

JUSTUS LIEBIG



UNIVERSITY
GIESSEN



Sebastian Wolf / Barbara E. Weißenberger / Rüdiger Kabst / Marius Wehner

**Management accountants as business partners:
An empirical analysis based on the theory of reasoned action**

Working Paper 3 / 2010

– Working Paper Series Controlling & Business Accounting –

Keywords: Management accountant; business partner; theory of reasoned action;
survey; structural equation modeling

Edited by: Chair for Controlling and Business Accounting
Prof. Dr. Barbara E. Weißenberger
at the Department of Business Administration and Economics,
Justus Liebig University Giessen
<http://wiwi.uni-giessen.de/controlling/>

JEL-Classification: M41

MANAGEMENT ACCOUNTANTS AS BUSINESS PARTNERS: AN EMPIRICAL ANALYSIS BASED ON THE THEORY OF REASONED ACTION

Abstract

Business practice and literature frequently advocate more business oriented roles for management accountants. The aim of this study is to examine reasons for management accountants to act as business partners and to analyze corresponding performance effects. More specifically, two research questions are investigated: (i) why do management accountants act as business partners, and (ii) are business oriented management accountants beneficial to organizations?

To answer these research questions we derive a theoretical model incorporating the ideas of the theory of reasoned action. We employ covariance-based structural equation modeling and dyadic survey data gathered from German management accountants and general managers for our analyses. Empirical evidence suggests that (i) in contrast to attitude, subjective norms have an effect on whether management accountants act in a business oriented way and that (ii) business orientation of management accountants is beneficial to organizations.

Key words

Management accountant; business partner; theory of reasoned action; survey; structural equation modeling

INTRODUCTION

Recent lively debates in professional (e.g., Siegel, Sorensen, & Richtermeier, 2003; Davis & McLaughlin, 2009; IBM, 2010) and academic (e.g., Burns & Baldvinsdottir, 2005; Järvenpää, 2007) literature advocate more business oriented roles for the finance function and, in particular, management accountants¹. Most of this literature claims that management accountants need to become a more proactive internal business consultant, a business advisor, or simply a business partner to management.

Management accountants have always been placed in a service role within organizations. The seminal classification introduced by Simon et al. (1954) assigned them the responsibility to provide information for score-keeping, attention-directing, and problem-solving. By the 1980s, the emphasis of management accountants' activities lay in score-keeping and maintaining the financial database systems, often negatively labeled as 'number crunching' (e.g., Newman, Smart, & Vertinsky, 1989, p. 136). In the last decades, management accounting as well as the roles of management accountants have undergone dynamic changes. The priorities with regard to score-keeping decreased and far more time and resources were devoted to business oriented tasks and responsibilities (Järvenpää, 2007; Siegel & Sorensen, 1999). It is claimed that management accountants should seize the opportunities, for instance, offered by advanced IT systems (e.g., Caglio, 2003; Granlund & Malmi, 2002) and shift capacities from their 'traditional' tasks like score-keeping or 'number crunching' toward business related activities. In this regard, they should be more involved in decision making processes and they should expand the scope of their responsibilities. It is postulated that business oriented management accountants are more able to provide enhanced services to general managers and contribute more strongly to the achievement of organizational goals (Siegel & Sorensen, 1999, p. 6). If management accountants stick to their 'traditional' behavior, there is the risk that they might lose relevance in their organizations as highlighted in the seminal work of Johnson & Kaplan (1987).

A substantial number of research initiatives addressed aspects concerning the business orientation of management accountants. Whereas early studies followed a more normative style (e.g., Kaplan, 1995; Regel, 2003) and offered explanations on the need for business oriented management accountants, recent studies increasingly applied empirical research

¹ Management accountants are sometimes also denoted as controllers. In this paper, we only use the term "management accountant" and do also follow this terminology in those cases where the original reference applies the term "controller".

strategies. These studies follow heterogeneous objectives and varying research approaches, for instance, case-based or interview-based research (e.g., Granlund & Lukka, 1998; Byrne & Pierce, 2007), survey research (e.g., Coad, 1999; Mouritsen, 1996), or hybrid forms like large-scale telephone interview surveys (e.g., Siegel & Sorensen, 1999).

Notwithstanding the broad strand of existent literature in this field, up to now, knowledge and theory are “rather underdeveloped, anecdotal and fragmented” (Järvenpää, 2007, p. 102). In particular, relatively little is known about consequences of those new activities and roles (Byrne & Pierce, 2007, p. 474; Scapens & Bromwich, 2001, p. 253). For instance, there is no satisfying answer to the question whether business orientation of management accountants even has a positive impact on the intended objectives. Furthermore, although studies address aspects like the process of changing management accounting culture, it remains unclear whether the actual practice of management accountants acting in a business oriented way depends on changes in their own attitudes or on ‘pressure’ from their organizational environment. Thus, the question arises if there is rather a “role-making” or rather a “role-taking” (Katz & Kahn, 1978, p. 195-197 and 219; Turner, 1962, p. 21f.) of management accountants. Consequently, we pursue this stream of literature with our research project and address especially two research questions: First, why do management accountants act as business partners? Second, are business oriented management accountants beneficial to organizations?

In order to answer our research questions, we incorporate the thoughts of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) to explain and understand the behavior of management accountants. Originating from social psychology, the theory of reasoned action has been widely applied in various academic disciplines and has shown sufficient reliability to predict behavior (e.g., Sheppard, Hartwick, & Warshaw, 1988). For our analyses, we derive a model based on this theory and test it with dyadic empirical data gathered from German management accountants and general managers from a cross-sectional survey.

We contribute to literature by deepening and advancing the understanding of management accountants’ business orientation and by offering evidence on the reasons for business partnering as well as for the positive results of corresponding activities. Furthermore, we affirm that business orientation of management accountants should be assessed as being positive and that management accountants can contribute to firm performance. With our approach, we follow the calls for theoretically grounded scholarly activities, for more research on management problems, and for a stronger focus on management accounting practice

(Otley, 2001; Merchant, Van der Stede, & Zheng, 2003, p. 251). Furthermore, our research is distinctive since we are able to rely on a relatively large dyadic data set for conducting our analyses which offers interesting insights and reduces the risk of key informant or common method biases.

To answer the research questions we proceed as follows. We derive the theoretical basis of our study in the next section: we review relevant literature, specify our hypotheses, and set up the research model. In Section 3, we describe research design, sample, and constructs employed in our study. The subsequent Section 4 presents the findings of our work. We conclude our paper in Section 5 and provide final remarks and suggestions for future research.

RELATED LITERATURE AND HYPOTHESES

Literature on business orientation of management accountants

A substantial strand of literature addresses aspects on business orientation of management accountants. The studies can be broadly distinguished into two streams: several normative style studies and a broad range of empirical studies.

Studies following a more normative style (e.g., Colton, 2001; Kaplan, 1995, Regel, 2003) mainly argue that management accountants have to participate more in managerial decision making and in the formulation as well as in the implementation of strategy. Moreover, they point out that information systems must be amended and designed by management accountants to satisfy the information needs of management. Although these studies contribute by offering arguments for discussions in the field of the present research, they only offer their conceptual ideas or anecdotal evidence and do not test or verify their suggestions that business orientation of management accountants is beneficial.

