

## **Managing Costs and Performance of Information Technology in a Group Context – Current Challenges for Multinational Enterprises**

Florian Hamel, Thomas Ph. Herz, Falk Uebernickel, Walter Brenner  
University of St. Gallen, Institute of Information Management, St. Gallen, Switzerland  
florian.hamel@unisg.ch  
thomas.herz@unisg.ch  
falk.uebernickel@unisg.ch  
walter.brenner@unisg.ch

**Abstract:** Over the past few decades, the importance of IT has increased year after year for the majority of businesses. Popular inorganic growth and consolidation strategies have led to the formation of business group organizations. The resulting organizational structure is characterized by a systematic delegation of duties between the core entity and the business entities. Such organizational structures represent a challenging environment for the group-wide management of IT costs and performance. The management of costs and performance of IT, also known as IT evaluation, describes the discipline of ensuring the effective and efficient use of IT resources. The aim of this paper is to analyze the current situation regarding IT evaluation in business groups as well as to identify current challenges within this specific area. Seven multinational business groups will provide the basis for the following multiple case study.

**Keywords:** IT performance management, IT cost management, IT evaluation, IT controlling, case study.

## 1. Introduction

The rapid development of IT, along with the globalization trend, have significantly influenced the way organizations operate. These trends affect corporate strategies and operational decisions of organizations. Hence, depending on the business sector, IT budgets can account for up to 15% of corporations' revenues (Minton and Shirer, 2010). This fact stresses the importance of carefully weighing the benefits of IT investments against costs (Brynjolfsson and Yang, 1996; Remenyi et al., 2007; McAfee and Brynjolfsson, 2008).

Over the past few decades, the importance of IT has increased year after year for most businesses (McAfee and Brynjolfsson, 2008). Furthermore, a trend toward inorganic growth and consolidation strategies among corporations has been observed over the last 10 years (Gell et al., 2010). Through mergers and acquisitions, corporations aim to sustain and gain competitive advantages (Walter and Barney, 1990). Such organizational group structures create a challenging environment for efficient and effective group-wide management of IT costs and performance; especially in terms of governance and alignment (Ives and Jarvenpaa, 1991).

Management of IT costs and performance is also referred to by several other terms among information systems (IS) scholars worldwide. This paper uses the term "IT evaluation" which is widely used within the Anglo-Saxon area. The terms "IT performance management" or "IT performance measurement" are also used within this research area. Furthermore, the term "IT controlling" is worth mentioning as a term used by IS scholars from German-speaking areas (Schauer, 2006).

According to existing literature reviews (Brynjolfsson and Yang, 1996; Gunasekaran et al., 2006; Schauer, 2006; Frisk, 2007; Rom and Rohde, 2007; Kohli and Grover, 2008; Schwertsik et al., 2009; Hamel et al., 2010), there are several IT evaluation frameworks, as well as performance management methodologies, established within the IS community. However, current literature lacks coverage of IT evaluation in a business group context (Hamel et al., 2010). This is also supported by the expert interviews that we have conducted to prove the practical relevance of this research topic. One of the experts proposed that current theoretical IT evaluation frameworks do not entirely cover the business group context. Therefore, this research study aims to investigate the specific status quo of business groups in terms of IT evaluation as well as current challenges. Consequently, we conducted a multiple case study with the purpose of addressing the following research questions (RQ):

*[RQ.1] What is the status quo for IT evaluation in business groups?*

*[RQ.2] What are the challenges for group IT evaluation in business groups?*

To address these questions, we used case studies of large multinational business groups which have a solid and diversified corporate structure consisting of several legally independent business entities operating in a global context.

The paper is structured as follows: First, we will discuss related work, specifically the terms "IT evaluation" as well as "business groups", and outline the research approach. Second, we will provide a brief description of the case study participants and their current engagement in terms of IT evaluation on the business group level. Next, the paper will provide the data analysis and key findings of the multiple case study. Finally, we will summarize their results and outline future research requirements.

