Information Systems as a critical success factor particularly in case of German Asset Management Companies

Volume and complexity of data and information comprised in Information Systems have continually increased since the development of modern Information and Communication Technologies in the early 60s of the last century. During the early years of Information Technology the biggest challenge of such systems was the timely processing of high data volumes. Instead the focus of the past 80s and 90s was mainly in the development of so called Enterprise-Resource-Planning-Systems (ERP-Systems) such as SAP, Oracle or PeopleSoft. Typical for all mentioned systems is the fact that they solely focus on internal production processes and processing of quantitative data dealing with the past. So far such systems could not process and edit the large data quantities in order to be directly used by executives of a company.

For this reason science and practice tried to develop additional Information Systems. These systems not only provide executives with required information but make relevant information for strategic and future oriented decisions available.

The volume of assets under management in investment funds (cp. figure 1) explicitly accentuate, particularly for German Asset Management Companies, the requirement of no longer questioning the utilization of state-of-the-art Information and Communication Technologies in the international asset management business. In the future especially German Asset Management Companies will only successfully sustain in the international competition if, besides substantial financial potential and highly professional competence, they understand and employ the prospects of state-of-the-art Information Technologies.
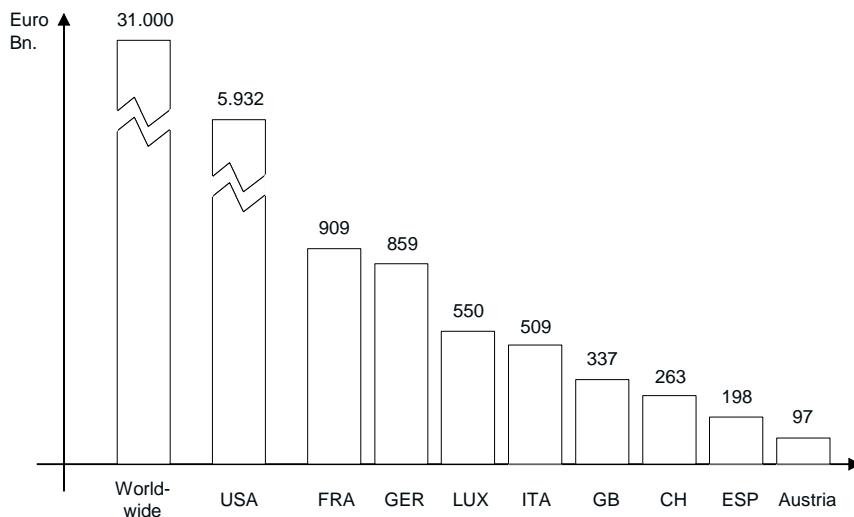
Figure 1: Assets under Management in Investment Funds (end 2003)1

1.2 Problem of Information Supply within German Asset Management Companies

While in the past Information Technology in German Asset Management Companies had been utilized based on a rationalisation approach, primarily to achieve an increase of efficiency and effectiveness in time-critical, human resource and calculation intense areas, a current study of the Chair of Business Administration at the University Tübingen reveals that advanced means and tools are required in the present economical environment which, above all, can support Management within their assigned planning-, steering and controlling-tasks.[2] In order to take a leading competitive position, great importance has, therefore, to be attached to the internal information analysis as well as to the user-driven analysis and depiction. For supporting the Management in this venture, future projection oriented Information Systems are expected

to smoothly extract, pre-process and hold for further processing all required information from all relevant internal and external company systems

to present the company's strategic initial position, strengths and improvement potentials - also in comparison to competitive environment

to have a general response time of less than 5 seconds

---

[1] Since up-to-date figures are not available, the figures of worldwide managed funds as of end 2002 have been used; all other values are of end 2003. DWS Investments: Internationale Fondsmärkte Jahr 2003, Graphic 2, Frankfurt 2004. W. A.: Facts & Figures. Asset Management: Im Umbruch.

[2] Sassmann, Thomas: Kapitalanlagegesellschaften und Führungsinformationssysteme - Analyse und Modelllierung einer ganzheitlichen Prozess- und IT-Landschaft, Dissertation, chair of Business Information Systems, Eberhard-Karls-University Tübingen, Tübingen 2004.

that they can be developed at economically justifiable costs and implemented at acceptable expenses

that they can be operated independent of location and time using standard-software-tools

Computer-based systems, especially in German Asset Management Companies, however concentrate till today mainly on traditional operative data processing. Current studies confirm that the decision support of these systems for a company's executives is still dissatisfying: The information so far offered by these systems does neither cover the demand nor the requirement of the decision-makers.[3] Current redevelopments respective enhancements of existing systems try to solve this draw-back. They do, however, in their current focus not fulfil the relevant criteria. They are primarily supply-side oriented and focus on the processing of data from the companies operational areas. The support of executives with reference to their strategic tasks and decision processes is not at all covered sufficiently.

An approach to solve such problems provide, among others, so-called Executive Information Systems, which are described below in detail.

2 IMPROVEMENT OF INFORMATION SUPPLY THROUGH EXECUTIVE INFORMATION SYSTEMS

2.1 Executive Information Systems

2.1.1 Definition

Already in the beginning of the 60s of the last century, great expectations have been associated with the application of Information Systems used in that time to support a company's executives. Particularly in the context of the so-called Total-System-Approach Information Technology was considered as a comprehensive tool for a company's planning, steering and controlling; whereas the main focus lays on a complete automation of Management decisions by Information Systems.[4]

Besides technical and operational set-backs in the following years, only in the beginning of the 80s the direct support of Top Management by Information Technology regained awareness within enterprises. Caused by the commencing globalisation of investment- and

---

[3] Cap Gemini Ernst & Young: Reporting im Asset Management - Trends & Best Practice, Berlin 2001.

[4] Gluchowski, Peter; Gabriel, Roland; Chamoni, Peter: Management Support Systeme. Computergestützte Informationssysteme für Führungskräfte und Entscheidungsträger; Berlin, Heidelberg 1997. Frie, Thorsten: Entwicklung eines strategischen Führungsinformationssytems im Data Warehousing - Gestaltung, Methodenkomponenten und Anwendung; Dissertation Nr. 2578, University St. Gallen 2001.

production markets during this period, and thus intensified competition of enterprises, this development called for increased reaction requirements to the rapidly changing environmental factors. In this context Information Systems were required which at least rudimentarily were able to expand existing ERP-Systems with external, qualitative and prospective information.

Only the development of new Information Technologies, such as the Client-Server-Concept, the use of graphic user interfaces and the strong performance improvement of Information Systems in the beginning of the 90s of the last century, made as an initial step an improvement of problems possible which had come up along with past technologies of previous years.[5] The Executive Information Systems described and developed during that time, in addition take over the information support and supply for decisions taking place within the Management process in the areas of planning, decision making, steering, controlling and coordination.[6]

Executive Information Systems, therefore, are considered to be strategic Information Systems, which - compared to other Information Systems - have special requirements related to the development- and implementation process and need to adapt additively to an enterprise's Information System environment. Scientific research as well as practice have discovered, that besides the pure performance orientation of Information Systems, other factors as well - in particular micro economical factors - call for the application of Executive Information Systems.[7]

2.1.2 Standard Functionalities

Miscellaneous functions for Graphical Presentation resp. Information Analysis, specially tailored to the needs of the decision-makers, are indispensable for Executive Information Systems. Mainly graphic modelling- and display formats are applied for this, which shall facilitate the identification of content relations of individual information. In this connection the following standard support measures exist in Executive Information Systems: Traffic-Light-Analysis, presentation graphic and user-friendly options to carry out analyses and calculations.