Empirical studies address heterogeneous aspects in the field of management accountants' business orientation. More in general, Mouritsen (1996) shows that providing information is no longer the only responsibility of management accountants. He claims a higher variation in tasks and distinguishes five different categories of management accountants' activities: bookkeeping, consulting, banking, controlling, and administrating. More specifically, Siegel & Sorensen (1999) report developments in management accountants' tasks and roles during a five year period at the end of the 1990s and show various changes in the profession. In particular, management accountants spend more time analyzing data and participating in decision making processes. Moreover, they shift more

capacities toward non-traditional accounting tasks like strategic planning, internal consulting, or process improvement, and increasingly hold leadership roles in cross-functional teams. Furthermore, the authors report the emergence of the business partner role of management accountants triggered by the demands of internal customers.

In his study, Coad (1999) also deals with the emergence of the business partner role. He focuses on a lack of matching between the claim that management accountants become an internal consultant and the corresponding motivational and behavioral patterns. He especially addresses two variants of goal orientation of management accountants: learning and performance goal orientation. Whereas individuals with a learning goal orientation typically have an intrinsic interest in their work and intend to improve their competencies, individuals with a performance goal orientation behave in such way to achieve a positive evaluation of superiors or important others (Coad, 1999, p. 110f.). He reveals in his study that management accountants who possess or are able to develop a learning goal orientation are more likely to become a proactive internal business consultant or a business partner than management accountants with a performance goal orientation.

The recent study of Davis & McLaughlin (2009) with senior financial executives analyzes the level of business orientation in organizations. Similar to other studies (e.g., Granlund & Lukka, 1998), they argue that the level of business orientation is intimately linked with the level of management accountants' involvement in managerial decision making. Their results show a high degree of business partnering in broad areas, especially on senior level. Nevertheless, they also exhibit wide variations regarding the extent of business partnering and claim that the level of business partnering is not always optimal. In this context, they also note a partial lack of awareness regarding the opportunities for business partnering and its potentially positive effects.

Other studies address the prerequisites for business orientation and the drivers of a change in management accounting culture. Advanced IT systems offer additional capacities for management accountants which allows them to shift their priorities toward business oriented activities (Caglio, 2003; Granlund & Malmi, 2002). Furthermore, beside sound accounting knowledge, management accountants need business awareness to fulfill a business partner role (Burns & Baldvinsdottir, 2005; Byrne & Pierce, 2007). Moreover, change toward a business oriented management accounting culture can be triggered by changing business conditions (Burns & Baldvinsdottir, 2005) or by comprehensive sets of formal and informal interventions (Järvenpää, 2007).

To sum up, prior research indicates a higher variation of management accountants' tasks and a partial shift of capacities toward non-traditional accounting activities. The quintessence of business orientation and business partnering is the proactive involvement of management accountants in strategic and operational decision making. Business oriented management accountants are expected to be active members in teams that are in charge of important decisions (Siegel & Sorensen, 1999, p. 5) and that they exhibit the willingness as well as the ability to contribute more value to their organization (Järvenpää, 2007, p. 100). Albeit the expectations of what business partnering is might seem to be clear, there still remains a lack of evidence if business oriented behavior is triggered by their own attitudes or by expectations from their environment and if business orientation of management accountants is indeed beneficial to organizations.

Hypotheses development and research model

The two highlighted research gaps are reflected in our research questions. To answer the first question about the reasons for management accountants to act as business partners, we especially rely on the thoughts of the theory of reasoned action. In order to answer the second research question, we expand the theoretical model to derive a more comprehensive research model.

The theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) provides a theoretical framework for our study and serves as a basis to derive our hypotheses. This theory is designed to predict and explain the behavior of individuals in specific contexts. The validity of the theory and its extensions has been supported by a broad strand of research in various academic disciplines. However, there have only been a few applications in an accounting context so far (e.g., Dowling, 2009; Hanno & Violette, 1996; Uddin & Gillet, 2002).

The core idea of the theoretical framework is that the behavior of an individual is a function of its intentions. Intentions are in turn shaped by the individual's attitude and by subjective norms (Ajzen, 1988, p. 118). Attitude toward a certain behavior is determined by the individual's evaluation on performing the behavior. Whether positive or negative in nature, attitude captures the individual's beliefs concerning the consequences of its behavior. Subjective norms refer to the perceived social pressure that the individual is exposed to when performing or not performing a certain behavior. This aspect especially applies to the perceived social pressure originating from people important to the individual.

The present research especially addresses behaviors and actions of management accountants from an ex post perspective. Consequently, intentions are of reduced importance compared to the actual practice of acting in a business oriented way reflecting the strong association between the two constructs. The strong association between behavior and intentions as its immediate antecedent (Ajzen, 2002, p. 107; Ajzen, 1988, p. 113f.) is confirmed by meta analytic evidence (e.g., Kim & Hunter, 1993; Sheppard, Hartwick, & Warshaw, 1988) as well as several single research activities in an accounting (e.g., Hanno & Violette, 1996, p. 65) or non-accounting (e.g., Venkatesh & Davis, 2000) context. Against this background and in line with prior literature we use the construct “Practice” as proxy for the actual behavior of management accountants acting in a business oriented way.

Figure 1 provides an overview of our theoretical argumentation and corresponding hypotheses. We argue that a higher business orientation of management accountants is deemed to be beneficial to organizations. More specifically, we derive a research model embracing two elements: First, we address the actions and activities of management accountants. Based on the underlying theory, we postulate that the practice of acting as a business partner is influenced by attitude and subjective norms perceived by management accountants. Second, we focus on the impact of business orientation and argue that business orientation will result in a higher contribution of management accountants and, subsequently, performance in terms of internal efficiency.

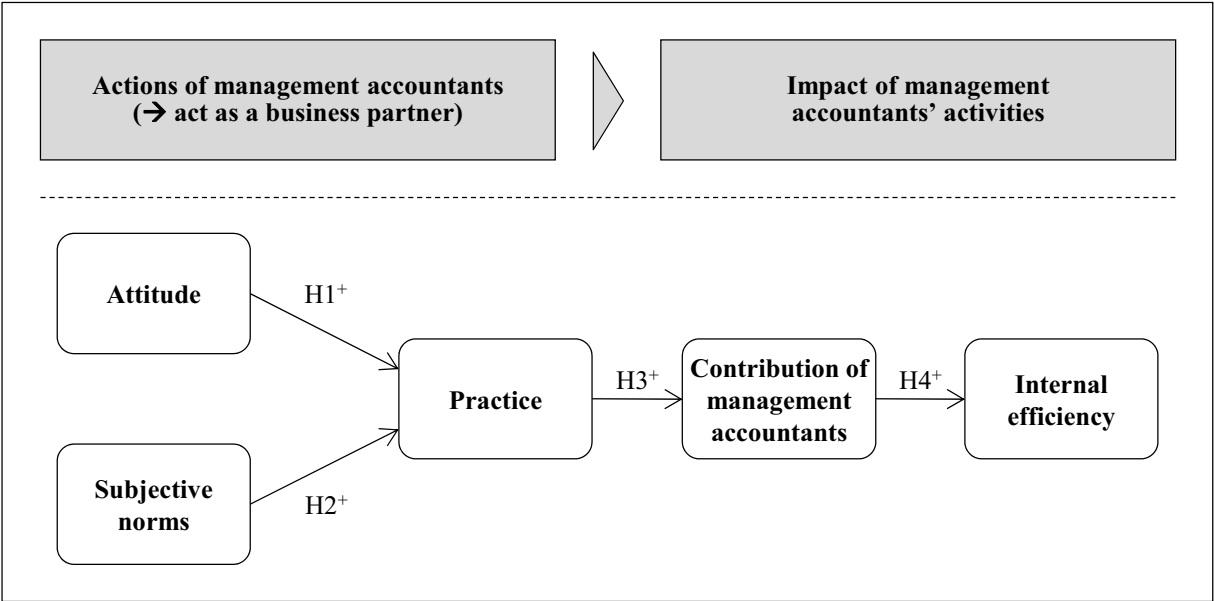


Figure 1: Research model

Our theoretical basis offers two determinants for the practice of management accountants acting in a business oriented way: attitude and subjective norms. The attitude of an individual is influenced by his or her beliefs embracing, for instance, opinion, knowledge, or stereotypes (Fishbein & Ajzen, 1975, p. 13). As described earlier, academic research, publications in professional journals, and communications of diverse interest groups postulate the positive outcome of a business orientation of management accountants. As a result, the postulated aspects might also change beliefs and attitudes of management accountants, at least in a medium-range perspective. In this regard, management accountants who believe that acting as business partners leads to positive effects, for example, enhanced managerial decisions or performance, are more likely to have a more positive attitude toward this trend. Consequently, it can be expected that management accountants with such a positive attitude will be more likely to pronounce business oriented activities.