## 2. Foundation

### 2.1 Business groups

In times of growing market insecurity, structures which encourage flexibility and innovation are needed to facilitate prompt responses to new market developments. Furthermore, the globalization of

markets, increasing complexity of management tasks and constantly changing economic and social structures, require permanent change in organizations (Albach et al., 2000). Corporations with group structure characteristics are capable of meeting these requirements (Granovetter, 2005). Hence, such companies are defined as business groups (Granovetter, 1995; Granovetter, 2005; Smangs, 2006).

Business groups consist of a collective of legally independent companies. These companies are linked by various ties, including ownership or economic means, through which they achieve mutual objectives (Goold and Campbell, 1989; Granovetter, 1995; Penrose, 2009). On top of this collective, consisting of individual companies, is typically a core entity which at minimum provides common administrative or financial control, or managerial coordination among member companies. The level of governance of this core entity within the business group varies depending on ownership and leadership principles within the group (Granovetter, 2005).

The core entity, also known as the corporate center acts only as a leadership entity among autonomous business units within the group. This implies that the corporate center coordinates the corporate strategies on the business sector level and rarely beyond (Goold and Campbell, 1989; Granovetter, 2005; Smangs, 2006). Statistical and financial data, such as cash flows, revenues, return on investment, costs, quality, and market share, are instruments to manage, monitor, steer, and control business entities in management holding business groups (Albach et al., 2000; Wheelen and Hunger, 2009). Experts are discordant about this organizational structure (Diekmann, 2004). The motivation to choose such a decentralized corporate structure is to give the individual business entities the opportunity to react to market changes more flexibly and quickly as well as tailor their offering to local customer needs more than a large hierarchical corporation ever could. On the other hand, the realization of synergies between individual business entities within the group is a very challenging task and requires stringent and group-wide accepted leadership principles (Diekmann, 2004; Granovetter, 2005).

## **2.2 Managing costs and performance of IT**

Managing costs and performance of IT, or IT evaluation, is derived from general managerial accounting. IT evaluation is the approach for a “specific managerial accounting problem set” (Horváth, 2009) in the context of IT. Clarification of the term managerial accounting is essential prior to the explanation of the term IT evaluation. Managerial accounting is defined as a collection of qualitative and quantitative management instruments which are utilized to coordinate corporate information flows to support management decision processes, but do not include internal or external auditing tasks (Garrison et al., 2009; Horváth, 2009). There are several specific managerial accounting approaches established with varying emphases depending on the application area (Horváth and Reichmann, 2003; Garrison et al., 2009).

IT evaluation includes the managerial accounting aspect of information technology, operational information systems and data processing within organizations as well as the corresponding leadership processes of the resource information itself. In doing so, the classical aspects of managerial accounting such as data processing, planning, governance and coordination are addressed (Van Grembergen, 2001; Garrison et al., 2009; Horváth, 2009; Krcmar, 2009).

The formal objectives of IT evaluation are to ensure effective and efficient use of IT resources (Van Grembergen, 2001; Irani and Love, 2008; Krcmar, 2009). In addition to formal objectives, aims with regard to content are also pursued, where business value, costs, quality, functionality and on-time delivery are the focus (Van Grembergen, 2001; Remenyi et al., 2007; Irani and Love, 2008; Kohli and Grover, 2008; Krcmar, 2009). A review of established literature shows that IT evaluation can be segmented into three generic tasks: monitoring, planning, and steering. Monitoring means to monitor and report the status quo whereas planning is defined as setting performance targets in alignment with the business and IT strategy. Steering is associated with a continuous target-

performance comparison and in the event that a deflection is identified, initiating appropriate steering measures (Horváth and Rieg, 2001; Garrison et al., 2009; Krcmar, 2009).

IT evaluation has a significant influence on corporate IT strategy (Buchta et al., 2007). The success of a business group IT strategy is heavily dependent on the long-term alignment of IT with decentralized processes (Tanriverdi, 2006; Buchta et al., 2007; Sahaym et al., 2007). The monitoring, steering and planning of IT resources and assets, (e.g. IT services, IT projects and IT infrastructure), from a group perspective, is essential to achieve synergies (Tanriverdi, 2006) because IT management decisions are not only made on the business entity level within a business group.

