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**Controllership under IFRS:
Some critical observations from a German-speaking country**

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Abstract

With the adoption and spreading of IFRS, controllership as part of the overall accounting and finance function in German-speaking countries has been subject to fundamental changes. From a conceptual point of view, IFRS-based financial accounting systems have a twofold impact on controllership, (1) by driving the use of integrated accounting systems instead of the traditional dual accounting model for decision-making and control purposes and (2) by extending the controllers' roles towards becoming an information provider to the financial accountants.

The objective of this study is to explore controllership in German-speaking countries, like Austria or Germany, under IFRS. So far there is only little empirical evidence on both changes as well as the influence on controllership effectiveness. To analyze the research questions, questionnaires were sent to 159 corporations in Austria that were known for using IFRS. In a triadic research design, in addition to the controllers, general managers and financial accountants were surveyed. 51 controllers answered, 28 triadic sets were available for the analyses.

From a descriptive point of view, most IFRS users have indeed adopted integrated accounting systems, but only on a partial basis. Regarding the controllers' roles, we find indications that controllers not only aim at advancing their role of internal business consultant, but also that they allocate a considerable amount of their time to the new role of information provider to the financial accounting department. Nevertheless, far from being detrimental to the role of business consultant, our dependency analysis shows that an active use of IFRS has a significantly positive impact on managerial satisfaction variables.

Controllership under IFRS: Some critical observations from a German-speaking country

"A final observation from our review is the lack of integration between financial and managerial accounting research. [...] accounting researchers have treated these fields as independent, even though it is likely that these choices do not stand alone. [...] Without greater integration of financial and managerial accounting research, our understanding of the choice and performance implications of internal and external accounting and control systems is far from complete."

(Ittner/Larcker 2001, 402)

1 Introduction

With the spreading use of IFRS (International Financial Reporting Standards) for financial disclosure purposes¹ as well as the increasing globalization of firms' businesses, controllership as a part of the overall accounting and finance function in German-speaking countries – mainly Austria and Germany – has been subject to fundamental changes.

Even though the term "controllership" – the collective expression for controllers' activities – has its roots in the Anglo-American business practices of the 19th century, controllers' roles and tasks in German-speaking countries have a different scope compared to their Anglo-American counterparts (Weber/Schäffer 2006, 3-8). In this respect German, as well as Austrian, controllership was established after World War II as a managerial support function embracing tasks related to management accounting as well as diverging into the fields of planning, reporting and performance measurement (*International Group of Controlling* 2005, 53-55). Other tasks like financial accounting, tax accounting, treasury, internal auditing, administration of human resources or computer services, which are all part of the controllership in Anglo-American companies (*An-*

¹ Due to the regulation of the European Parliament and of the Council of the European Union on the application of international accounting standards (IAS regulation 1606/2002), as of 1 January 2005, publicly traded companies must prepare their consolidated financial statements according to IFRS. Companies that only issue debt securities admitted on a regulated market of any member state or whose securities are admitted to public trading in a non-member state and which, for that purpose, have been using internationally accepted standards (e.g. US-GAAP), have to comply with the regulation as of 1 January 2007.

thony/Govindarajan 2004, 105; Roehl/Anderson/Bragg 2004, 11-18), are not part of the typical controller's job description in Austria or Germany.

In the course of this development, two distinctive characteristics of controllership in German-speaking countries have emerged:

- First, the controllers' roles are twofold. On the one hand, they provide information for managerial decision-making and control – not so much from a technical point of view, but rather from a conceptual perspective –, and on the other hand they act as management's counterpart, acting as consultants or navigators by applying mainly accounting-based valuation and measurement techniques to the decision-making and control problems at hand.
- Second, the main information system used by controllers to fulfil both roles is the managerial accounting system, which in German-speaking countries traditionally is not derived from the financial accounting database, but from a separate cost accounting system whose accounting procedures and reporting formats (e.g. cost allocation procedures, marginal cost accounting/cost-volume-profit analysis, multi-level fix cost absorption accounting) aim at modelling the firm's production function as well as specific managerial decision-making and control needs (dual accounting systems).