---

[5] Preßmar, Dieter B.; Wall, Friederike: Technologische Gestaltungsansätze für das betriebliche Informationsmanagement; in: Informationsmanagement. Schriften zur Unternehmensführung; Nr. 49; released by Dieter Preßmar; Wiesbaden 1993.

[6] Reichmann, Thomas: Controlling mit Kennzahlen und Managementberichten; Grundlagen einer systemgestützten Controlling-Konzeption; 6. revised and enhanced edition; Munich 2001. Wöhe, Günter: Einführung in die Allgemeine Betriebswirtschaftslehre; 20. edition; Munich 2000.

[7] Jahnke, Bernd: Führungsinformationssysteme (FIS); in Gabler-Wirtschaftsinformatik-Lexikon; released by Eberhard Stickel, Hans-Dieter Groffmann and Karl-Heiz Rau; Wiesbaden 1997.

2.1.3 Additional Functionalities

Goal-oriented entrepreneurial action requires that the management levels of enterprises have access to all decision relevant information. Precisely these information functions are taken over by operational, internal and external ratio figures; whereas they can only be individually surveyed in the context of so-called ratio-models. Within these models the individual values are found in a logical, calculatory and temporal relationship and allow a useful interpretation. Three-dimensional ratio data-models mostly fulfil the requirements of certain ratios such as return-on-investment, profitability or creditworthiness. However, in the microeconomic field most questions no longer fit into a three-dimensional environment and quickly exceed human imaginational capacity in case of the multi-dimensional decisions presented here, in this context. Nonetheless most executives are - more or less consciously – a great deal concerned about such problems.[8]

Although Information Technology attempts to meet these requirements and offers more powerful functionalities and user-friendly applications, executives increasingly face higher requirements as superior analysis and faster synthesis of such data. Following this model, superior functions for data analysis and -demonstration, such as:

the data change, -consolidation and -survey over various database areas, which are not explicitly allowed by the database administrator

the demonstration of connections between different data and/or database areas

the possibility of complex, multi-dimensional queries

by far cannot be adequately supported by conventional relational Database Management Systems. The concept of Online-Analytical-Processing (OLAP) supplies a method for the resolution of such problems. The idea of multi-dimensional operational questions, enforced by OLAP, is not new. However, only since the last few years an economical application by executives is well feasible. OLAP offers a general concept especially for these problems, so that an enterprise's numerous data can flexibly be evaluated.[9] OLAP-Systems enable

---

[8] Chamoni, Peter; Gluchowski, Peter: Entwicklungslinien und Architekturkonzepte des On-Line Analytical Processing; in: Analytische Informationssysteme. Data Warehouse, On-Line Analytical Processing, Data Mining; 2., newly enhanced edition; released by Peter Chamoni and Peter Gluchowski; Berlin, Heidelberg 1999. Locarek-Junge, Hermann; Straßberger, Mario: Asset Management-Standards und Risikomanagement-Standards in Kapitalanlagegesellschaften; in: Dresdner Beiträge zur Betriebswirtschaftslehre; Nr. 67/02; released by the professors of the business administration section; Dresden 2002.

[9] In practice OLAP-Systems often are based on a so-called *Data-Warehouse* and accordingly receive their data at pre-defined intervals. In this context Data-Warehouse means a concept which is not connected to the operatiing systems and valid worldwide. Its objective is to build a logical central, standardized and consistent database including decision-relevant information and corporate-relevant facts for broad applications, to support analytical tasks of specialists and executives. Jahnke, Bernd; Groffmann, Hans-Dieter, Kruppa, Stephan: On-Line Analytical Processing (OLAP); in: Wirtschaftsinformatik; issue 3; June 1996; 38. volume; Krcmar, Helmut: Informationsmanagement; Third, newly revised and enhanced edition; Berlin, Heidelberg 2003.

authorized users the access to rather different (internal and external) data and databases of an enterprise. Moreover they enable to understand which components the individual ratios are composed of.

Besides the above described graphical and calculative support alternatives, up-to-date Executive Information Systems have as a standard implementation predefined and easily configurable ways of communication from system to end-user. For example, today the system-standard of most providers in this market generates automatic e-mail information of the authorized user when crossing certain thresholds.

2.2 Model of Executive Information Systems for German Asset Management Companies

The actual implementation as an internet-compliant prototype was realised in the context of a research project at the Chair of Business Information Systems at the University of Tübingen in 2004. Supported by various German Asset Management Companies and subsequently with the support of Cognos (Deutschland) GmbH, a realistic model was developed and realized as the prototype of an internet-compliant Executive Information System. Basis for this was the known problem to develop a system concept of an Executive Information System for the use of Top Management Executives. It is the aim of the below graphic (cp. Figure 2) to demonstrate and scrutinize the application context of the required system concept against the precise reality in practice.
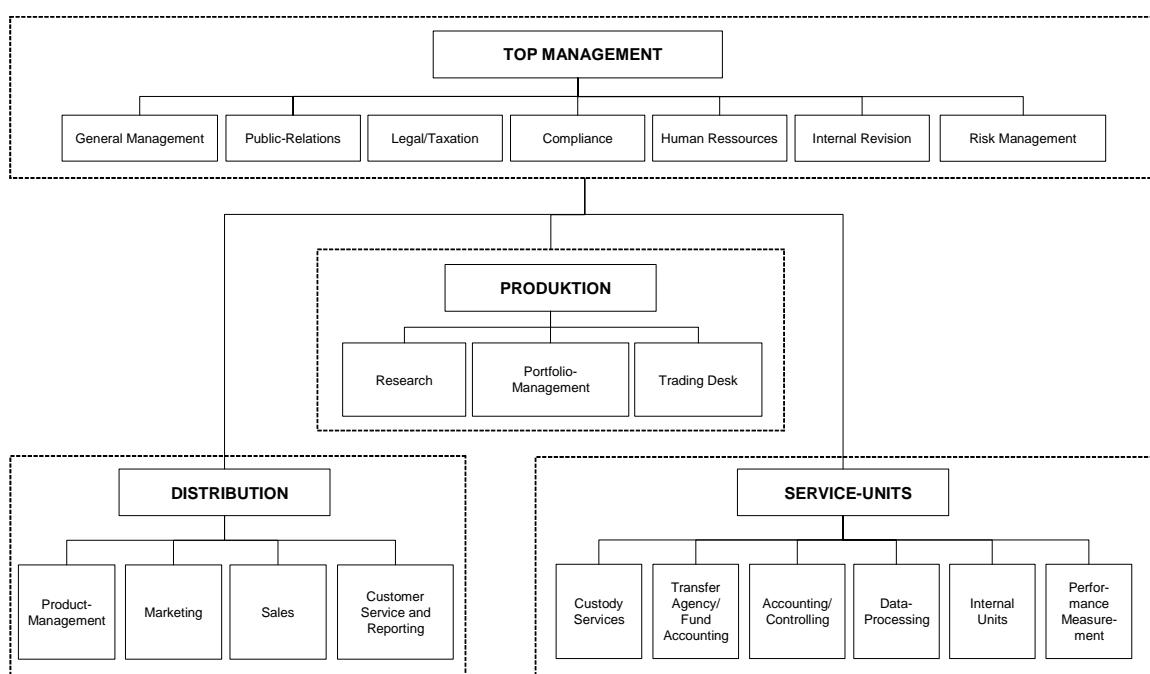

Figure 2: Organizational Chart of an Asset Management Company

The basis of all following elaborations are the parameters, subsequently called Input Data. They are based on Table 1 and Figure 2, which shows the designed functional units of a German Asset Management Company and the associated divisions, sub-divisions, field of activities/processes, Full Time Equivalents (FTEs), human resources-, IT- and rental charges. In order to obtain a most realistic model, various annual reports of different years have been studied. Thus realistic presumptions as to the contents of the individual cells in Table 1 were made, which to the greatest possible extent should comply with the real values. For

confidential and reliability reasons of the presumptions, all values of the annual reports have been manipulated uniformly with randomized figures; thus to avoid conclusions to the individual enterprises while at the same time the content connections are retained in their unchanged validity. In order to prepare the prototype's basic data, as a next step the values of five German Asset Management Companies of the years 1998 - 2002 were extracted and incorporated in a Microsoft-Excel-Sheet which illustrates the basic database for the prototype realization. The following table shows the basic tableau for the elevation of the data material.