## 2.3 Research methodology

A multiple case study (Yin, 2009) was designed to elaborate on the current status quo of IT evaluation in business groups [RQ.1] and identify the challenges for IT evaluation on the group level [RQ.2]. According to current literature reviews (Brynjolfsson and Yang, 1996; Gunasekaran et al., 2006; Schauer, 2006; Frisk, 2007; Rom and Rohde, 2007; Kohli and Grover, 2008; Schwertsik et al., 2009; Hamel et al., 2010), limited information about IT evaluation in a group context is available. The exploratory and qualitative case study research method is appropriate for the theory-building stage, and aims to formulate more precise questions that further research can answer (Eisenhardt, 1989; Eisenhardt and Graebner, 2007).

The unit of analysis used is the organizational part of multinational enterprises responsible for the management of costs and performance of IT on the group level. This can be a single department within the core entity of the business group or a diversified group of entities within the organization. We decided to take 7 cases into consideration for this paper which is in line with Eisenhardt (1989), who suggests 4 to 7 cases. For multiple case studies, each case must be selected so that it either predicts similar results or predicts contrasting results but for predictable reasons (Yin, 2009). Therefore, based on accessible public corporate data such as investor relation and balance sheet reports, only corporations with a business group structure were selected.

**Table 1:** Overview of conducted interviews and cases

| Company / Case | Number of interview partners | Total duration in hours | Position                                                        |
|----------------|------------------------------|-------------------------|-----------------------------------------------------------------|
| ALPHA          | 3                            | 5.0                     | Executive IT manager<br>Senior IT manager<br>IT project manager |
| BETA           | 1                            | 2.0                     | Executive IT manager                                            |
| CHI            | 2                            | 2.0                     | Executive IT manager<br>IT project manager                      |
| DELTA          | 3                            | 3.0                     | Executive IT manager<br>Senior IT manager<br>IT project manager |
| EPSILON        | 2                            | 3.0                     | Senior IT manager<br>Senior IT manager                          |
| PHI            | 3                            | 4.0                     | Executive IT manager<br>Senior IT manager<br>Senior IT manager  |
| GAMMA          | 2                            | 3.0                     | Executive IT manager<br>Senior IT manager                       |

The data collection is based on a questionnaire which later served as a guideline for semi-structured interviews with the case study participants. The general questionnaire design was inspired by the

business engineering approach (Österle, 2010) and the internal factor analysis of the SWOT framework (Wheelen and Hunger, 2009). The questionnaire was evaluated and refined by a senior IS researcher and two senior IT managers who are specialists in the field of IT evaluation. Between December 2009 and March 2010, expert interviews were conducted with IT managers of these seven business groups. The interviews took an average of 2.75 hours and were conducted by two researchers. The number of experts per interview varied from one to three (refer to Table 1). Answers to the questions in the questionnaire as well as additionally provided information, statements and documents from the interview partners, were journalized during the interview. This documentation provides the basis for our detailed analysis. We therefore used the qualitative content analysis methodology of Mayring (2008). Additionally, the findings were qualitatively evaluated during two workshops with practitioners.

### 3. Case study findings:

#### 3.1 Status quo

In order to identify the status quo of IT evaluation in business groups, we conducted a multiple case study described in the research methodology section above. The term “status quo” stands for the current situation and approach to group IT evaluation within business groups. We present the status quo structured into three segments: *strategy layer*, *process layer*, and *system layer* (Österle, 2010). Table 2 categorizes the case study participants according to revenue and number of employees. Additionally, it provides an overview of where the IT evaluation responsibility on the group level is anchored within the organization.

*Strategy layer:* We identified that neither a common understanding of IT evaluation in business groups nor a clear definition of responsibilities exists across all case study participants. As already explained, IT evaluation from a scientific perspective can be structured in three abstract tasks: monitoring, planning, and steering. All case study participants indicated that their group IT evaluation department carries out the monitoring task. However, utilization of controlling tasks varies from only monitoring, (via planning) to a holistic approach encompassing all three tasks.