Since the mid-1990s both characteristics have gradually changed. Most evidently, the use of separate financial and management accounting systems is increasingly challenged. Today, most listed companies in Austria or Germany that use IFRS as a financial reporting standard, have also adopted so-called integrated accounting systems. This implies that while still maintaining the traditional accounting procedures and reporting formats these companies use the financial accounting database for internal performance measurement purposes. The main advantage of an integrated accounting system results in a unified financial "language" (Boland/Pondy 1983, 228) allowing the transition e.g. of operating income calculated as a profit center result via managerial accounting systems to EBIT (Earnings Before Interest and Taxes) accounted for in segments or legal units in the financial accounting system ('one version of the truth').

The IFRS have become an important trigger for the adoption of integrated accounting systems for two reasons. First, in contrast to the conservative German or Austrian GAAP (Handelsgesetzbuch/HGB, Grundsätze ordnungsmäßiger Buchführung/GoB) the

IFRS focus on providing decision support for investors is thus conceptually based on the economic model of neoclassical finance theory. In consequence, IFRS are much more suitable for internal decision-making and control purposes than German or Austrian GAAP that in many cases distort relevant information to restrict profit disbursements (*IGC/Weißenberger* 2006, 25-28).

Second, in contrast to German or Austrian GAAP, IFRS rely, for disclosure and valuation purposes, heavily on information provided by the managerial accounting systems which are maintained. This accounting principle is called ‘management approach’ with reference to IAS 14/IFRS 8 (*Weißenberger/Maier* 2006, 2077), but it can also be found in many other standards, e.g. in IAS 11, IAS 16, IAS 36/IFRS 3 or IAS 38. Under the management approach, controllers rely on integrated accounting systems to provide suitable internal information for financial reporting purposes. This is not only due to the immediate regulatory IFRS environment, but also to the communication with investors under IFRS which is typically much more extensive than under Austrian or German GAAP. Thus, the financial accountant needs additional management accounting information that cannot be provided by the legally based book-keeping structure of the financial accounting system. This information is used in the investor relation process e.g. to explain given financial accounting ratios or to provide well-founded forecasts on future earnings. IFRS therefore not only “provide a unique opportunity for a company to reengineer the way it looks at itself through its internal management reporting” (*Wilson* 2002, 23), but also push managerial accounting from dual to integrated accounting systems.

In addition to propagating the use of integrated accounting systems, the management approach under IFRS has also had an impact on the controllers’ roles in German-speaking countries, influencing their task schedules significantly. Whereas under Austrian or German GAAP the controllers’ counterpart in business were typically the line managers, under IFRS controllers build extensive professional relationships with financial accountants and even external auditors.

Until today, empirical evidence on the changes in controllership in German-speaking countries is scarce (one of the few exceptions is *Jones/Luther* 2005). Our paper therefore aims at giving an exploratory investigation of the recent developments regarding controllers roles’ and accounting systems based on empirical research in Austrian firms

using IFRS. To give a comprehensive analysis of the changes in controllership, we not only addressed the controllers themselves, but also their counterparts in management and financial accounting to gain information on the quality of cooperation and satisfaction regarding the controllers' work, thus trying to develop well-founded hypotheses on the impact of IFRS on controllership effectiveness.

By choosing Austria as a regional sub-sample, representing German-speaking countries as well as the triadic research design, results in a rather small sample of firms, restricting on the one hand the generalization of our results as well as the use of statistical methods, but on the other hand allowing us to provide an in-depth analysis of controllership in German-speaking countries. This leads to several well-founded critical observations as input for future research projects in this field.

Our paper is organized as follows. Section 2 gives an overview on the theoretical background of our study as well as on the existing literature on controllership under IFRS in German-speaking countries. We start with background on the increasing use of integrated accounting systems, as this development is a critical part of the changes in controllership under IFRS and has not yet been summarized in international literature. Section 3 describes the research design and provides a first descriptive analysis of the state-of-the-art of controllership under IFRS. Section 4 analyses the effects of the impact of controllership under IFRS on several dependent variables representing controllership effectiveness. Section 5 concludes the paper with a short summary and an assessment of future research prospects.

2 Theoretical background and literature

From the early 20th century until the mid-1990s, firms in German-speaking countries mainly relied, for controlling purposes, on a self-contained cost accounting database which was provided independently from the financial accounting database (dual accounting system). The underlying theoretical concept had originally been developed by *Eugen Schmalenbach* (1919), who considered the financial accounting numbers to be biased by underlying accounting principles, e.g. conservatism or reliability, and therefore not suitable for managerial decision-making (*Christensen/Wagenhofer* 1997, 248; *Schildbach* 1997, 262f.).