This idea is also supported by the findings from Coad (1999) who reports that management accountants possessing a learning goal orientation are more likely to act as internal business consultants than management accountants with a performance goal orientation. If management accountants with such an emphasis on a learning goal orientation encounter the trend toward business orientation and the advocated positive outcome, they are likely to adapt their behavior and act more like a business partner because this adaptation satisfies their needs for increasing competencies. Thus, current trends in management accounting will presumably enforce management accountants' attitude toward acting as business partners and will subsequently change their behavior. This argumentation leads to our first hypothesis:

H1: The more positive the attitude toward acting as a business partner, the more pronounced the practice of acting as a business partner.

Beside the individual's attitude, our underlying theory posits the subjective norm as the second determinant toward practice. Foremost, the individual's perception of whether people who are important to him or her approve or disapprove of a specific behavior impacts the individual's behavioral intention and practice (Fishbein & Ajzen, 1975, p. 302). This subjective norm might influence the behavior of the individual since he or she might behave accordingly even though he or she does not expect that the pursued goals will be achieved with the specific behavior.

Important persons for management accountants are, for example, the CFO, line managers, or the CEO of the organization. While the importance of CFOs and their role for

changes in the management accounting systems just recently attracted research activities (e.g., Baxter & Chua, 2008; Naranjo-Gil, Maas, & Hartmann, 2009), a broad strand of literature on the role and the importance of CEOs and other senior managers already exists (Carpenter, Geletkanycz, & Sanders, 2004; Hambrick & Mason, 1984).

This reasoning leads to the conclusion that those management accountants, who perceive that a subjective norm on the importance of acting in this way is set by important others, are more likely to act as business partners. Consequently, we derive our second hypothesis as follows:

H2: The stronger the perceived subjective norm for acting as a business partner, the more pronounced the practice of acting as a business partner.

The rationale for management accountants acting as business partners is to increase the benefits of their activities. In particular, Siegel & Sorensen (1999), p. 6, claim that management accountants possessing enlarged responsibilities and occupying wider roles contribute more strongly to the organization and support the enhancement of decision making processes. Byrne & Pierce (2007) support this notion as they postulate a positive effect of an enhanced business knowledge of management accountants on decision making processes and an influence of management accountants on business results.

One of the prerequisites of the enlarged responsibilities and wider roles mentioned above is the advancement of IT systems that enable management accountants to shift capacities (e.g., Granlund & Malmi, 2002). Released capacities allow management accountants to put more emphasis on a deeper analysis instead of the compilation and calculation of data as well as on enhanced recommendations based on relevant information which, in turn, should subsequently lead to improved performance. A higher degree of participation in the managerial decision making processes, which should come along with a higher business orientation, also enables management accountants to carry out a faster analysis. If they are involved in the generation of decision opportunities, they can offer an earlier analysis and proposals.

Further support for this argumentation is provided by the thoughts of the resource-based view (e.g., Barney, 1991). Capable management accountants – i.e., business partners – are typically the sole or an important provider of information required by the management and, therefore, are presumably able to add value to the firm. Management requires this information which might be a basis for better decisions and which represent a possible source of competitive advantage.

Hence, the third hypothesis summarizes the argumentation as follows:

H3: The more pronounced the practice of acting as a business partner, the higher the contribution of management accountants.

In more detail, advanced contribution by management accountants is linked with enhanced decision making. Adequate information supports the managerial decision making processes and enables managers to make better decisions. This is in line with organizational theory which suggests that the performance of an organization depends on actions of individuals, especially managers (e.g., Burney & Widener, 2007, p. 44). Initially, an increased quality of decisions leads to enhanced implementation processes, for instance, in terms of acceptance and feasibility, which should result in a higher internal efficiency, such as a better allocation of resources and improved internal processes.

Research on the association between management accountants' activities related to decision making processes and performance (Sathe, 1982; Zoni & Merchant, 2007) adds to this argumentation. Those studies show positive correlations or a positive impact of an involvement of management accountants in decision making processes on firm performance. In addition, the study by Ferreira & Moulang (2009) reveals that an involvement of management accountants in strategic management processes – which is closely linked with management accountants' business orientation and a high level of contribution – enhances strategic implementation and strategic effectiveness.

Consequently, we postulate that higher contributions of management accountants lead to higher levels of performance. Capturing the argument that enhanced decision making processes positively influence internal processes or internal efficiency, we posit the fourth hypothesis as follows:

H4: The higher the contribution of management accountants, the higher the internal efficiency.

RESEARCH METHOD

Survey design and administration

We conducted a large-scale mail survey for data gathering in the period of March to May 2009. We obtained our sample from a database of a German commercial list provider. Whereas the database covers all industries, we excluded financial institutions due to their specific business models and regulatory requirements. We selected the top 1,500 companies

in terms of revenue from the remaining corporations as our target sample. For various reasons (for example, double counts due to legal form constructions or ceased operations) we had to discard another 281 companies resulting in a final target population of 1,219 companies for our study.

Survey research applying single informant-designs, i.e., one respondent per company answers relevant questions and assesses constructs, faces the risk of key informant and common method biases. Information provided by survey participants, i.e., the key informants, is in most cases not limited to personal opinions since ratings typically also embrace departmental or company-related aspects. Potential key informant biases might arise if the respondents do not possess adequate knowledge due to their functional or hierarchical position in the company (Bagozzi & Yi, 1988, p. 423-425). We decided to approach two persons in each company, i.e., we implemented a dyadic research design, to ensure informant competency with regard to functional and hierarchical position. Thus, we surveyed the heads of the respective management accounting departments posing questions related to actions of management accountants and asked general managers of the companies for their assessment on the impact of management accountants' activities. The resulting multi informant-design should also alleviate a possible common method bias which might arise if independent and dependent variables are assessed by the same respondent (Podsakoff & Organ, 1986; Podsakoff et al., 2003, p. 881-883). We limit the risk for this potential bias, which can be explained by consistency motifs, implicit theories, social desirability, or affectivity of respondents, by administering questionnaires to two persons in every targeted company as mentioned above. Furthermore, we conducted Harman's (1967) single-factor-test after data gathering to check for possible signals of common method bias. This test checks whether an exploratory factor analysis of all relevant survey items results in one or more than one factors. The results of the exploratory factor analysis did not reveal a single or common factor indicating no risk of common method bias.

Data collection procedures followed a three-step implementation strategy. First, we contacted each firm by phone to check data accuracy, to ask for the latest contact details, and to introduce the study. Second, we sent a personal letter, a questionnaire as well as a second survey package to the heads of the management accounting departments. We asked them (i) to fill out the functionally customized questionnaires for management accountants and (ii) to forward the second survey package to a general manager, i.e., a member of the upper or upper middle management such as the CEO, managing director, or division manager. Third, we sent out two reminder emails, two respectively four weeks after the initial mailing to boost the

response rate. In addition, we personalized all correspondence and offered a research report covering the main findings of our study to all participants.