**Table 2:** Profile of corporations, corporate data is based on fiscal year 2009 (✓ achieved; – not achieved, CIO: Chief Information Officer, COO: Chief Operations Officer, CFO: Chief Financial Officer, bn = 10<sup>9</sup>)

| Company / Case | Industry segment  | Revenue > EUR 50bn | Employees > 100k | Anchoring of group IT evaluation |
|----------------|-------------------|--------------------|------------------|----------------------------------|
| ALPHA          | Financial         | ✓                  | ✓                | Group CIO                        |
| BETA           | Financial         | n/a                | –                | Group CFO & Group COO            |
| CHI            | Communications    | ✓                  | ✓                | Group CFO                        |
| DELTA          | Communications    | –                  | –                | Group CFO                        |
| EPSILON        | Consumer cyclical | ✓                  | ✓                | Group CIO                        |
| PHI            | Consumer cyclical | ✓                  | –                | Group CFO                        |
| GAMMA          | Utilities         | –                  | ✓                | Group CFO                        |

*Process layer:* We were confronted with several different organizational setups. The most straightforward setup is the anchoring of the group IT evaluation function within the group financial accounting department, specifically the group CFO area; however, variations are possible. Another frequently mentioned option is anchoring within the group IT department. This, however, has the bias that the department is controlling itself. A clear tendency towards an organizational anchoring of

group IT evaluation departments or specifically the associated tasks and responsibilities below the group CFO is observable (refer to Table 2).

The reporting of analyzed and aggregated IT facts and figures is one of the most common processes within the area of responsibility of group IT evaluation. It is used to support the monitoring task of IT evaluation, as mentioned above. The majority of case study participants report facts and figures on a quarterly and yearly basis. The quarterly reports tend to be less broad than the yearly reports. Only two corporations generate reports on a monthly basis. Additionally, the majority of case study participants focus mainly on IT costs in their reports. Furthermore, the measurement contributed business value by IT is a secondary focus that is scarcely used among the participating business groups. In addition to costs and IT business value as evaluation objects IT projects for some case study participants are in scope. Evaluation of IT projects on the group level differs slightly from the IT project evaluation within the individual business entities. The business entity IT evaluation has all local IT projects in scope whereas on the group level, only group relevant IT projects are in scope. It is very possible for local IT projects to be relevant for the whole group. Common criteria of participants for group relevance are e.g. volume in terms of resources, regulatory or strategic relevance for the entire business group, or impact on more than one business entity.

*System layer:* A wide spectrum of system approaches is observable in the field among case study participants. The system spectrum ranges from Microsoft Excel, to loose coupling of proprietary systems, to fully integrated enterprise systems. The pragmatic approach of using Microsoft Excel templates to aggregate the data from all group business entities is still observable. An integrated information systems solution, i.e. together with financial accounting, is utilized by the majority of case study participants, but in almost all cases only large business entities of the individual business groups are integrated. Therefore, it is obvious that these approaches bear a high risk of poor data reliability. We were often confronted with different data gathering processes within the same business group depending on the IT evaluation object.

### **3.2 Case study findings: Challenges**

Another aim of this study is to identify challenges within the field of group IT evaluation. As described above, we discussed our interview findings in two evaluation workshops. The identified challenges were then ranked according to their importance consequently limiting the ranking list to five elements. In the following paragraphs we highlight and explain the five most important challenges for IT evaluation in a business group context:

1. Ensuring availability of IT cost and performance figures
2. Improving IT project portfolio management
3. Enriching IT performance measurement
4. Implementing IT evaluation standards and methodologies
5. Bridging the gap between IT cost management and operational process cost management

*1. Ensuring availability of IT cost and performance figures:* The group-wide availability of IT cost and performance figures in business groups is one of the most substantial challenges. Most participants explained that IT departments in business entities report only a minimum amount of facts and show a low willingness to cooperate with the responsible core entity. This circumstance is mainly facilitated by the business group structure and inherited heterogeneous IT environments of each legal business entity. Yet, this is not only focused on IT costs to some extent it also encompasses other IT evaluation objects, i.e. the IT project portfolio, IT infrastructure and IT sourcing activities. For instance, drawing a holistic IT cost picture across the entire group was, for most case study participants, an almost insolvable challenge or only achievable by accepting many abstractions and compromises.