Year	Company	Functional Units	Divisions	Sub-divisions	Work areas/Processes	FTE	HR	IT	Rent
1998	KAG-1	Top Management	General Mgmt.			3	4.000.000	100.000	80.000
1998	KAG-1	Top Management	Public Relations			3	450.000	250.000	100.000
1998	KAG-1	Top Management	Legal/Taxation			2	320.000	30.000	40.000
1998	KAG-1	Top Management	Compliance			2	200.000	16.000	40.000
1998	KAG-1	Top Management	HR			2	200.000	16.000	40.000
1998	KAG-1	Top Management	Internal Revision			3	300.000	24.000	60.000
1998	KAG-1	Top Management	Risk Management			3	300.000	120.000	80.000
1998	KAG-1	Distribution	Product Management			2	200.000	100.000	100.000
1998	KAG-1	Distribution	Marketing		Marketing Strategy	2	400.000	50.000	100.000
1998	KAG-1	Distribution	Marketing		Marketing Materials	1	100.000	8.000	20.000
1998	KAG-1	Distribution	Marketing		Road Shows	4	400.000	32.000	80.000
1998	KAG-1	Distribution	Marketing		Adviser Manuals	2	200.000	16.000	40.000
1998	KAG-1	Distribution	Marketing		Industry Surveys / Research	4	500.000	32.000	80.000
1998	KAG-1	Distribution	Marketing		Others	2	200.000	16.000	80.000
1998	KAG-1	Distribution	Sales	Sales Support	New Clients	5	500.000	40.000	100.000
1998	KAG-1	Distribution	Sales	Sales Support	Cross Selling Activities	2	200.000	16.000	40.000
1998	KAG-1	Distribution	Sales	Sales Support	Replies to RFPs	1	100.000	8.000	20.000
1998	KAG-1	Distribution	Sales	Sales Support	Adviser Manuals	2	200.000	16.000	40.000
1998	KAG-1	Distribution	Sales	Sales Support	Support 3rd Party Provider	3	300.000	24.000	60.000
1998	KAG-1	Distribution	Sales	Sales Support	Support Rating Agencies	1	80.000	20.000	20.000

Table 1: Functional Unit 'Top Management'

Within a model-expansion, in addition to the above organizational and work sub-divisions of an Asset Management Company, Product Groups and Revenue Sources of these five German Asset Management Companies are closer analysed over the scrutinized period. In this connection the data of the annual reports are referred to, such as assets under management or human resource costs. Due to the unavailability of sufficient data, the remaining data are estimated accordingly.

2.3 Prototype Realization

The operation of computer-based Information Systems requires the possibility of centrally resaving and recalling data. In order to allow executives the use of i.e. workplace-, time- and location-independent Executive Information, the application of an internet-browser and the availability of internet-data are indispensable preconditions for further proceedings. Apart from the technical implementation of the basic components, it was attempted to tie a particularly broad spectrum of diverse Information Resources. In order to guarantee the

Information Supply to a great extent only commercial Hard- and Standard Software has been used.

With reference to the used Hardware, the prototype's test-system consists of a Desktop-Server-System, which serves the administrator for the direct adaptation of Software- and Hardware amendments and the end-user via a synchronized internet-access to interrogate the required Executive Information.[10] Basis for realization have been the previously described Input Data in the form of a Microsoft-Excel-Sheet. These data have been imported to the database-system of the Microsoft-SQL-Server, using the appropriate basic software, and are saved for further analysis and reporting. The relevant approach of processing is shown in Figure 3:
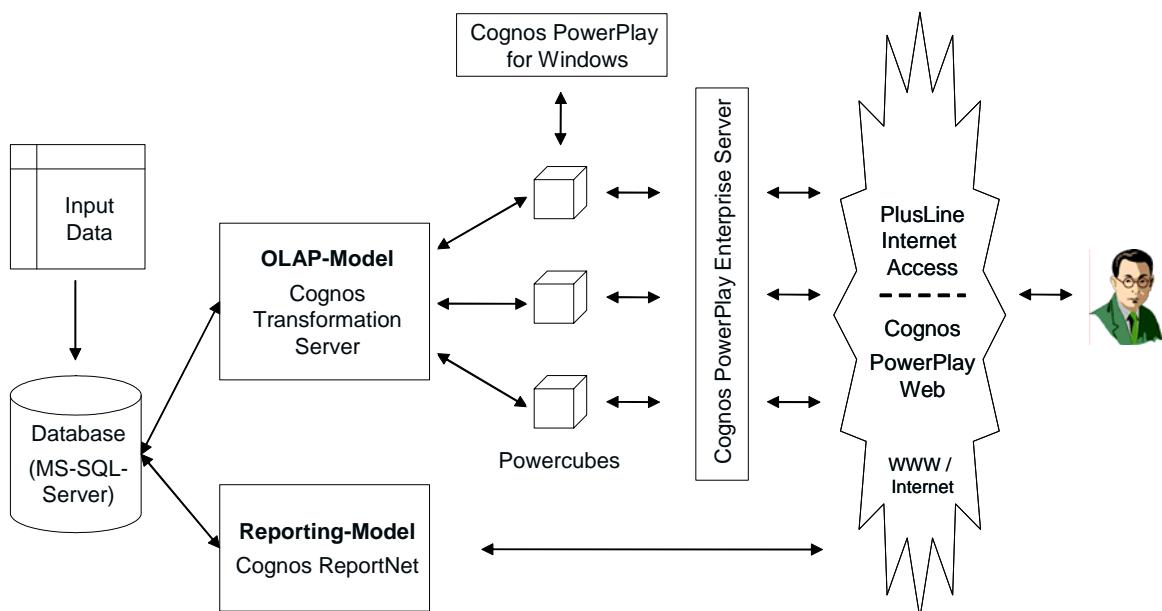

Figure 3: Processing Approach

2.4 First Results of the Prototype Realization

In order to comply with the required desideratum, the functionalities - as demanded on the basis of the above described managerial conception and technical architecture - were transformed. All following figures are published and accessible on the internet between

---

[10] Processor: AMD Devon XP 2000+ mit 1,3 GHz frequency, main storage: 1 Gigabyte; Hard Disc: 40 Gigabyte; network interfaced card: 10/100 Ethernet connection. The above mentioned computer has been connected using the Application Service Provider (ASP) technical infrastructure, to enable a standard user internet access. Server system has been the Microsoft Small Business Server 2000. In addition to the system software basic installation, Microsoft-SQL-Server was installed for the organization and administration of input data; Microsoft-Internet-Information-Server (II-Server) for internet access. For further data use within the prototype it has been reverted to the Business-Intelligence-Software Components of Cognos (Deutschland) GmbH: Cognos Transformation Server V.7.1; Cognos ReportNet V.1; Cognos PowerPlay Enterprise Server V.7.1; Cognos PowerPlay Web / für Windows; Cognos Authentication Software: iPlanet / SUN ONE.