According to *Schmalenbach* management accounting information had to be based on imputed costs and revenues which differ from the cash-derived expenses and revenues used in financial accounting. Whereas revenues and expenses defined by a typical GAAP system measure the production of goods and services as well as resource consumption strictly in a cash-based fashion, imputed costs and revenues may differ in value from the underlying cash transaction, e.g. because they include opportunity costs like cost of equity or managing owners' labor costs, or they are changed in value to optimize the measurement for decision-making purposes, like depreciation based on replacement costs or the standardization of risk costs. Even basic measures like revenue from sales or wages and salary may differ in both accounting databases, if they are measured on a standardized basis for cost accounting purposes. As overall profitability measurement for internal purposes in dual accounting systems is based on the cost accounting database, the internally measured operating income sometimes differed heavily from the EBIT shown in the financial statements. In most cases, the databases under dual accounting systems were technically not constructed to allow for transitions between the cost-based operating income and the externally reported EBIT, leaving these differences unaccounted for.

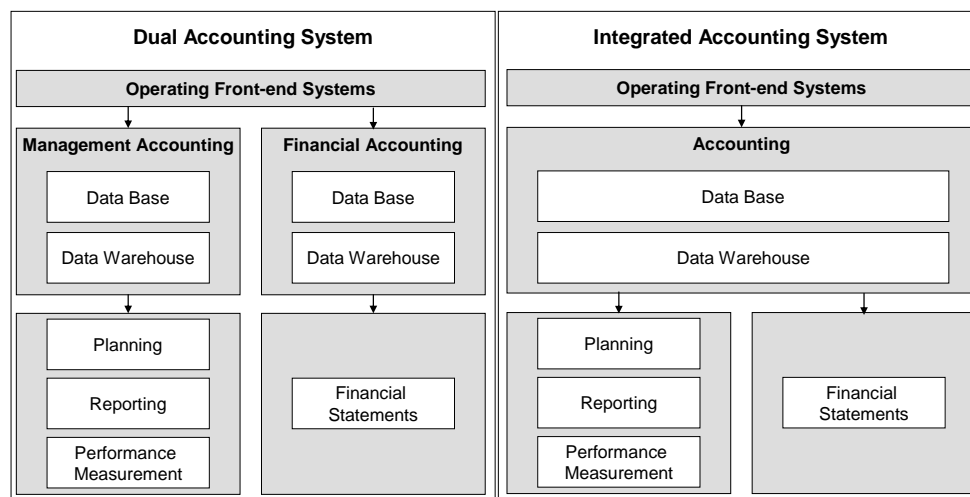


Figure 1: Dual vs. integrated accounting system

The dual structure of the accounting systems and their databases, resulting in the separation of managerial and financial accounting, was also mirrored in the firms' organisational structure. Whereas in German-speaking countries, the Chief Financial Officer (CFO) – or rather CAO (Chief Accounting Officer/"Finanzvorstand") was typically

responsible for the financial accounting systems, controllership and therefore the management, accountants were usually assigned to the Chief Executive Officer's staff (CEO, e.g. *Ernst/Vater* 2006, 236).

Until the 1990s, the dual structure of firm's accounting systems and their effects on controllership effectiveness had virtually been unchallenged, in both German literature and in business practice. Even so some authors mention isolated evidence of managerial dissatisfaction with the information provided by the accounting systems (*Weißberger* 1997, 51-57; *Homburg et al.* 1998, 14-17), and it has even been indicated that the different perspectives of the managerial vs. the financial accounting system on the firm's profitability and cash-flow situation had been the cause of some severe crises, e.g. of the German multinational airline Lufthansa in 1991 (*Kley* 2006, 157).

In 1994, the use of a dual accounting system was openly challenged by Siemens, a German Top-Thirty multinational company. Referring to the need for a consistent accounting language for internal as well as external communication purposes, they set up their management accounting procedures on the financial accounting database. In short, Siemens argued that the advantages of imputed costs and revenues for managerial decision-making and control purposes were outweighed by the increased efficiency of integrated accounting systems as financial language (*Ziegler* 1994, 177-180).