*2. Improving IT project portfolio management:* Most case study participants are confronted with challenges regarding their group-wide IT project portfolio management. There are several methodologies for IT project portfolio management at hand (Morris and Pinto, 2007; Kerzner, 2010), but they are tailored to single business unit corporations and do not apply to business groups. The majority of case study participants indicated that it is challenging to establish group-wide transparency across all projects and to prioritize those projects that are of group relevance. Thereby, the need for transparency encompasses information about all ongoing IT projects including their characteristics like business case, strategic importance and current status. Furthermore, it is essential to differentiate between business entity projects and group projects. The latter kinds of projects have to be bundled if possible and prioritized on the group level. However, this approach implies strong central governance and inherits extensive administrative efforts. Furthermore, local business demands may not be recognized properly within the centralized project portfolio management. This raises the challenge of how the prioritization methodology should be structured.

*3. Enriching IT performance measurement:* Performance measurement is one of the essential parts of group IT evaluation. Most of the case study participants indicated that they generally only measure IT costs on the group level. Measurement of costs however, covers only the IT efficiency perspective. In general terms they measure: "Are we doing the things in the right way?" Going a step further, they do not measure their IT effectiveness on the group level, which would provide information about the impact on business process costs, specifically, value creation. In general terms this means: "Are we doing the right things?" All case study participants confirm that their performance measurement methodology, which is in place on the group level, is not sufficient. Furthermore, a significant part of the case study participants indicated that reporting is only conducted on a yearly basis. This leads to the fact that the IT cost report across the entire group is frequently issued at least four to eight months after the last IT investments of the previous fiscal year were carried out. Due to this late reporting in some participants' organizations, IT executives have to make IT investment and budget decisions for the next fiscal year before they have read the last year's IT cost report.

*4. Implementing IT evaluation standards and methodologies:* Establishing and maintaining group-wide IT evaluation standards and methodologies is a key success factor (Barton, 2003). It enables comparability between the business entities with regards to their IT evaluation objects. Case study participants indicated multiple times that a group-wide standardized business case approach, including standardized metrics, is neither in-place nor does a process to follow up on business case results after a particular implementation exist. Furthermore, case study participants seek stable definitions of IT evaluation terms, e.g. IT cost definitions or an underlying chart of accounts. This is important in order to enable cross-year and cross-entity analysis of IT costs. In addition, case study participants criticize the lack of compatibility of management accounting systems and demand standardized interfaces to consolidate the IT cost and performance figures group-wide. Ideally, information is provided by a group-wide Management Information System (MIS).

*5. Bridging the gap between IT cost management and operational process cost management:* All case study participants agreed on the need to establish a link between IT costs and operational process costs. However, only a few indicated that they are currently able to do so. One example would be the mapping of IT costs on applications or individual business process steps. Therefore, a holistic (IT) cost management approach is required. This means not only focusing on IT costs but also considering the total costs of a business process, since even a company with an IT cost disadvantage could at the same time have a total cost advantage. This approach, if consistently established across a federal organization based on group-wide generic business processes, would allow for internal cross-entity and external benchmark initiatives.

### **3.3 Discussion**

The multiple case studies delivered promising findings and allowed us to derive our preliminary results. The organizational anchoring of group IT evaluation in business groups differs. The task

definition itself differs from case to case slightly, but primary undertakings all overlap. Moreover, the group IT evaluation aims are similar to the aims of established IT evaluation approaches. Furthermore, the generic management accounting processes (planning, monitoring, and steering) are covered in both domains as well as the evaluation objects to some extent.

The group IT evaluation embodiment is heavily influenced by the group IT governance. Therefore we came to the conclusion, the weaker the governance, the weaker the operative focus of group IT evaluation. Therefore, group IT evaluation generally has a strong strategic orientation. The findings showed that IT evaluation focuses much more on financial aspects (e.g. costs) than on technological facts (e.g. service levels). Therefore, similarities with legal-entity controlling are observable. Evaluation of the identified challenges from a holistic perspective shows that established instruments (e.g. IT project portfolio evaluation) are not able to be used within the group environment until fundamental adjustments are applied. Furthermore, the complex group environment impedes transparency and comparability of business entity IT cost and performance figures. The identified challenges lead us to the conclusion that either established IT management frameworks are not capable of meeting the requirements of group IT evaluation or a stringent group IT governance is not in place.