January and August 2004 under: http//www.lswi-sassmann.de/crn and can be viewed by any internet user at any time by double entry of the characters "gast".

2.4.1 Traffic-Light-Analysis

The Traffic-Lights-Analysis (cp. Figure 4) shows the figures in 'red' for IT-costs reaching the value 100.000, the values below 100.000 for the average HR-costs are emphasized in 'green'.

Figure 4: Traffic-Light-Analysis

2.4.2 Presentation Graphics

Figure 5 shows the practical transformation of a combined representation of bar-, process- and pie-charts. As an example, selecting the Asset Management Company '3' in year 2002, their HR-costs per Function-Unit resp. the IT-costs per Function Unit were devised by means of presentation graphics. By means of a mouse-click on the blue entries and underlined entries in the same chart it is possible to carry out a Drill-Down on the HR- and IT-costs of the Function Unit Distribution (cp. figure 6).
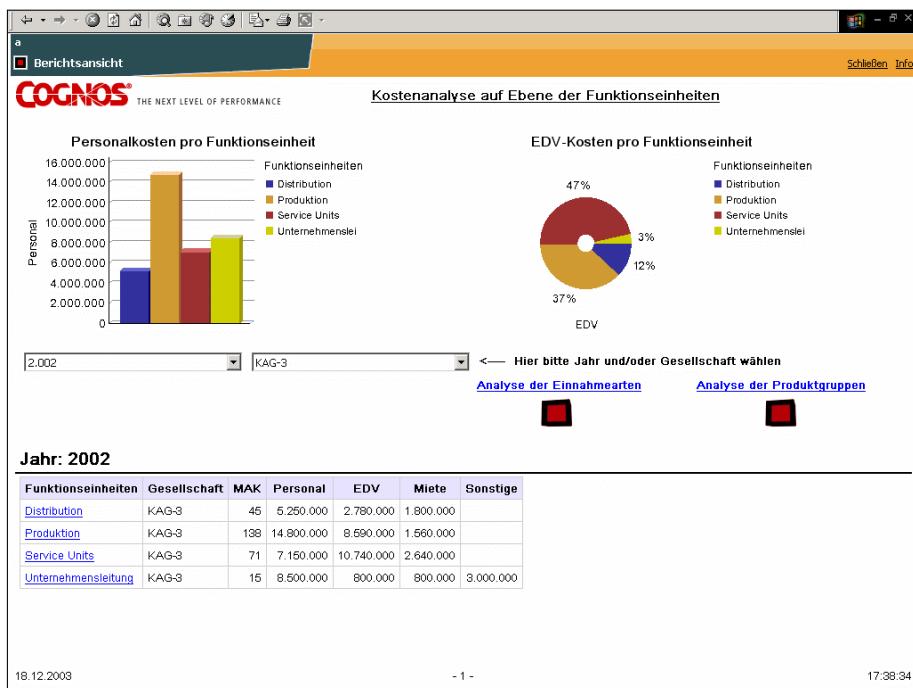
Figure 5: Presentation Graphic - 1
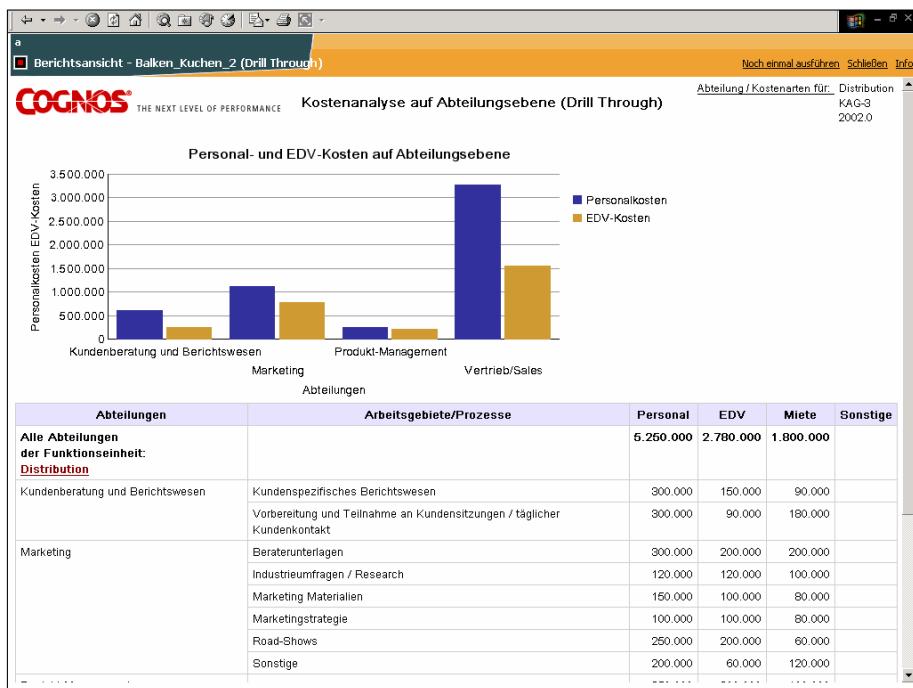
Figure 6: Presentation Graphic - 2

The existing software options for the model expansion have been implemented in Figure 5 as a further attribute. A direct transfer from this program to the congruent OLAP-models within the frame of revenue sources respective product groups is forwarded by means of a mouse-

click on the hyperlinks Analysis of Revenue Sources ("Analyse der Einnahmearten") resp. Analysis of Product Groups ("Analyse der Produktgruppen", cp. figure 7 and 8).