In the following years, many German and Austrian firms followed the example set by Siemens. In this context, not only have deliberations on costs vs. benefits of integrated accounting systems triggered this development, but also especially the orientation towards investors as primary stakeholders and the growing adoption of IFRS as a financial accounting standard (*Jones/Luther* 2005, 182). Evidence exists that even though the integration of financial and managerial accounting typically had not been a strong motivation for changing to IFRS, the average IFRS adopter evaluates an integration of accounting systems that has taken place after the IFRS adoption as significantly positive (*Weißberger et al.* 2004, 180). Recent empirical studies in Germany as well as in Austria indicate that most major companies and even many small and medium-sized enterprises in these countries either use integrated accounting systems or intend to do so in the next years (*Horváth/Arnaout* 1997, 262; *Haring/Pranter* 2005, 149; *Müller* 2006, *Wagenhofer/Engelbrechtsmüller* 2006, 21; *Müller* 2006, 127 *Jahnke/Wielenberg/Schumacher* 2007, 374).

This development has immediately triggered an intense theoretical discussion in German literature on the *Schmalenbach* approach of dual accounting systems. Several authors claim that managerial decision-making and control purposes make a separate management accounting database using imputed costs and revenues indispensable (e.g. *Pfaff* 1994 and 1995, *Kloock* 1995; *Schneider* 1997). In recent years other papers have argued in favour of integrated managerial accounting systems (e.g. *Küpper* 1995), often-times with regard to the information content of IFRS-based performance measures, even though it can be shown from a theoretical perspective, that no accounting system can provide equally suitable decision-support for all external as well as internal purposes (*Gjesdal* 1981, 208-210, *Wagenhofer/Ewert* 2007, 136-141).

A third body of papers discusses singular decision-making problems and/or IFRS standards and the effectiveness of integrated accounting systems from agency perspectives. They indicate, that in some cases integrated accounting systems should prevail (e.g. *Wagenhofer* 1996; *Dutta/Reichelstein* 1999; *Diedrich/Dierkes* 2003; *Gaber* 2005; *Arnegger/Hofmann* 2007), whereas in other cases a separate management accounting system would be preferable for internal decision-making and control (e.g. *Reichelstein* 1997, *Pfaff* 1998, *Reichelstein* 2000; *Weißberger* 2003). In our opinion, even though the discussion up to now has been very fruitful from an academic perspective, it does not give any clear evidence of the impact of IFRS on controllership and especially no guidance towards the configuration of management accounting systems with regards to controllership effectiveness. First, firms cannot decide on the implementation of integrated accounting systems on a case-to-case basis, but have to make a general decision. Recent analyses of German GAAP and IFRS and the use of dual vs. integrated accounting systems support the assumption that the latter will prevail in the coming years (*Jones/Luther* 2005; *Simons/Weißberger* 2007).

Some authors finally argue that as the Anglo-American business practice typically uses integrated accounting systems this could, from a Darwinistic point of view, be interpreted as evidence against dual accounting systems (*Haller* 1997, *Heyd* 2001, *Hebeler* 2003, *Kahle* 2003). To our mind, these authors do not take into account that the Anglo-American literature on value-based performance measurement is also a conversion of the “accounting model” into the “economic model” (*Stewart* 1999, 24) which leads to a divergence of financial and internal profits. Additionally, in the Anglo-American literature a growing interest in German cost accounting systems can be observed (*Shar-*

man/Vikas 2004; Friedl et al. 2005; Krumwiede 2005), and it is not clear whether the principal advantages of these cost accounting systems, that consist mainly in an explicit linkage to the firm's production function, will continue to exist under an IFRS-based integrated accounting system. This notion is also supported by a British paper on external reporting and management decisions (*Scapens et al. 1996*), which gives evidence that even though internal decision support systems in UK firms are based on the financial accounting database, these data are modified for decision-making and control purposes.

Nevertheless, these studies do not take the new role of the controller as information provider to the financial accountant into account either. Whether this new role is beneficial regarding controllership effectiveness is not clear. On the one hand, part of the controllers' resources is taken away from the original task of providing managerial decision support. On the other hand, the compliance demands of the financial accounting database might also enhance the quality of decision support based on management accounting systems. This is indicated e.g. by *Grieshop/Weber (2007, 313)*. They give empirical evidence that a close formal relationship between financial accountant and controller, e.g. inter-functional team-building, may have a positive effect on controllership effectiveness.