Sample description

A total of 280 persons participated in our study. Eight questionnaires had to be discarded due to large number of missing data. Of the remaining 272 responses, 160 were from management accountants and 112 were from general managers. Due to the dyadic research design we need matching pairs of questionnaires. Thus, the final sample consists of the answers of 112 firms.

Our final sample contains medium- and large-sized companies in terms of revenue (mean = 3,684 million EUR; standard deviation = 8,390 million EUR) and in terms of number of employees (mean = 12,881; standard deviation = 45,549). Furthermore, our sample shows a reasonable spread across industries. Predominant industries are wholesale/retail (13.39%), chemicals/health care (11.61%), utilities (10.71%), automotive (9.82%), and industrial goods (8.93%).

One of the inherent limitations of survey research is non-response bias. To check for any bias we split the data set into three groups according to the number of days that has passed from initial mailing until receipt of the returned instrument and searched for possible divergent answers between the first and the last third. The underlying rationale is that the answers of respondents who participate later are expected to be more similar to those by non-respondents (Armstrong & Overton, 1977, p. 397). To assess the answers, we employed t-tests for every item of the questionnaire. However, we found no significant differences ($p < 0.05$) between early and late respondents.

Description and measurement of constructs

Our research model as depicted in Figure 1 contains five constructs to measure the respective theoretical concepts. The constructs are measured as latent variables which comprise multiple indicators. We applied reflective measurements to all constructs. With one exception, we applied a six-point rating scale with 1, “Do not agree at all”, and 6, “Totally agree”, as anchors. For internal efficiency, the anchor points were 1, “Much worse”, and 6, “Much better”. In the following, we provide basic explanations on the operationalization of our constructs. Full details on item formulation as well as applied item codes are given in Table 4 in the Appendix.

We rely on the recommendations of Ajzen (2006) to develop new scales related to the theory of reasoned action. In this regard, we reviewed the literature described earlier in our paper to derive three scales with two items. Due to the intimate link between business orientation of management accountants and managerial decision making, we placed emphasis on the participation of management accountants in decision making processes (e.g., Davis & McLaughlin, 2009, p. 37; Sathe, 1983, p. 31). Attitudes of individuals focus on how individuals assess a specific behavior. In consequence, to measure the construct “Attitude”, we asked the respondents how they evaluate a possible involvement of management accountants in decisions of general managers in terms of attractiveness and expedience. Subjective norms capture aspects which are expected of the individual. Thus, with the corresponding instrument we asked the management accountants whether general managers appreciate and expect an involvement of management accountants in decision making. Since practice reflects the actual behavior of individuals we incorporated aspects of the effective participation and of the frequency of an involvement of management accountants in the construct related to “Practice”.

To measure the construct “Contribution of management accountants”, we basically rely on the underlying work of Huselid (1995), p. 637, who draws on the seminal research of Barney (1991). Whereas Huselid (1995) addressed the contribution of human resource management practices on corporate performance, we adapted his thoughts to our research setting and derived a three item measure which especially focuses on the outcome of management accountants’ activities. Similar to the procedures for deriving prior constructs, we devoted special attention to the impact of information provided by management accountants as well as to managerial decision making for item formulation (Sathe, 1983, p. 31).

Finally, we measure “Internal efficiency” with a three item scale from Homburg et al. (2008) which was adopted from Mahmood & Soon (1991). The items, which measure the aspects relative to the company’s competitors in the last three years, comprise cost efficiency, resource allocation, and cost awareness. Whereas the original scale includes four items, the results of the pilot-test procedures compelled us to exclude one item on internal processes.

Since our research was conducted in Germany, we applied German language for all correspondence including the questionnaires. Thus, if relevant literature or related scales were in English, we took established back-translation literature into consideration (Brislin, 1970; Van de Vijver & Hambleton, 1996). Furthermore, we pilot-tested the survey instruments with

five executives from business practice and six academic researchers to ensure reliable and valid measurements in our study. Some of the survey items were adjusted slightly afterwards.

RESULTS

Assessment of constructs

For our analyses, we employed covariance-based structural equation modeling (using AMOS) which allows simultaneous examination of constructs (measurement model) and theories (structural model). The analytical procedures follow a two-stage approach: first, we assess constructs of our research model; second, the structural model which specifies relations among the constructs is evaluated (Anderson & Gerbing, 1988, p. 411).

Sufficient reliability and validity of the constructs is a prerequisite for analyzing structural models. Our procedures for the assessment of the constructs embrace the analysis of internal consistency, a check for discriminant validity of the constructs, and further validations employing exploratory factor analyses.

Our data show good results on internal consistency and, consequently, indicates reliability and validity of the constructs. Standardized factor loadings (0.669-0.973) exceed the minimum recommendation of 0.4 and are in most cases greater than 0.7. Furthermore, the results for factor reliability (FR), average variance explained (AVE), and Cronbach's alpha (CA) are well above the required criteria (FR = 0.780-0.948 > 0.6, AVE = 0.543-0.901 > 0.5, and CA = 0.766-0.945 > 0.7) typically described in respective literature (Ford, MacCullum, & Tait, 1986, p. 296; Bagozzi & Yi, 1988, p. 80; Fornell & Larcker, 1981, p. 45f.; Nunnally & Bernstein, 1994, p. 264f.). Full details are provided in Table 1. In addition, we offer further information on the constructs and items of our study (results of exploratory factor analyses in Table 5 and means, standard deviations, and correlations in Table 6) in the Appendix.

Construct	Item	Standardized factor loadings	Factor reliability	Average variance explained	Cronbach's alpha
<i>Attitude</i>					
	A_1	.715	.817	.695	.802
	A_2	.937			
<i>Subjective norms</i>					
	SN_1	.973	.948	.901	.945
	SN_2	.926			
<i>Practice</i>					
	P_1	.932	.907	.830	.906
	P_2	.889			
<i>Contribution of management accountants</i>					
	C_1	.798	.780	.543	.766
	C_2	.727			
	C_3	.682			
<i>Internal efficiency</i>					
	IE_1	.796	.788	.555	.783
	IE_2	.669			
	IE_3	.764			

Table 1: Construct assessment

To capture discriminant validity, we employ the Fornell/Larcker-criterion. Discriminant validity exhibits that the operationalization of two constructs diverges from each other. It implies that indicators underlying one construct correlate preferably at a low level with the indicators of other constructs. The criterion checks whether the square roots of AVE of each construct exceed the correlations between the two constructs (Fornell & Larcker, 1981, p. 46). Table 2 shows the correlation matrix and the square roots of AVE statistics. The results reveal that all construct pairs fulfill this criterion and discriminant validity can be assumed.

Construct	1	2	3	4	5
1 Attitude	.834				
2 Subjective norms	.374	.949			
3 Practice	.389	.768	.911		
4 Contribution of MAs	.102	.200	.261	.737	
5 Internal efficiency	.036	.070	.092	.351	.745

Notes:

Diagonal elements are the square roots of AVE statistics. Off-diagonal elements are the correlation between latent constructs

AVE: average variance extracted; MA: management accountant

Table 2: Discriminant validity check

Overall, the results of our construct assessment procedures exhibit sound operationalization and indicate no limitations for further analyses.

Assessment of the structural model

For hypothesis testing, we perform structural equation modeling based on maximum likelihood estimation. Before presenting the results of the test procedures, we report the statistics regarding model fit.