Even in the basic setting, a comparison of development of income types respective the development of the entire spectrum of assets under management covering all companies and years can be realised without difficulty at this point. Even with this restricted data volume associated to the "multi-dimensional cube", OLAP functionalities such as Slice-and-Dice or Drill-Down options can basically be realised.
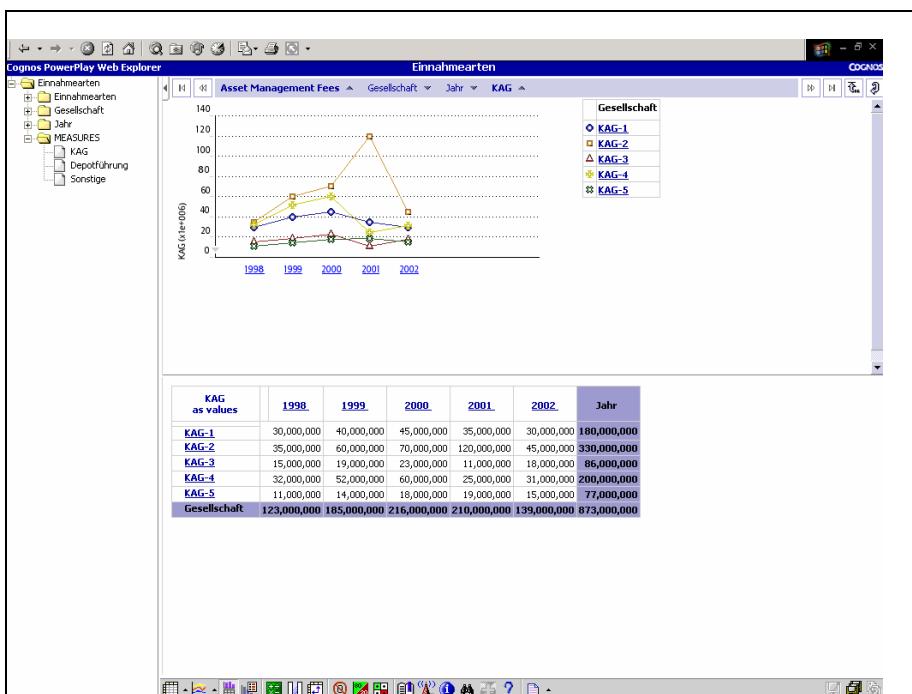
Figure 7: Revenue Sources
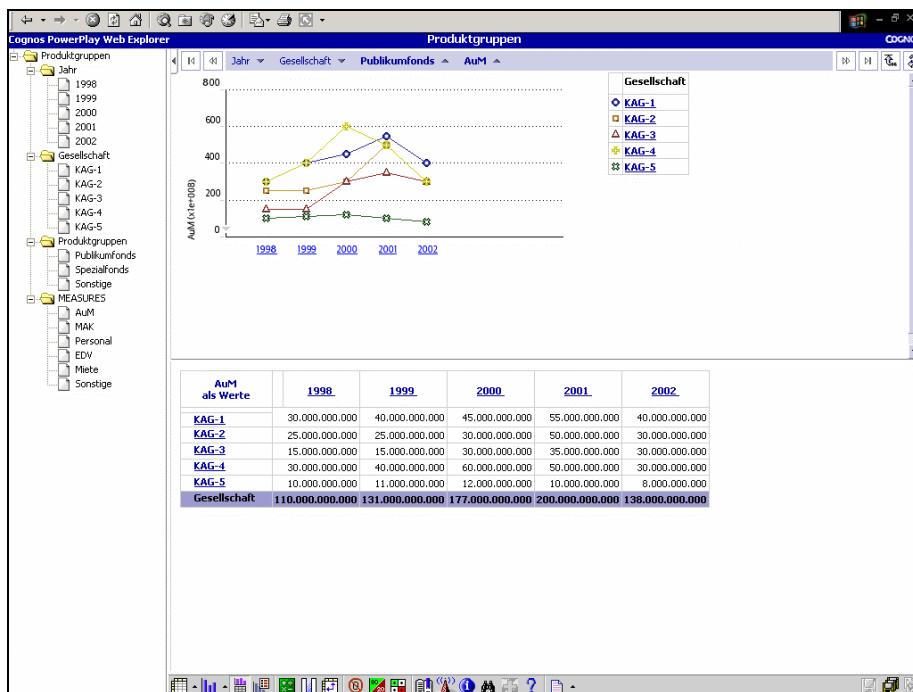
Figure 8: Product Groups

2.4.3 Drill-Down- resp. Slice-and-Dice-Options, Calculation Operations

In the context of income types respective product groups and their associated "multi-dimensional cubes" the option of Drill-down and Slice-and-Dice functionalities has been already pointed out in the previous chapters. The functionalities are also available within the core model. Figure 9 shows the user the entire selection of dimensions on the left half of the screen. Through a mouse-click and -drag into the main area, the user can compile any desired view of the data records. Through a mouse-click on the Blue entries and simultaneously underlined values, the user can easily navigate to the next deeper level of the chosen function-unit. The entire variety of Drill-Down- and Slice-and-Dice-Functionalities is as well available to users at lower navigation levels.

MEASURES als Werte	KAG-2			KAG-3			KAG-4		
	MAK	Personal	EDV	MAK	Personal	EDV	MAK	Personal	EDV
Unternehmensleitung									
Geschäftsführung	3	15.000.000	100.000	2	7.000.000	100.000	6	10.000.000	300.000
Public-Relations	2	250.000	300.000	2	150.000	100.000	2	190.000	100.000
Recht/Steuern	2	300.000	100.000	2	250.000	50.000	3	350.000	100.000
Compliance	2	200.000	100.000	2	250.000	100.000	4	600.000	600.000
Personalwesen	2	200.000	100.000	1	100.000	100.000	3	280.000	200.000
Interne Revision	3	300.000	150.000	3	400.000	150.000	3	400.000	100.000
Risikomanagement	4	400.000	600.000	3	350.000	200.000	6	750.000	650.000
Unternehmensleitung	18	16.650.000	1.450.000	15	8.500.000	800.000	27	12.570.000	2.050.000
Distribution									
Produkt-Management	1	100.000	100.000	2	250.000	200.000	4	350.000	300.000
Marketing	12	1.280.000	850.000	11	1.120.000	780.000	33	3.110.000	1.250.000
Vertrieb/Sales	18	1.825.000	900.000	26	3.280.000	1.560.000	46	4.790.000	2.300.000
Kundenberatung und Berichtswesen	12	1.200.000	600.000	6	600.000	240.000	8	800.000	310.000
Distribution	43	4.405.000	2.450.000	45	5.250.000	2.780.000	91	9.050.000	4.160.000
Produktion									
Research	3	300.000	150.000	3	300.000	90.000	4	350.000	200.000
Portfolio Management	205	20.500.000	8.800.000	125	13.700.000	7.500.000	170	13.800.000	5.200.000
Trading Desk / Handelsabteilung	10	1.000.000	2.000.000	10	800.000	1.000.000	10	1.000.000	400.000
Produktion	218	21.800.000	10.950.000	138	14.800.000	8.590.000	184	15.150.000	5.800.000
Service Units									
Depotführung	3	300.000	150.000	4	400.000	160.000	8	850.000	860.000
Wertpapieradministration / Fondsbuchhaltung	25	2.590.000	3.750.000	28	3.020.000	2.100.000	36	3.450.000	2.040.000
Rechnungswesen / Controlling	15	1.550.000	1.050.000	15	1.430.000	890.000	21	2.150.000	1.150.000
Datenverarbeitung	40	4.200.000	23.000.000	17	1.550.000	7.000.000	32	3.300.000	6.750.000

Figure 9: Drill-Down Options

3 CONCLUSION

Based on these data and the organizational model of German Asset Management Companies, the Executive Information System prototype has been developed. The prototype covers the fundamental desideratum[11] to support executives and distinguish itself in practice due to the following aspects:

The prototype can provide without any difficulties all required information from internal and external systems, expansions are possible at any time

By insertion of the appropriate data, the prototype allows a realisation of cross-company analyses referring to the strategic initial position and the strengths and improvement potentials with reference to the competitive environment

The prototype enables to receive evaluations within a response time of less than 2 seconds, in both Internet- and direct Online-connection

---

[11] The prototype which has been developed during this research project, basically covers the elementary requirements for decision-support of executives and in practice features the functionalities described in this essay. Further functionalities, such as direct manipulation of model-data or implementation of communication components, have not been implemented within this project. But basically they can easily be implemented at any time by a model expansion. For further discussion of these aspects see: Jahnke, Bernd: Neue IT-Potentiale zur Unterstützung der Unternehmensführung; in: Das Rechnungswesen im Spannungsfeld zwischen strategischem und operativem Management. Ceremonial Essay for Marcell Schweitzer on his 65th birthday; released by Hans-Ulrich Küpper and Ernst Trossmann; Berlin 1997. Jahnke, Bernd; Sassmann, Thomas: Leadership-oriented Executive Information Systems; in: Leadership in turbulenten Zeiten; released by Ralph Berndt; Berlin, Heidelberg 2003. Thomé, Rainer: Neue Generation von Führungsinformationssystemen; in: Controlling, issue 2; February 2002.