Our background analysis shows that even though some aspects of the interrelations of IFRS and controllership have already been addressed by theoretical and empirical research, an in-depth analysis of the IFRS impact on controllership in German-speaking countries regarding the controllers' roles, the use of integrated accounting systems and controllership effectiveness is yet missing. These questions are addressed in the following sections.

3 Controllership under IFRS: State-of-the-art in Austria

3.1 Research design and sample description

To achieve a clear view on the impact of IFRS on controllership, we decided to adopt a triadic research design, that is. in each firm we addressed a controller, a financial accountant and a general manager, i.e. a member of upper management like the CEO, managing director or division manager, to fill out a functionally customised question-

naire. The triadic approach not only enables us to incorporate the managerial as well as the financial accounting perspective into our study. It also makes allowances for the fact that – beside the controllers’ view – the perception of both the companies’ financial accountants and general managers is also essential for a comprehensive analysis of controllership under IFRS, regarding possible changes in the controllers’ roles as well as the spreading use of integrated accounting systems.

To keep the sample size of such an elaborate design manageable and at the same time to eliminate any national institutional or regulatory influence, we decided to restrict ourselves to Austrian IFRS users as a subsample.

Our study was conducted in the period between May and July 2006 among all 159 known Austrian IFRS users. In total 51 useable replies of controllers (= main sample) were obtained, which equals a return rate of 32%. In 28 cases we received a triadic set of completed questionnaires (= triadic sample), which equals a triadic return rate of 55%.

The main sample predominantly consists of medium-sized companies in respect to sales volume, total assets and number of employees, as can be seen in Table 1.

	Lower Quartile	Median	Upper Quartile
Sales (Million EUR)	281	578	1,685
Total Assets (Million EUR)	186	496	1,262
Number of Employees	580	1,563	4,860

Table 1: Measures of company size

Furthermore, the main sample mainly includes holding companies (44%), followed by intermediate holding companies (29%) and subsidiaries/joint ventures (27%). The (intermediate) holdings can be categorised as parent companies (47%), management holding companies (38%) and financial holding companies (3%). 12% of the (intermediate) holding companies indicated that none of the three above-named organisational structures applied.

The predominant industries represented in the main sample are retail (12%), chemicals/healthcare (10%) and logistics (8%); the triadic sample has a comparable structure.

The divergence of industries makes, on the one hand, any industry-specific analysis impossible due to the small number of respondents, but allows, on the other hand, for a certain generalization of our results.

3.2 Interrelation of IFRS and controllership

As stated above, the IFRS have a double impact on controllership. Firstly, internal planning and reporting data generated by the controlling systems are used for IFRS purposes, e.g. segment reporting or impairment tests. Secondly, instead of a separate management accounting database, the IFRS database can also be used for controllership purposes constituting an integrated accounting system. Particularly, with regard to the growing relevance of IFRS to companies within the European Union, the interrelation of IFRS and controllership is likely to become stronger.

These theory-driven considerations are in line with our empirical findings. Both the relevance of the IFRS to controllers' tasks and the relevance of controllers' tasks to IFRS-based financial accounting are expected to increase in the next 3-5 years, as shown in Figure 2.

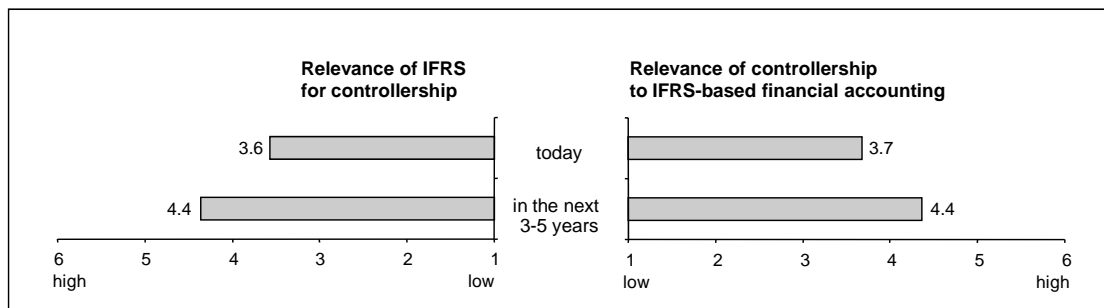


Figure 2: Interrelation of IFRS and controllership

As a consequence, controllers are also increasingly in need of IFRS know-how. Apparently, the extent to which IFRS know-how is required depends on the position of the controllers' department area within the company hierarchy: The higher the hierarchical position of a controllers' department, the more IFRS know-how will be required in the future (Figure 3). Moreover, it can be stated that in all controllers' departments the need for IFRS know-how is currently not sufficiently covered. Thus, further training seems to be a future challenge for controllers.