We propose that the ideal implementation of a group IT evaluation methodology in business groups should be an arrangement of central and decentralized IT evaluation entities. Therefore, decentralized IT evaluation departments are responsible for local planning, steering and monitoring of IT resources and for providing standardized IT figures to the central or respective group IT evaluation. The group IT evaluation entity is responsible for supporting the alignment process between group business strategy and IT strategy. Furthermore, it is in charge of ensuring a group-wide efficient and effective usage of IT.

#### **4. Conclusion and outlook for further research**

Management of IT costs and performance is a central mean for strategic IT management, especially in business group environments. Our study specifically tries to address the important issue of the existing status quo of group IT evaluation [RQ.1] and expose some of the relevant challenges for this discipline [RQ.2].

An explorative, multiple case study analysis based on interviews with seven multinational business groups, contributed new findings to the research topic. We discovered various task definitions and approaches as well as organizational setups. It was revealed that that all participants face similar challenges in the area of group IT evaluation the most important of which include: ensuring group-wide availability of IT cost and performance figures; improving group-wide IT project portfolio management; enriching group-wide performance measurement; implementing group-wide IT evaluation standards and methodologies; and bridging the gap between IT cost management and operational process cost management.

Based on our findings, future research should focus on answering two key questions: “Are the identified challenges in a business group context addressed by established IT evaluation frameworks?” and “Is an essential group IT evaluation framework required?”.

One possible limitation of our study might be the case selection. Generalizability of the results could be improved by examining more cases and evaluation iterations. Among all case study participants, Company ALPHA plays a special role because we had access to significantly more documents and information. This fact may have influenced our findings. However, we were aware of this circumstance and tried to judge each case study participant equally.

## References

- Albach, H., Brockhoff, K., Eymann, E., Jungen, P., Steven, M. and Luhmer, A. (2000) *Theory of the firm: Erich Gutenberg's foundations and further developments*, Springer, Berlin.
- Barton, R. (2003) *Global IT Management: A Practical Approach*, John Wiley & Sons, Boston.
- Brynjolfsson, E. and Yang, S. (1996) "Information Technology and Productivity: A Review of the Literature", *Advances in Computers*, Vol. 43, No. 1, pp. 179-214.
- Buchta, D., Eul, M. and Schulte-Croonenberg, H. (2007) *Strategic IT Management - Increase Value, Control Performance, Reduce Costs*, Gabler, Wiesbaden.
- Diekmann, M. (2004) "Dezentrale Führung als überlegenes Prinzip", *Harvard Business manager*, Vol. 26, No. 1, pp. 112-117.
- Eisenhardt, K. M. (1989) "Building Theories from Case-Study Research", *Academy of Management Review*, Vol. 14, No. 4, pp. 532-550.
- Eisenhardt, K. M. and Graebner, M. E. (2007) "Theory building from cases: Opportunities and challenges", *Academy of Management Journal*, Vol. 50, No. 1, pp. 25-32.
- Frisk, E. (2007) *Categorization and Overview of IT Evaluation Perspectives: A Literature Review*, European Conference on Information Management and Evaluation 2007, Montpellier, France.
- Garrison, R. H., Noreen, E. W. and Brewer, P. C. (2009) *Managerial Accounting*, McGraw-Hill, Irwin.
- Gell, J., Jostarndt, P., Kengelbach, J. and Ross, A. (2010) *Accelerating Out of the Great Recession: Seize the Opportunities in M&A*, The Boston Consulting Group, Boston.
- Goold, M. and Campbell, A. (1989) *Strategies and styles: the role of the centre in managing diversified corporations*, Blackwell, Oxford.
- Granovetter, M. (1995) "Coase Revisited: Business Groups in the Modern Economy", *Industrial and Corporate Change*, Vol. 4, No. 1, pp. 93-130.
- Granovetter, M. (2005) *Business Groups and Social Organizations*, In *The Handbook of Economic Sociology* (Eds, Smelser, N. J. and Swedberg, R.) Princeton University Press, New York.
- Gunasekaran, A., Ngai, E. and McGaughey, R. (2006) "Information technology and systems justification: A review for research and applications", *European Journal of Operational Research*, Vol. 173, No. 3, pp. 957-983.
- Hamel, F., Herz, T. P., Uebernickel, F. and Brenner, W. (2010) *State of the Art: Managing Costs and Performance of Information Technology*, Americas Conference on Information Systems 2010, Lima, Peru.
- Horváth, P. (2009) *Controlling*, Vahlen, München.
- Horváth, P. and Reichmann, T. (2003) *Vahle's Grosses Controlling Lexikon*, Vahlen, München.
- Horváth, P. and Rieg, R. (2001) "Grundlagen des strategischen IT-Controllings", *HMD - Praxis der Wirtschaftsinformatik*, Vol. 38, No. 217, pp. 9-17.
- Irani, Z. and Love, P. (2008) *Evaluating information systems: public and private sector*, Butterworth-Heinemann, Oxford.
- Ives, B. and Jarvenpaa, S. L. (1991) "Applications of Global Information Technology - Key Issues for Management", *MIS Quarterly*, Vol. 15, No. 1, pp. 33-49.
- Kerzner, H. (2010) *Project Management: Best Practices: Achieving Global Excellence*, John Wiley & Sons, Hoboken.
- Kohli, R. and Grover, V. (2008) "Business value of IT: An essay on expanding research directions to keep up with the times", *Journal of the Association for Information Systems*, Vol. 9, No. 1, pp. 23-39.
- Krcmar, H. (2009) *Informationsmanagement*, Springer, Berlin.
- Mayring, P. (2008) *Qualitative Inhaltsanalyse: Grundlagen und Techniken*, Beltz, Weinheim.
- McAfee, A. and Brynjolfsson, E. (2008) "Investing in the IT that makes a competitive difference", *Harvard Business Review*, Vol. 86, No. 7/8, pp. 98-107.
- Minton, S. and Shirer, M. (2010) "Worldwide IT Spending to Grow 3% in 2010, According to IDC's Worldwide Black Book", [online], International Data Cooperation (IDC), <http://www.idc.com/about/viewpressrelease.jsp?containerId=prUS22192510&sectionId=null&elementId=null&pageType=SYNOPSIS>.
- Morris, P. and Pinto, J. K. (2007) *The Wiley guide to project, program & portfolio management*, John Wiley & Sons, Hoboken.
- Österle, H. (2010) *Business in the Information Age: Heading for New Processes*, Springer, Wiesbaden.
- Penrose, E. T. (2009) *The Theory of the Growth of the Firm*, Oxford University Press, Oxford.
- Remenyi, D., Bannister, F. and Money, A. (2007) *The Effective Measurement and Management of ICT Costs and Benefits*, Elsevier, Oxford.