The prototype has been developed at economically reasonable costs: The development and the making of the software, including training-input, amounts to approx. 4 man-months, the costs of the commercially available software are estimated at approx. € 2,000. The fees for ASP-provider services are in principle flexible and do not represent any notable obstacle for any company of this industry

The implementation of the prototype within the framework of an ASP allows the user to operate it at his computer or through a standard internet browser independent of location and time

The prototype additively integrates itself into the corporate organization and covers sufficient options concerning all aspects of data security

Due to its design characteristics, the prototype is independent of future business and management as well as regulatory amendment necessities

The model and its realization have the highest possible flexibility for the contemplated problem, but it achieves expressiveness only by implementing the proposed procedure and the data comprised in it. However, if the collected test data are compared with the actual practical experience, in relation to the problem of data-acquisition, -provision and -administration, a strong simplification definitely unfolds in terms of realization and demonstration via a prototype. In view of the presented software options - unlike experienced in previous developments in this field - the original flexibility of the project model is not reduced by the successive adjustment in practice. In such case the prototype demands to balance, on a very limited scale, among the following criteria - flexibility and expressiveness.

As repeatedly mentioned it is extremely difficult at present - if not impossible - to obtain additional information about these enterprises, besides the figures published in the specialized press, such as product costs or assets under management of individual German Asset Management Companies. It is left to the future development within the International Economic Community to what extent the investment industry can and will open up to the demand for transparency. Yet today it can clearly be noticed that foreign companies pressurize the publication of certain key data. This essay shows that specific methods of resolution - such as the use of the latest prototype research results - can be generated at a relatively low level of time and financial expenses. In the near future German Asset Management Companies are, however, bound to further develop and replace their systems which partially originate from the beginning of Information Technology. Executive

Information Systems, as visualized here, can only represent a first expansion. Further aspects such as Customer Relation Management (CRM), Balanced Scorecard (BSC) or Enterprise Planning (EP) experience increased development efforts in software companies and, from the authors point of view, will develop in the near future to a crucial competitive factor - not only for German Asset Management Companies.

REFERENCES

Al-Ani, Ayad / Gattermeyer, Wolfgang (2001): Entwicklung und Umsetzung von Change Management-Programmen, in: Gattermeyer, Wolfgang / Al-Ani, Ayad (Hrsg.): Change Management und Unternehmenserfolg. Grundlagen – Methoden – Praxisbeispiele, 2. aktualisierte und erweiterte Auflage, Wiesbaden 2001, S. 13-40.

Ansoff, Igor H. (1966): Management-Strategie, München 1966.

Ansoff, Igor H. (1981): Die Bewältigung von Überraschungen und Diskontinuitäten durch die Unternehmensführung. Strategische Informationen auf schwache Signale, in: Steinmann, Horst: Unternehmensführung I: Planung und Kontrolle, München 1981, S. 233-264.

Barfield, Jesse T. / Kinney, Michael R. / Raiborn, Cecily A. (1994): Cost Accounting. Traditions and Innovations, 2nd Edition, St. Paul (MN), 1994.

Bea, Franz Xaver, Haas, Jürgen (2001): Strategisches Management, 3. Auflage, Stuttgart 2001.

Böhnert, Alexander-Arndt (1999): Benchmarking. Charakterisierung eines aktuellen Managementinstruments, Hamburg 1999 [Zugl.: Bremen, Univ., Wirtschaftswiss. Diss., 1998].

Brecht, Leo / Legner, Christine / Muschter, Sebastian / Österle, Hubert (1998): Prozessführung mit nichtfinanziellen Führungsgrößen. Konzept und Erfahrung, in: Controlling, 1998, Heft 5, S.286-294.

Camp, Robert C. (1989): Benchmarking. The Search for Industry Best Practices that Lead to Superior Performance, Madison (WI), 1989.

Camp, Robert C. (1994): Benchmarking, München, 1994.

Connolly, Dan (2000): Extensible Markup Language (XML), in: WWW, http://www.w3.org/XML/, Letzter Zugriff: 17.12.2001

Corsten, Hans (2000): Lexikon der Betriebswirtschaft, 4. durchgesehene Auflage, München u.a. 2000.

Dreher, Dirk (1997): Logistik-Benchmarking in der Automobilbranche, Köln 1997.

Friedl, Gunter / Hilz, Christian / Pedell, Burkhard (2002): Integriertes Controlling mit SAP-Software, in: Kostenrechnungspraxis, 46. Jg., 2002, Heft 3, S. 161-168.

Fritz, Burkhard (1999): DV-gestützte Führungsinformationssysteme. Konzeptionelle Anforderungen und Gestaltungsmöglichkeiten, Schriften zum Controlling Bd. 20, Frankfurt 1999 [Zugl.: Dortmund, Univ., Wirtschaftswiss. Diss., 1996].

<u>Fromm</u>, Hansjörg (1994): Benchmarking, in: Masing, Walter (Hrsg.): Handbuch Qualitätsmanagement, 4. überarb. u. erw. Aufl., München u.a. 1994, S.121 – 128.

<u>Fuchs</u>, Oliver (2001): Das Management von Veränderungen in der öffentlichen Verwaltung und ihrem Umfeld. Anregungen aus der Praxis, in: Gattermeyer, Wolfgang / Al-Ani, Ayad (Hrsg.): Change Management und Unternehmenserfolg. Grundlagen – Methoden – Praxisbeispiele, 2. aktualisierte und erweiterte Auflage, Wiesbaden 2001, S. 159-186

<u>Gladen</u>, Werner (2001): Kennzahlen und Berichtssysteme. Grundlagen zum Performance Measurement, Wiesbaden 2001.

<u>Graf</u>, Jürgen (1999): Echt starke Vorbilder, in: managerSeminare, 1999, Heft 38, S.28-34.

<u>Grundmann</u>, Ralf (2001): Benchmarking in der Sparkassenorganisation. Konzeptionelle Überlegungen zu einem Informations- und Kommunikationssystem zur Unterstützung der Benchmarkingaktivitäten in einem möglichen Benchmarking-Netzwerk der Sparkassenorganisation, Stuttgart 2001 [Zugl.: Oldenburg, Univ., Wirtschaftswiss. Diss., 2000].

<u>Grundmann</u>, Ralf (2003): Betriebswirtschaftliche Grundkonzeption eines „Benchmarking-Informations- und Kommunikationssystems", in: Controlling, 15. Jg., 2003, Heft 2, S. 79-86.

<u>Günther</u>, Edeltraud / <u>Schill</u>, Oliver / <u>Schuh</u>, Heiko (1999): Normierungen der Kostenrechnung für das Cost-Benchmarking, in: Kostenrechnungspraxis, 43. Jg., 1999, Heft 6, S. 328-336.

<u>Hartmann</u>, Bernhard / <u>Schellenberg</u>, Thomas / <u>Haslauer</u>, Florian / <u>Cord</u>, Matthias (2002): Benchmarking in der Wasserkraft, in: Zeitschrift für Energiewirtschaft, 26. Jg., 2002, Heft 4, S. 251-257.

<u>Hartung</u>, Willy (1997): Benchmarking im Finanz- und Rechnungswesen. Teil II: Datenerhebung und Auswertung im Unternehmen, in: Bilanzbuchhalter und Controller, 1997, Heft 8, S.174-177.

<u>Hartung</u>, Willy / <u>Schaper</u>, Christoph / <u>Voges</u>, Oliver (1998): Benchmarking. Einsatz der Informationstechnologie im Finanz- und Rechnungswesen, in: Bilanzbuchhalter und Controller, 1998, Heft 4, S.78-80.

<u>Hillen</u>, Jürgen (1997): Benchmarking von Dienstleistungen. Inländischer Zahlungsverkehr auf dem Prüfstand, in: Controlling, 9. Jg., 1997, Heft 1, S.54-62.

<u>Horvath</u>, Peter / <u>Herter</u>, Ronald N. (1992): Benchmarking. Vergleich mit den Besten der Besten, in: Controlling, 4. Jg., 1992, Heft 1, S.4-11.