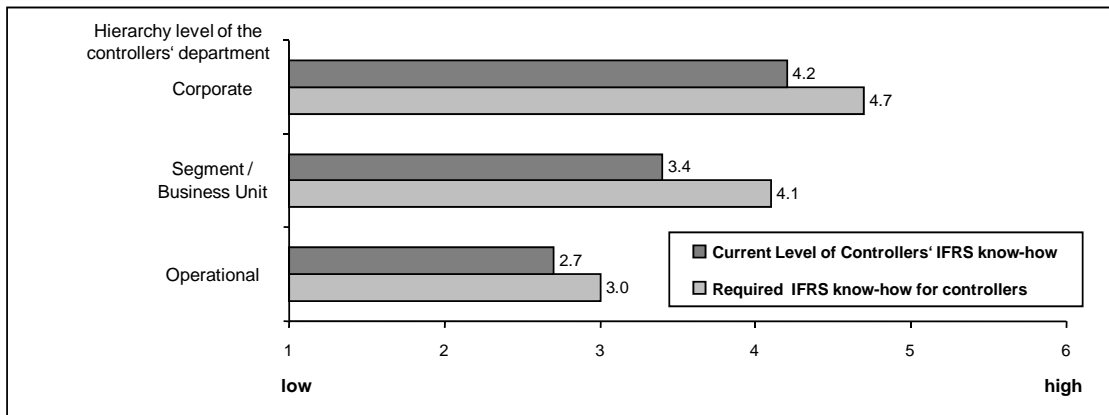


Figure 3: Current level and required IFRS know-how

3.3 Integration of accounting systems

An integration of accounting systems has so far been conducted by the vast majority of the main sample respondents (see Figure 4). While 76% have already completed the integration of accounting systems, another 14% are currently working on the implementation or are at least planning it.

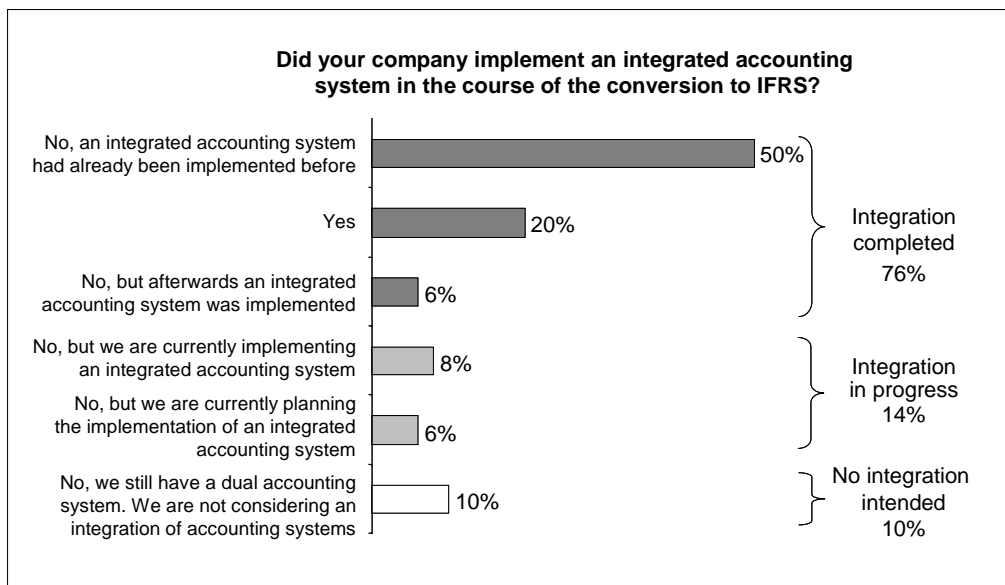


Figure 4: Implementation of an integrated accounting system

The extent to which the integration of accounting systems is conducted by the companies highlights an essential issue. From a conceptual point of view, the so-called partial or limited integration is the most recommendable alternative (IGC/Weißenberger 2006, 53-57). Such a partial integration indicates that an alignment of an external,