The assessment of the structural model relies on the fundamentals of the chi-square statistics and on commonly used criteria to evaluate model fit (e.g., Hair et al., 2006, p. 745-749). Model fit refers to the ability of a model to reproduce the (observed) data. Chi-square statistics are the basis for assessing possible differences between the observed and the estimated covariance matrices. The ratio between chi-square statistics and the degrees of freedom (df) is 1.267 (chi-square = 62.066; df = 49) which is below the threshold of 2.0 (Byrne, 1989, p. 55). Furthermore, testing for statistical significance of the chi-square statistics should exhibit a non-significant result (e.g., $p > 0.05$). Such an outcome indicates that there is a non-significant difference between the sample and the estimated covariance matrices and that the proposed model is consistent with the data. The p-value of our model is 0.1, indicating no statistically significant difference between our sample and the estimated covariance matrices. The Standardized Root Mean Square Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA) are measures which are sometimes denoted as ‘badness-of-fit’ indices since lower values represent a better fit. SRMR values of up to 0.08 indicate good model fit (Hu & Bentler, 1998, p. 27; Byrne, 2001, p. 82). Similar, RMSEA

values of less than 0.05 are signals for a good model fit, and RMSEA values between 0.05 and 0.08 show an adequate fit (Browne & Cudeck, 1993, p. 144; Byrne, 2001, p. 84f.). Results of the ‘badness-of-fit’ measures also indicate satisfactory fit: SRMR = 0.055 < 0.08 and RMSEA = 0.049 < 0.05. Finally, the following incremental fit indices are employed for our research: the Normed Fit Index (NFI), the Comparative Fit Index (CFI), and the Tucker Lewis Index (TLI). The recommended minimum requirement for NFI is 0.9 (Bentler & Bonett, 1980, p. 600) and for CFI as well as for TLI, it is 0.95 (Hu & Bentler, 1998, p. 449). The results of the incremental fit indices are also satisfactory: NFI = 0.917 > 0.9, CFI = 0.981 > 0.95, and TLI = 0.974 > 0.95. Overall, we summarize the above findings in Table 3 and conclude that the research model reveals sound fit, i.e., the proposed model fits the data well, and is not expected to confound the results of the hypothesis tests.

Criterion	Results	Critical value
Chi-square statistics	62.066	
Degrees of freedom	49	
Chi-square statistics / degrees of freedom	1.267	< 2.0
p-value	.100	> .05
Standardized Root Mean Square Residual (SRMR)	.055	< .08
Root Mean Square Error of Approximation (RMSEA)	.049	< .05
Normed Fit Index (NFI)	.917	> .90
Comparative Fit Index (CFI)	.981	> .95
Tucker Lewis Index (TLI)	.974	> .95

Table 3: Model fit indices of research model

The results of the hypothesis tests are presented in Figure 2. Except for one relationship, the standardized path coefficients show significant relations of our research model. Our first hypothesis predicted a positive effect of management accountants’ attitude toward business partnering on the practice of acting as a business partner. Our empirical data does not support this hypothesis (H1: path coefficient = 0.12; not significant). The second hypothesis links the perceived subjective norms with the practice of acting as a business partner. Our obtained empirical data allows us to corroborate the hypothesis (H2: path coefficient = 0.72; $p < 0.001$). The third hypothesis proposes a positive association between the practice of acting as a business partner and the contributions of management accountants. Reflecting our results, we are also able to corroborate this hypothesis (H3: path coefficient = 0.26; $p < 0.05$). Finally,

our data does support the last hypothesis on the effect of the contribution of management accountants on the performance measure internal efficiency (H4: path coefficient = 0.35; $p < 0.01$).

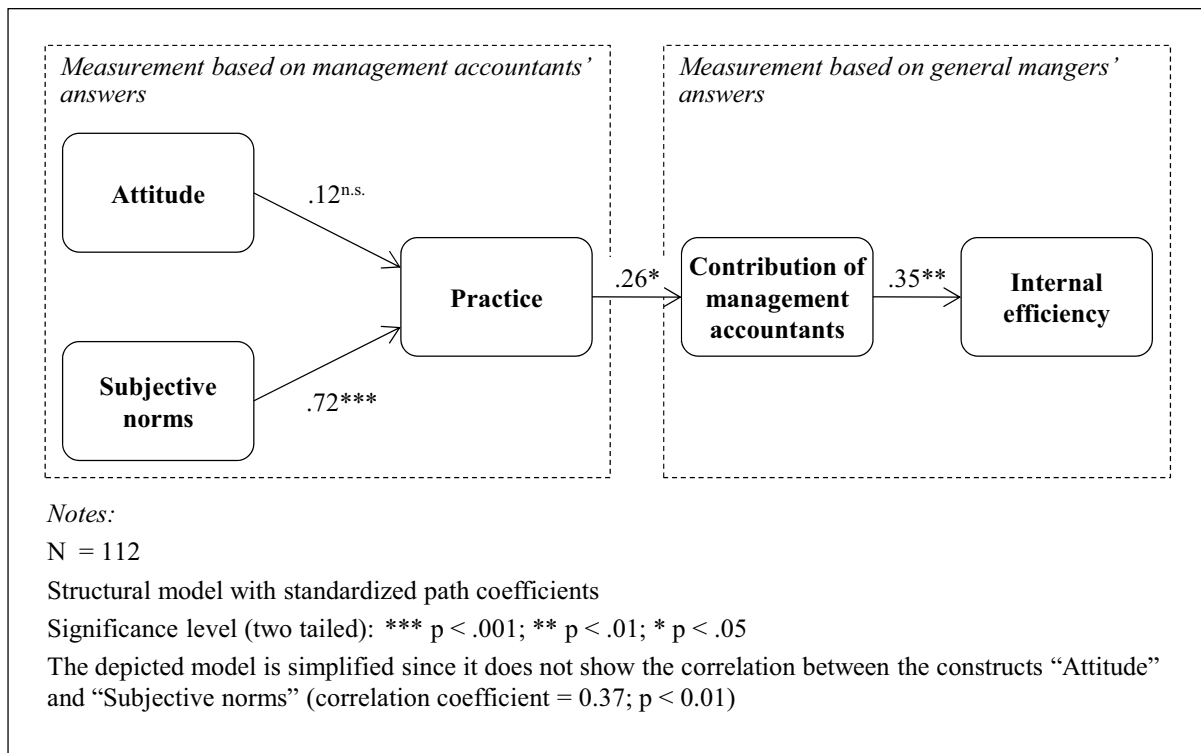


Figure 2: Results of the structural model

Discussion of results

Our study intends to elaborate on the determinants and the results of business orientation of management consultants. The results of the analyses confirm that business orientation should be assessed as being positive and support the claim that business partnering has a positive effect on firm performance. Our analyses also reveal that the attitude of management accountants has no statistically significant impact on the decision whether or not to act as a business partner and suggest that business orientation is foremost influenced by the subjective norms perceived by management accountants.

The results are basically in line with Järvenpää (2007) who proposes that informal interventions – beside formal interventions such as changes in the organizational structure or the implementation of new accounting systems – are of great importance for a change in management accounting culture. In this respect, he points out the importance of paying

attention by top management, role modeling, and storytelling in order to induce such a change. Whereas the author derives his proposal from a case study with a single Finnish company, our research contributes to this discussion by offering further evidence from a large-scale survey.

The results of Mouritsen (1996), p. 295, also add to this discussion. Based on his results from a survey including heads of management accounting departments, he highlights that the work of management accountants is especially influenced by interactions with general managers and other line functions. Furthermore, he concludes that management accountants' work is determined more strongly by general managers than by external factors like environmental uncertainty or production mode trends.