- Rom, A. and Rohde, C. (2007) "Management accounting and integrated information systems: A literature review", *International Journal of Accounting Information Systems*, Vol. 8, No. 1, pp. 40-68.
- Sahaym, A., Steensma, H. K. and Schilling, M. A. (2007) "The influence of information technology on the use of loosely coupled organizational forms: An industry-level analysis", *Organization Science*, Vol. 18, No. 5, pp. 865-880.
- Schauer, H. (2006) "Vergleichende Buchbesprechung IT-Controlling", *Wirtschaftsinformatik*, Vol. 48, No. 3, pp. 212-218.
- Schwertsik, A., Wolf, P. and Krcmar, H. (2009) *IT-Controlling in Federal Organizations*, European Conference on Information Systems 2009, Verona, Italy.
- Smangs, M. (2006) "The nature of the business group: A social network perspective", *Organization*, Vol. 13, No. 6, pp. 889-909.
- Tanriverdi, H. (2006) "Performance effects of information technology synergies in multibusiness firms", *MIS Quarterly*, Vol. 30, No. 1, pp. 57-77.
- Van Grembergen, W. (2001) *Information technology evaluation methods and management*, Idea Group Publishing, Hershey.
- Walter, G. A. and Barney, J. B. (1990) "Research Notes and Communications Management-Objectives in Mergers and Acquisitions", *Strategic Management Journal*, Vol. 11, No. 1, pp. 79-86.
- Wheelen, T. L. and Hunger, H. (2009) *Strategic Management and Business Policy: Achieving Sustainability*, Prentice Hall, Upper Saddle River.
- Yin, R. K. (2009) *Case Study Research: Design and Methods*, Sage Publications, Thousand Oaks.