<u>Horvath</u>, Peter (1992): Controlling, 4. Aufl., München 1992.

Hungenberg, Harald (2001): Strategisches Management in Unternehmen. Ziele - Prozesse - Verfahren, 2. überarb. und erw. Auflage, Wiesbaden 2001.

Jahnke, Bernd (1993a): Entscheidungsunterstützung der oberen Führungsebene durch Führungsinformationssysteme, Arbeitsberichte zur Wirtschaftsinformatik Bd. 8, Tübingen 1993 [Zugl. erschienen in: Preßmar, D. B. (Hrsg.): Informationsmanagement, Band 49 der Schriften zur Unternehmensführung, Wiesbaden 1993, S. 123-147].

Jahnke, Bernd (1993b): Einsatzkriterien, kritische Erfolgsfaktoren und Einführungsstrategien für Führungsinformationssysteme, Arbeitsberichte zur Wirtschaftsinformatik Bd. 6, Tübingen 1993 [Zugl. erschienen in: Behme, Wolfgang / Schimmelpfeng, Katja (Hrsg.): Führungsinformationssysteme. Neue Entwicklungstendenzen im EDV-gestützten Berichtswesen, Wiesbaden 1993, S. 29-43].

Jahnke, Bernd / Groffmann, Hans-Dieter (1993): Führungsinformationssysteme zwischen Anspruch und Realisierbarkeit, Arbeitsberichte der Wirtschaftsinformatik Bd. 9, Tübingen 1993.

Jahnke, Bernd / Altenburger, Andreas / Högsdal, Nils (1999): Kennzahlen und Kennzahlensysteme als Grundlage der Gestaltung von Informationssystemen mit dem Ziel der wertorientierten Unternehmensführung, Arbeitsberichte zur Wirtschaftsinformatik Bd. 19, Tübingen 1999.

Jahnke, Bernd / Högsdal, Nils / Thomas, Tobias (2000): Von Bildungsinseln zur Corporate University. Planspiele in der ganzheitlichen Aus- und Weiterbildung. Rolle - Eignung - Ausblick, Arbeitsberichte zur Wirtschaftsinformatik Bd. 22, Tübingen 2000.

Karlöf, Bengt / Östblom, Svante (1994): Das Benchmarking-Konzept – Wegweiser zur Spitzenleistung in Qualität und Produktivität, München 1994.

Krcmar, Helmut (2003): Informationsmanagement, 3. Aufl., Berlin u.a. 2003.

Kreuz, Werner / Herter, Matthias (1997): Benchmarking. Mit diesem wirkungsvollen Managementinstrument werden Spitzenleistungen erzielt, in: Kreuz, Werner (Hrsg.): Mit Benchmarking zur Weltspitze aufsteigen, 2. Auflage, Landsberg a. Lech 1997, S.35-56.

Legner, Christine (1999): Benchmarking informationssystemgestützter Geschäftsprozesse. Methode und Anwendung, Wiesbaden 1999 [Zugl.: St. Gallen, Univ., Wirtschaftwiss. Diss., 1999].

Legner, Christine / Österle, Hubert (1999): Prozeßbenchmarking. Ein methodischer Ansatz zur Prozessentwickung mit Standardsoftware, in: Scheer, Wilhelm-August u.a. (Hrsg.): Electronic Business Engineering, 4. Internationale Tagung Wirtschaftsinformatik, Heidelberg 1999, S.332 –352.

Mag, Wolfgang (1995): Unternehmensplanung, München 1995.

Mayer, Jörg H. (1999): Führungsinformationssysteme für die internationale Management-Holding, Wiesbaden 1999 [Zugl.: Darmstadt, Techn. Univ., Diss., 1999].

Mertins, Kai / Edeler, Herrmann / Schallock, Burkhard (1995): Benchmarking. Praxis in deutschen Unternehmen, Heidelberg u.a. 1995.

Mertins, Kai / Heisig, Peter / Hoffmann, Peter / Kohl, Holger (2000): Grundlagen des Benchmarking. Informationsbroschüre des Informationszentrums Benchmarking am IPK-Berlin, Berlin 2000.

Moerke, Andreas (2001): Organisationslernen über Netzwerke. Die personellen Verflechtungen von Führungsgremien japanischer Aktiengesellschaften, Wiesbaden 2001 [Zugl.: Berlin, Humboldt-Univ., Diss., 2000].

Müller, Heinrich / Grotheer, Manfred (2002): Controlling-Konzepte im Wandel, in: Kostenrechnungspraxis, 46. Jg., 2002, Heft 4, S. 214 –221.

Pieske, Reinhard (1995): Benchmarking in der Praxis. Erfolgreiches Lernen von führenden Unternehmen, Landsberg 1995.

Sabisch, Helmut / Tintelnot, Claus (1997): Integriertes Benchmarking für Produkte und Produktentwicklungsprozesse, Berlin 1997.

Schmidt, Frank (2000): Strategisches Benchmarking. Gestaltungskonzeptionen aus der Markt- und der Ressourcenperspektive, Köln 2000 [Zugl.: Hamburg, Univ. der Bundeswehr, Wirtschaftswiss. Diss., 1999].

Sesterhenn, Jan (2000): Vorgehenskonzept zur kriteriengestützten Selektion geeigneter Partner zum Benchmarking in der Beschaffungslogistik, Diss. der Fakultät für Maschinenwesen, Techn. Hochsch. Aachen, Aachen 2000.

Thommsen, Jean-Paul (2000): Managementorientierte BWL, 6. aktual. und erg. Aufl., Zürich 2000.

Tucher von Simmelsdorf, Friedrich W. (2000): Benchmarking von Wissensmanagement. Eine Methode des ressourcenorientierten strategischen Managements, Wiesbaden 2000 [Zugl.: Erlangen, Nürnberg, Univ., Wirtschaftswiss. Diss., 1999].

Ulrich, Hans / Probst, Gilbert J.B. (1995): Anleitung zum ganzheitlichen Denken und Handeln: ein Brevier für Führungskräfte, 4. unveränd. Aufl., Bern 1995.

Ulrich, Peter (1998): Organisationales Lernen durch Benchmarking, Wiesbaden 1998 [Zugl.: München, Univ., Wirtschaftswiss. Diss., 1998].

Watson, Gregory H (1993).: Benchmarking. Vom Besten lernen, Landsberg am Lech 1993.

Weber, Jürgen / Wertz, Boris (1999): Benchmarking Excellence, Vallendar 1999.

<u>Weber</u>, Jürgen / <u>Schäffer</u>, Utz / <u>Prenzler</u>, Carsten (2001): Zur Charakterisierung und Entwicklung von Controlleraufgaben, in: Zeitschrift für Planung, Heft 12, 2001, S. 25-46.

<u>Wild</u>, Jürgen (1971): Management-Konzeption und Unternehmensverfassung, in: Lohmann, Martin: Probleme der Unternehmensverfassung. Gedanken zum 70. Geburtstag von Martin Lohmann. Hrsg. von R.-B. Schmidt, Mohr, Tübingen 1971, S. 57-95.

PREVIOUSLY RELEASED PAPERS

1990

Band 1 *Jahnke*, Bernd: Konzeption und Entwicklung eines Führungsinformationssystems. (Erschienen in: *Bartmann*, Dieter (Hrsg.): Lösungsansätze der Wirtschaftsinformatik im Lichte der praktischen Bewährung, Berlin/Heidelberg/New York 1991, S. 39-65)

Band 2 *Wallau*, Siegfried: Akzeptanz betrieblicher Informationssysteme - eine empirische Untersuchung.