Our results can also be linked with the findings of Coad (1999) on goal orientation of management accountants in two respects: First, he reports that leadership style affects the goal orientation of management accountants. Since leadership style is expected to influence subjective norms considerably, our results confirm his findings. Second, Coad (1999) also argues that a learning goal orientation of management accountants – which is associated with intrinsic work interests of management accountants and with the intentions of management accountants to improve their competencies – positively influences the practice of acting in a business oriented way. Assuming that learning goal orientation of management accountants is intimately linked with the attitudes of management accountants, our results cannot reaffirm prior findings. In contrast, our findings are more connected with a performance goal orientation of management accountants which describes that individuals behave in such a way to achieve a positive evaluation by superiors or important others. Thus, our results are the rather opposite of Coad's (1999) findings who also argues that performance goal orientation might even prevent management accountants from becoming proactive. Against this background, future research activities could integrate the goal orientation of management accountants in our proposed research model to achieve a deeper understanding of the links between goal orientation, attitude, and the practice of business partnering.

Role theory (Kahn et al., 1964; Katz & Kahn, 1978) also offers possible explanations why the behavior of management accountants is mainly influenced by subjective norms. This theory, which has been recently employed in a similar context by Byrne & Pierce (2007), posits that individuals in organizations possess specific roles and tend to behave accordingly; this aspect can also be linked with role-taking. Form and interpretation of the roles are especially determined by internal and external expectations and foremost by other members of the organization, so-called role senders. Furthermore, the expectations of those role senders,

for instance, general managers or the CFO for management accountants, also influence the attitudes of individuals. Such argumentation would be in line with our findings that the practice of acting as a business partner is influenced by subjective norms and that possible changes of individual's attitude might be linked with subjective norms.

Furthermore, one may speculate whether management accountants, albeit communicating this aspect in a different way, may not want to become a business partner. Critics argue that business orientation and involvement in managerial decision making could lead to a decrease in the independence of management accountants and a reduced objectivity of the information provided (e.g., Indjejikian & Matějka, 2006; Siegel, 2000). In contrast, Davis & McLaughlin (2009) also address this possible threat and conclude that senior finance professionals do not assume that business orientation could result in a conflict with the independence of the finance function. The findings by Burns & Baldvinsdottir (2005), p. 749, might offer support for the former speculation. They reveal, that with an enhanced business orientation, management accountants will also be more involved in cross-functional teams which implies that they may enter unfamiliar terrains, especially in terms of expertise and persons, in which they might not always be welcome. This would also be in line with Lischeron & Wall (1975), p. 502, who especially identify two reasons for a reduced participation of individuals in higher level decisions. On the one hand, they mention a lack of interest in participating by the individuals; on the other hand, they refer to a possible lack of support by management. As consequence, management accountants might stick – consciously or unconsciously – to their 'traditional' attitude and behavior.

CONCLUSION

Finally, we conclude our study by reflecting our research questions and by discussing contributions, managerial implications, inherent limitations as well as potentials for future research activities.

The aim of our study was to elaborate on the business orientation of management accountants. More specifically, we addressed two research questions: (i) why do management accountants act as business partners, and (ii) are business oriented management accountants beneficial to organizations? To answer those research questions we draw on the theory of reasoned action and derived a comprehensive research model. We gathered data from German management accountants as well as general managers and analyzed the resulting dyadic data set with structural equation modeling techniques. Regarding our results, we initially analyzed

attitude and perceived subjective norms of management accountants as possible predictors for the practice of acting as business partners. Our results show that there is no significant association between attitude and business orientation, but we discovered a strong link between subjective norms and business orientation of management accountants. Furthermore, we could find that a business orientation of management accountants has a positive effect on the contribution of management accountants and subsequently also on internal efficiency of the organization.

Our paper contributes to management accounting literature in several respects. The work offers evidence on business orientation of management accountants and, in particular, on corresponding results. We elaborate on the predictors for this orientation and highlight the importance of subjective norms. Moreover, the research model and our data reveal significant associations between business orientation and contributions by management accountants and internal efficiency, a measure of performance. Thus, we support the notion of positive effects of a business orientation of management accountants and provide corresponding evidence. Additionally, the paper contributes to existing literature as it develops new instruments for measuring business orientation and its predictors. Statistics on reliability and validity of those instruments disclosed satisfactory results and may serve as basis for future activities in this field. Finally, whereas other work in this stream of research especially used case-based or interview-based approaches, our approach is distinctive since we have been able to use a quite large dyadic data set and advanced multivariate statistics which proved to serve well for conducting our analyses.

The results of our study may provide insights for management accountants and general managers in business practice. First of all, the findings should spark a stronger business oriented behavior of management accountants. To enforce such transformations, general managers should clearly communicate their needs and expectations on the services of management accountants. If general managers expect management accountants to be business oriented, they have to state their requirements clearly to influence the perceived subjective norms of management accountants. Moreover, if there are general managers who expect a more 'traditional' role from management accountants, the results may help management accountants to convince general managers that they should involve the management accountants more strongly in decision making processes. However, business partnering requires management accountants to have adequate competencies in terms of finance know how, a broad set of soft skills, sound business knowledge, and familiarity with the organization's functions and operations. Selected management accountants might exhibit

relevant expertise, but there might also be management accountants requiring proper training. In addition to individual training programs, corporations should amend their human resource development curriculum accordingly. For instance, the enhanced schedules could embrace programs on effective communication or on business topics and could also include joint get-togethers or social events with general managers to strengthen the relationships.

As is the case for most research activities, we also face potential limitations which go beyond the limitations typically mentioned concerning the application of questionnaire-based surveys (for example, limited possibility to answer queries from respondents, reduced flexibility). First, we selected the theory of reasoned action as basis for our work. We are confident that this approach is appropriate for our research objective which is to analyze the reasons why management accountants act as business partners. Nevertheless, there might also be other predictors of business orientation. As described in the next paragraph on research potentials, future research could follow up this issue to gain further insights and to deepen our findings. Second, similar to prior work in this field, we conducted the data gathering procedures for our study in a single country, in our case Germany. A possible limitation might originate from the fact that roles of management accountants are, at least slightly, different in heterogeneous national or cultural surroundings (e.g., Ahrens, 1996; Granlund & Lukka, 1998). Third, we partly applied newly developed scales in our research. Even if the instruments exhibit sound reliability and validity statistics, we are aware that they are subject to potential limitations and should be validated in future research activities. The instruments should be further discussed and developed in order to demonstrate appropriateness and to ensure that they capture the relevant subjects. Fourth, our response rate is lower than desired. Nevertheless, it is deemed acceptable reflecting the complex research design because of the need for dyadic data. Nonetheless, we are still confident that our findings contribute to management accounting literature.