IFRS-based EBIT and the internal operating profit is restricted to upper hierarchy levels, i.e. at least the corporate level and segment level. In some cases also the business unit level and profit center level are included into the integration process. Additionally, a full congruence between IFRS-based EBIT and operating profit or loss is not necessary under a partial integration, i.e. single reconciliation items are acceptable in order to eliminate the impact of certain IFRS that are not suitable for managerial decision-making and control purposes. An example would be the use of an internal EBITDA (i.e. EBIT before amortization and depreciation) as a profitability measure that can, nevertheless, be easily reconciled with the disclosed financial results. On an operational level, for decision-making and control imputed cost types may still be used even under a partially integrated accounting system, but – in contrast to the dual accounting system – they are not aggregated for control purposes on a divisional or group-wide level or subject to a comparative analysis with regards to profitability measures derived from the financial accounting database.

These characteristics indicate a so-called efficient integration path of accounting systems, as shown in Figure 5. Here, the number of reconciliation items or adjustments respectively – as a reverse proxy for the extent of integration – decreases at upper hierarchy levels.

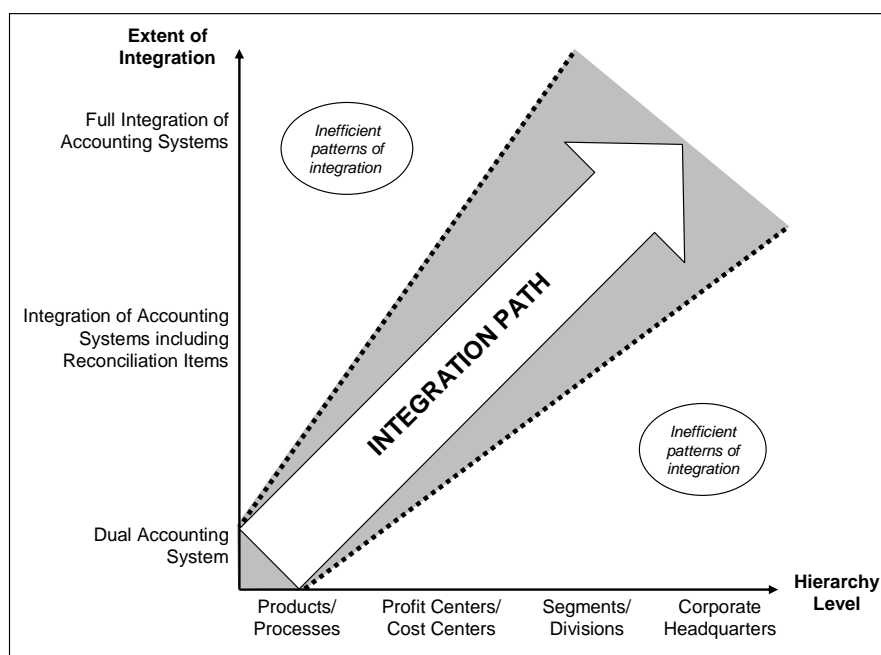


Figure 5: Efficient path of accounting systems

An interesting result of our study is that patterns of a partial integration can indeed be identified among the sample companies. While on upper hierarchy levels planning is conducted on an IFRS-base, on lower hierarchy levels it is predominantly based on a self-contained management accounting database (see Figure 6).