1991

Band 3 *Jahnke*, Bernd: Informationsverarbeitungs-Controlling, Konzepte - Inhalte - Methoden. (Erschienen in: *Huch*, Burkhard/*Behme*, Wolfgang/*Schimmelpfeng*, Katja (Hrsg.): EDV-gestützte Controlling-Praxis: Anwendungen in der Wirtschaft, Frankfurt 1992, S. 119-143,
Vorabveröffentlichung in der FAZ - Blick durch die Wirtschaft, 3. 3. 1992, S. 7)

Band 4 *Fehling*, Georg/*Groffmann*, Hans-Dieter/*Jahnke*, Bernd: Entwicklung der Benutzerschnittstelle eines computergestützten Informationssystems im Rahmen des SAA-CUA Konzepts - Dargestellt am Beispiel eines Führungsinformationssystems für die Württembergische Gebäudebrandversicherung.

1992

Band 5 *Groffmann*, Hans-Dieter: Kennzahlenmodell (KDM) als Grundlage aktiver Führungsinformationssysteme. (Erschienen in: *Rau*, Karl-Heinz/*Stickel*, Eberhard (Hrsg.): Daten- und Funktionsmodellierung. Erfahrungen - Konzepte - Perspektiven, Wiesbaden 1992, S. 1-29)

Band 6 *Jahnke*, Bernd: Einsatzkriterien, kritische Erfolgsfaktoren und Einführungsstrategien für Führungsinformationssysteme. (Erschienen in: *Behme*, Wolfgang/*Schimmelpfeng*, Katja (Hrsg.): Führungsinformationssysteme. Neue Entwicklungstendenzen im EDV-gestützten Berichtswesen, Wiesbaden 1993, S. 29-43)

Band 7   *Jahnke*, Bernd/*Bächle*, Michael: Produktivität im Softwareentwicklungsprozeß, Problematik und Einflußgrößen.

1993

Band 8   *Jahnke*, Bernd: Entscheidungsunterstützung der oberen Führungsebene durch Führungsinformationssysteme. (Erschienen in: *Preßmar*, Dieter B. (Hrsg.): Informationsmanagement, Band 49 der Schriften zur Unternehmensführung, Wiesbaden 1993, S. 123-147)

Band 9   *Jahnke*, Bernd/*Groffmann*, Hans-Dieter: Führungsinformationssysteme zwischen Anspruch und Realisierbarkeit.

1994

Band 10 *Jahnke*, Bernd/*Bächle*, Michael/*Simoneit*, Monika: Methodische Analyse von Vertriebsprozessen zur Zertifizierungsvorbereitung nach ISO 9004.
(In leicht gekürzter Form erschienen in: *Heilmann*, Heidi et al. (Hrsg.): Handbuch der modernen Datenverarbeitung, Heft 175, Januar 1994, S. 50-60.
Eine englische Fassung des Arbeitsberichts mit dem Titel: Modeling Sales Processes as Preparation for ISO 9004 Certification ist erschienen in: International Journal of Quality & Reliability Management, Quality improvements in manufacturing and service industries: recent trends and perspectives, Vol. 12, No. 9 (1995), pp. 76-99)

Band 11 *Jahnke*, Bernd/*Tjiok*, Clifford: Business Process Reengineering and Software Systems Strategy. (Erschienen mit dem Titel: Identifying IS Support Alternatives for Business Process Reengineering in: Knowledge and Process Management, No. 1, Vol. 5, 1998, pp. 41-50)

1995

Band 12 *Bächle*, Michael/*Jahnke*, Bernd/*Kindler*, Achim: Aufwandschätzung und Produktivität in der Softwareentwicklung. Probleme und Problemlösungsansätze.

Band 13 *Groffmann*, Hans-Dieter/*Jahnke*, Bernd/*Kruppa*, Stephan: Information Broker: Kooperative Führungsinformationssysteme in der Finanzwirtschaft.

1996

Band 14 *Bächle*, Michael: Anforderungen an das Qualitätsmanagement der Softwareentwicklung. Produkt- und Prozeßnormen.

Band 15 *Bächle*, Michael/*Jahnke*, Bernd: Unterstützung organisatorischen Lernens in Softwareunternehmen durch Projektdatenbanken.

Band 16 *Jahnke*, Bernd/*Groffmann*, Hans-Dieter/*Kruppa*, Stephan: On-Line Analytical Processing (OLAP). Entscheidungsunterstützung von Führungskräften durch mehrdimensionale Datenbanksysteme. (Erschienen in: Wirtschaftsinformatik 38, 1996, S. 321-324)

1997

Band 17 *Fehling*, Georg/*Jahnke*, Bernd: Wirtschaftsinformatik und Ethik. (Erschienen mit dem Titel: Wirtschaftsinformatik und Ethik - Komplementarität oder Konkurrenz? in: Informatik Spektrum, Bd. 22, Heft 3, 1999, S. 197 - 205)

Band 18 *Jahnke*, Bernd/*Bächle*, Michael/*Fehling*, Georg: COCKPIT - Tele-Teaching im Internet mit Planspielen. (Erschienen in: Information Management & Consulting, Heft 3, 1998, S. 77-83)

1999

Band 19 *Jahnke*, Bernd/*Altenburger*, Andreas/*Högsdal,* Nils: Kennzahlen und Kennzahlensysteme als Grundlage der Gestaltung von Informationssystemen mit dem Ziel der wertorientierten Unternehmensführung.

Band 20 *Jahnke,* Bernd*/Altenburger,* Andreas: Konzeptionelle Anforderungen an Gruppenunterstützung für verteilte internetbasierte Führungsinformationssysteme.

2 0 0 0

Band 21 *Jahnke,* Bernd*/Altenburger,* Andreas*/Bauer,* Christian: NetGroup - Konzeption und prototypische Realisierung eines internetgestützten Groupware-Moduls.

Band 22 *Jahnke*, Bernd/*Högsdal*, Nils/*Thomas*, Tobias: Von Bildungsinseln zur Corporate University. Planspiele in der ganzheitlichen Aus- und Weiterbildung: Rolle - Eignung - Ausblick.

2 0 0 1

Band 23 *Jahnke,* Bernd*/Bawidamann,* Horst*/Kern,* Martin: Customer Relationship Management im E-Commerce.

2 0 0 2

Band 24 *Jahnke,* Bernd*/Sassmann,* Thomas: Leadership-orientierte Führungsinformationssysteme. (Erschienen mit dem Titel: Leadership-oriented executive information systems in: *Berndt*, Ralph: Leadership in turbulenten Zeiten. Berlin/Heidelberg/New York u.a. 2003, S. 333-350.)

2 0 0 3

Band 25 *Jahnke,* Bernd*/Hofmann,* Arne/*Manowsky*, Marion: E-Payment in Deutschland - eine Nutzwertanalyse

Band 26 *Jahnke,* Bernd*/Kern,* Martin: Gestaltung netzbasierter Planspiel-Lernarrangements (NPL). (Erschienen in: *Uhr*, Wolfgang/*Esswein*, Werner/*Schoop*, Eric (Hrsg.): Wirtschaftsinformatik 2003/Band 1, Medien - Märkte - Mobilität, Heidelberg 2003, S. 727-745.)

Band 27 *Jahnke,* Bernd*/Martens,* Maria/*Bauer*, Sven: Kontinuierliches Benchmarking zur
        Unterstützung des Führungsprozesses

Band 28 *Jahnke*, Bernd/*Thomas*, Tobias: Zum Einsatz IT-gestützter Risikomanagement-
        systeme im Rahmen der Corporate Governance-Debatte

2005

Band 29 *Jahnke*, Bernd/*Sassmann*, Thomas: Executive Information Systems and German
        Asset Management Companies