Although our study offers several insights and findings, the limitations already suggest ample room and potentials to advance the knowledge in the analyzed field of management accounting. First of all, future scholarly activities could immerse our findings on the predictors of business orientation of management accountants. Whereas prior work highlights the importance of informal interventions by general managers to foster a change in management accounting culture, our results highlight the importance of subjective norms as a trigger for business oriented behavior of management accountants. A next step on the research agenda should be to further investigate what the precise tasks of general managers are for fostering a change in management accountants' behaviors. Furthermore, personal

characteristics of management accountants and general managers – for instance, aspects on education, career paths, or, as already mentioned, goal orientation of individuals – could be incorporated into the research activities. In this regard, future work could link the findings of Naranjo-Gil, Maas, & Hartmann (2009), who analyze the impact of CFO characteristics on the use of management accounting innovations, with our research and investigate how personal characteristics might influence business orientation. Other starting points for related research activities could also be psychological theories or frameworks like the “Big Five”-factors (Barrick & Mount, 1991) for the analysis of personality traits or prior management accounting research on knowledge of management accountants (Stone, Hunton, & Wier, 2000). Furthermore, the effect of business orientation of management accountants on their job satisfaction might also be of interest for future activities in this field (Chenhall, 2003, p. 133). Potential activities could also pursue prior research on the image of accountants (e.g., Baldvinsdottir et al., 2009) and link possible changes in accountants’ image with the trend toward business partnering. As mentioned before, a possible limitation of our results is caused due to the fact that we conducted our research in only one country. Since there is no doubt that replication is beneficial (e.g., Lindsay, 1995), it might be illuminating to administer a research project across different countries to gain further insights into possible country-specific characteristics and differences. Moreover, future research activities could validate and further develop the instruments we applied in our project. It may be possible to transfer our ideas toward other management disciplines which also encounter a trend of increased business orientation, for instance human resource management (e.g., Ulrich, 1997). Furthermore, future activities could employ large-scale longitudinal survey research. Whereas the cross-sectional data we obtained offers an adequate basis for our analyses, longitudinal data could offer additional insights into the developments of a business orientation of management accountants and such attempts would complement prior longitudinal case-based research. Finally, our research addressed the rather broad aspect of business orientation of management accountants. Future scholarly activities could immerse our findings and conduct research in specific areas with a special emphasis on selected extended tasks related to business orientation and wider responsibilities of management accountants. Research projects could, for instance, analyze a possible involvement of management accountants in incentive compensation, marketing, procurement, or other areas which do not belong to the ‘traditional’ core activities of management accountants.

APPENDIX

Label	Item
<i>Attitude *</i>	
A_1	I assess it as very attractive to be involved in decisions of general managers
A_2	I assess it as expedient to be involved in decisions of general managers
<i>Subjective norms *</i>	
SN_1	I assume that general managers would appreciate it if I was involved in their decision making
SN_2	General managers expect me to get involved in their decision making
<i>Practice *</i>	
P_1	I effectively participate in decision making of general managers
P_2	I get frequently involved in decision making of general managers
<i>Contribution of management accountants *</i>	
C_1	The group of management accountants makes a distinct contribution to our corporation's performance
C_2	Information provided by the group of management accountants makes a significant contribution to support general managers
C_3	Information of management accountants is acknowledged as source of competitive advantage
<i>Internal efficiency **</i>	
IE_1	Realization of cost reduction potentials
IE_2	Efficient resource allocation
IE_3	Cost awareness

Notes:

* 6-point rating scale, anchors: 1 – do not agree at all; 6 – totally agree

** 6-point rating scale, anchors: 1 – much worse ; 6 – much better (compared with competitor)

Table 4: Item description

Construct	Eigenvalue	Variance explained (percentage)
Attitude	1.670	83.51%
Subjective norms	1.900	95.01%
Practice	1.831	91.55%
Contribution of management accountants	1.819	60.65%
Internal efficiency	2.083	69.43%

Table 5: Results of exploratory factor analyses (principal axis factoring)

Item	Mean	Std. dev.	1	2	3	4	5	6	7	8	9	10	11	12	
<i>Attitude</i>															
1	A_1	5.438	.668	1											
2	A_2	5.464	.629	.670**	1										
<i>Subjective norms</i>															
3	SN_1	4.509	1.040	.273**	.352**	1									
4	SN_2	4.455	1.146	.220*	.292**	.900**	1								
<i>Practice</i>															
5	P_1	4.759	1.109	.302**	.343**	.693**	.661**	1							
6	P_2	4.545	1.200	.172	.319**	.657**	.637**	.831**	1						
<i>Contribution of management accountants</i>															
7	C_1	4.696	.928	.013	.105	.255**	.317**	.191*	.198*	1					
8	C_2	4.813	.844	.131	.149	.233*	.219*	.192*	.111	.582**	1				
9	C_3	3.777	1.168	-.058	.020	.213*	.285**	.083	.190*	.527**	.515**	1			
<i>Internal efficiency</i>															
10	IE_1	4.384	.903	.063	.080	.126	.073	.012	.063	.173	.107	.185	1		
11	IE_2	4.339	.964	.103	.005	.123	.144	.018	.057	.257**	.134	.244**	.543**	1	
12	IE_3	4.482	.949	-.023	-.001	.069	.061	-.051	.020	.321**	.125	.244**	.613**	.489**	1

Notes:

N = 112

Significance level (two tailed): ** p < .01; * p < .05

Table 6: Means, standard deviations, and correlations of items

REFERENCES

- Ahrens, T. (1996). Styles of accountability. *Accounting, Organizations and Society*, 21, 139-173.
- Ajzen, I. & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Upper Saddle River: Prentice-Hall.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Milton Keynes: Open University Press.
- Ajzen, I. (2002). Residual Effects of Past on Later Behavior: Habituation and Reasoned Action Perspectives. *Personality and Social Psychology Review*, 6, 107-122.
- Ajzen, I. (2006). *Constructing a TpB Questionnaire: Conceptual and Methodological Considerations*. Available at: www.people.umass.edu/aizen/pdf/tpb.measurement.pdf (last access: June 2010).
- Anderson, J. C. & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103, 411-423.
- Armstrong, J. S. & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, 14, 396-402.
- Bagozzi, R. P. & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16, 74-94.
- Baldvinsdottir, G., Burns, J., Nørreklit, H., & Scapens, R. W. (2009). The image of accountants: From bean counters to extreme accountants. *Accounting, Auditing & Accountability Journal*, 22, 858-882.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17, 99-120.
- Barrick, M. R. & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance: A Meta-Analysis. *Personnel Psychology*, 44, 1-26.
- Baxter, J. & Chua, W. F. (2008). Be(com)ing the chief financial officer of an organisation: Experimenting with Bourdieu's practice theory. *Management Accounting Research*, 19, 212-230.
- Bentler, P. M. & Bonett, D. G. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. *Psychological Bulletin*, 88, 588-606.
- Brislin, R. W. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, 1, 185-216.
- Browne, M. W. & Cudeck, R. (1993). Alternative Ways of Assessing Model Fit. In K. A. Bollen & J. S. Long (Ed.), *Testing Structural Equation Models* (pp. 136-162). Newbury Park/London/New Delhi: Sage.
- Burney, L. L. & Widener, S. K. (2007). Strategic Performance Measurement Systems, Job-Relevant Information, and Managerial Behavioral Responses – Role Stress and Performance. *Behavioral Research in Accounting*, 19, 43-69.
- Burns, J. & Baldvinsdottir, G. (2005). An Institutional Perspective of Accountants' New Roles – The Interplay of Contradictions and Praxis. *European Accounting Review*, 14, 725-757.
- Byrne, B. M. (1989). *A Primer of LISREL: Basic Applications and Programming for Confirmatory Factor Analytic Models*. New York et al.: Springer-Verlag.

- Byrne, B. M. (2001). *Structural Equation Modeling with AMOS. Basic Concepts, Applications, and Programming*. Mahwah/London: Erlbaum.
- Byrne, S. & Pierce, B. (2007). Towards a More Comprehensive Understanding of the Roles of Management Accountants. *European Accounting Review*, 16, 469-498.
- Caglio, A. (2003). Enterprise Resource Planning systems and accountants: towards hybridization? *European Accounting Review*, 12, 123-153.
- Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper Echelons Research Revisited: Antecedents, Elements, and Consequences of Top Management Team Composition. *Journal of Management*, 30, 749-778.
- Chenhall, R. H. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28, 127-168.
- Coad, A. F. (1999). Some survey evidence on the learning and performance orientations of management accountants. *Management Accounting Research*, 10, 109-135.
- Colton, S. D. (2001). The Changing Role of the Controller. *Journal of Cost Management*, 16 (November/December), 5-10.
- Davis, T. R. V. & McLaughlin, L. P. (2009). Is Finance a Business Partner Yet? *Strategic Finance*, 90 (March), 35-40.
- Dowling, C. (2009). Appropriate Audit Support System Use: The Influence of Auditor, Audit Team, and Firm Factors. *The Accounting Review*, 84, 771-810.
- Ferreira, A. & Moulang, C. (2009). Does the Involvement of Management Accountants in Strategic Management Processes Enhance Organisations' Strategic Effectiveness? An Empirical Analysis. *Working Paper Monash University*.
- Fishbein, M. & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading et al.: Addison-Wesley.
- Ford, J. K., MacCullum, R. C., & Tait, M. (1986). The Application of Exploratory Factor Analysis in Applied Psychology: A Critical Review and Analysis. *Personnel Psychology*, 39, 291-314.
- Fornell, C. & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18, 39-50.
- Granlund, M. & Lukka, K. (1998). Towards increasing business orientation: Finnish management accountants in a changing cultural context. *Management Accounting Research*, 9, 185-211.
- Granlund, M. & Malmi, T. (2002). Moderate impact of ERPS on management accounting: a lag or permanent outcome? *Management Accounting Research*, 13, 299-321.
- Hair, J. F. J., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. Upper Saddle River: Prentice Hall.
- Hambrick, D. C. & Mason, P. A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers. *Academy of Management Review*, 9, 193-206.
- Hanno, D. M. & Violette, G. R. (1996). An Analysis of Moral and Social Influences on Taxpayer Behavior. *Behavioral Research in Accounting*, 8 (Supplement), 57-75.
- Harman, H. H. (1967). *Modern Factor Analysis*. Chicago/London: The University of Chicago Press.

- Homburg, C., Artz, M., Wieseke, J., & Schenkel, B. (2008). Gestaltung und Erfolgsauswirkungen der Absatzplanung: Eine branchenübergreifende empirische Analyse. *Zeitschrift für betriebswirtschaftliche Forschung*, 60, 634-670.
- Hu, L. & Bentler, P. M. (1998). Fit Indices in Covariance Structure Modeling: Sensitivity to Underparameterized Model Misspecification. *Psychological Methods*, 3, 424-453.
- Huselid, M. A. (1995). The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance. *Academy of Management Journal*, 38, 635-672.
- IBM (2010). *The New Value Integrator. Insights from the Global Chief Financial Officer Study*. Somers: IBM Global Business Services.
- Indjejikian, R. J. & Matějka, M. (2006). Organizational Slack in Decentralized Firms: The Role of Business Unit Controllers. *The Accounting Review*, 81, 849-872.
- Järvenpää, M. (2007). Making Business Partners: A Case Study on how Management Accounting Culture was Changed. *European Accounting Review*, 16, 99-142.
- Johnson, H. T. & Kaplan, R. S. (1987). *Relevance Lost. The Rise and Fall of Management Accounting*. Boston: Harvard Business School Press.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity*. New York/London/Sydney: Wiley.
- Kaplan, R. S. (1995). New roles for management accountants. *Journal of Cost Management*, 9 (Fall), 6-13.
- Katz, D. & Kahn, R. L. (1978). *The Social Psychology of Organizations*. New York et al.: Wiley.
- Kim, M. & Hunter, J. E. (1993). Relationships Among Attitudes, Behavioral Intentions, and Behavior: A Meta-Analysis of Past Research, Part 2. *Communication Research*, 20, 331-364.
- Lindsay, R. M. (1995). Reconsidering the status of tests of significance: An alternative criterion of adequacy. *Accounting, Organizations and Society*, 20, 35-53.
- Lischeron, J. & Wall, T. D. (1975). Attitudes Towards Participation among Local Authority Employees. *Human Relations*, 28, 499-517.
- Mahmood, M. A. & Soon, S. K. (1991). A Comprehensive Model for Measuring the Potential Impact of Information Technology on Organization Strategic Variables. *Decision Sciences*, 22, 869-897.
- Merchant, K. A., Van der Stede, W. A., & Zheng, L. (2003). Disciplinary constraints on the advancement of knowledge: the case of organizational incentive systems. *Accounting, Organizations and Society*, 28, 251-286.
- Mouritsen, J. (1996). Five aspects of accounting departments' work. *Management Accounting Research*, 7, 283-303.
- Naranjo-Gil, D., Maas, V. S., & Hartmann, F. G. H. (2009). How CFOs Determine Management Accounting Innovation: Examination of Direct and Indirect Effects. *European Accounting Review*, 18, 667-695.
- Newman, M., Smart, C., & Vertinsky, I. (1989). Occupational role dimensions: The profession of management accounting. *The British Accounting Review*, 21, 127-140.
- Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory*. New York et al.: McGraw-Hill.

- Otley, D. (2001). Extending the Boundaries of Management Accounting Research: Developing Systems for Performance Management. *The British Accounting Review*, 33, 243-261.
- Podsakoff, P. M. & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, 12, 531-544.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88, 879-903.
- Regel, R. W. (2003). Change in the Controller's Role: Why Intuition Improves Operational and Strategic Decisions. *Journal of Cost Management*, 17 (January/February), 31-38.
- Sathe, V. (1982). *Controller Involvement in Management*. Englewood Cliffs: Prentice Hall.
- Sathe, V. (1983). The Controller's Role in Management. *Organizational Dynamics*, 11 (Winter), 31-48.
- Scapens, R. W. & Bromwich, M. (2001). Management Accounting Research: the first decade. *Management Accounting Research*, 12, 245-254.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *Journal of Consumer Research*, 15, 325-343.
- Siegel, G. & Sorensen, J. E. (1999). *Counting More, Counting Less. Transformations in the Management Accounting Profession. The 1999 Practice Analysis of Management Accounting*. Montvale: Institute of Management Accountants.
- Siegel, G. (2000). Business Partner and Corporate Cop: Do the Roles Conflict? *Strategic Finance*, 82 (September), 89-90.
- Siegel, G., Sorensen, J. E., & Richtermeyer, S. B. (2003). Are You a Business Partner? *Strategic Finance*, 85 (September), 39-43.
- Simon, H. A., Guetzkow, H., Kozmetsky, G., & Tyndall, G. (1954). *Centralization vs. Decentralization in Organizing the Controller's Department*. New York: Controllershship Foundation.
- Stone, D. N., Hunton, J. E., & Wier, B. (2000). Succeeding in managerial accounting. Part 1: knowledge, ability, and rank. *Accounting, Organizations and Society*, 25, 697-715.
- Turner, R. H. (1962). Role-Taking: Process Versus Conformity. In A. M. Rose (Ed.), *Human Behavior and Social Processes* (pp. 20-40). London: Routledge & Kegan Paul.
- Uddin, N. & Gillet, P. R. (2002). The Effects of Moral Reasoning and Self-Monitoring on CFO Intentions to Report Fraudulently on Financial Statements. *Journal of Business Ethics*, 40, 15-32.
- Ulrich, D. (1997). *Human resource champions: the next agenda for adding value and delivering results*. Boston: Harvard Business School Press.
- Van de Vijver, F. & Hambleton, R. K. (1996). Translating Tests: Some Practical Guidelines. *European Psychologist*, 1, 89-99.
- Venkatesh, V. & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46, 186-204.
- Zoni, L. & Merchant, K. A. (2007). Controller involvement in management: an empirical study in large Italian corporations. *Journal of Accounting & Organizational Change*, 3, 29-43.