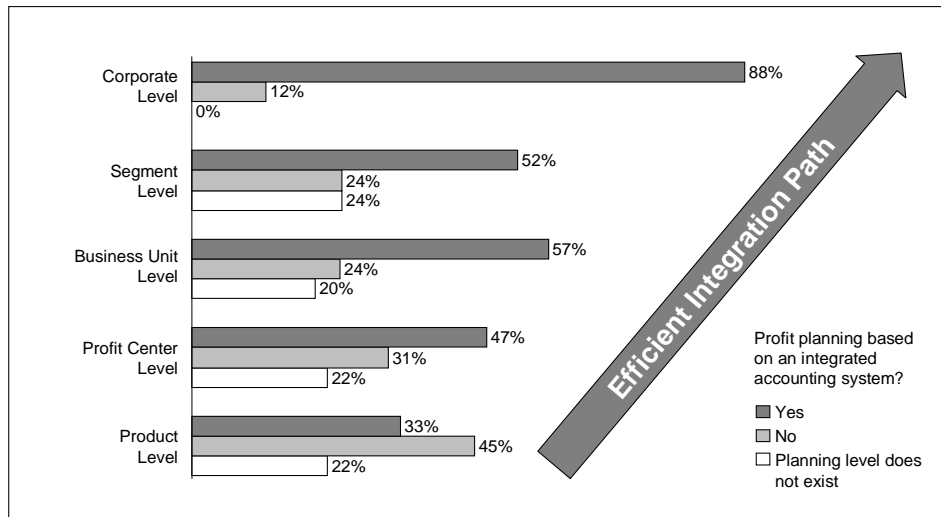


Figure 6: Profit planning and efficient integration path

3.4 Impact of IFRS on the role of controllers

As pointed out in section 1, controllers in Austria or Germany maintain two traditional roles, i.e. providing accounting information to the management as well as supporting managerial decision-making and control as internal consultants. Under IFRS, a third role is identified from a conceptual point of view, i.e. the controllers also become information providers for financial accountants, thus also taking a co-responsibility for the firm's financial statements.

As our research shows, the controllers of the sample companies confirm the existence of all three roles, as can be seen in Figure 7. Currently they spend 17% of their workload – or eight hours per week, assuming that a head of controlling works approx. 50 hours per week – providing financial accountants with IFRS-relevant information.

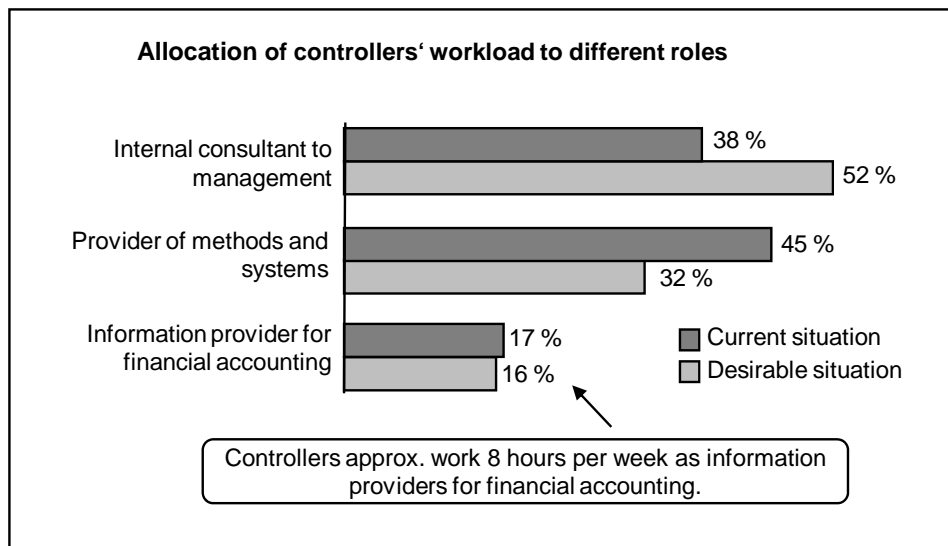


Figure 7: Relevance of controllers' roles

Moreover, the controllers are mainly involved with the provision of methods and systems that have to be implemented to generate the necessary managerial accounting information (45%). Tasks in these fields comprise e.g. data collection, data checking or manual consolidations, calculations and performance measurements which are not supported by the existing accounting information technologies. In this regard there is a discrepancy between the status quo and the desired role allocation from the controllers' point of view. In future, controllers will prefer to focus on their role as internal consultants to management (52%) – to the disadvantage of their role as providers of methods and systems (32%).

This finding reflects the ongoing trend towards “lean business partnering” (Weißberger 2007, 44f.) regarding controllership. So far, controllers have spent their time predominantly on the purpose of data generation and preparation. An integration of accounting systems accompanied by stronger automation and standardization of processes enables controllers to focus on their role as internal consultants to management. Thus, an active use of IFRS within controlling facilitates the establishment of a common financial language, which improves the communication between controllers and managers.

Due to the additional role of controllers as information providers for IFRS-based accounting, controllers consequently should bear responsibility for financial accounting and disclosure to a certain extent. As can be seen in Figure 8, controllers of the triad

sample generally consider themselves co-responsible in this regard (4.4) and indicate that they also take on this joint responsibility actively (4.2). The financial accountants do not deny the controllers' point of view. Nevertheless, in both cases they only agree reluctantly (3.9 and 3.6 respectively).

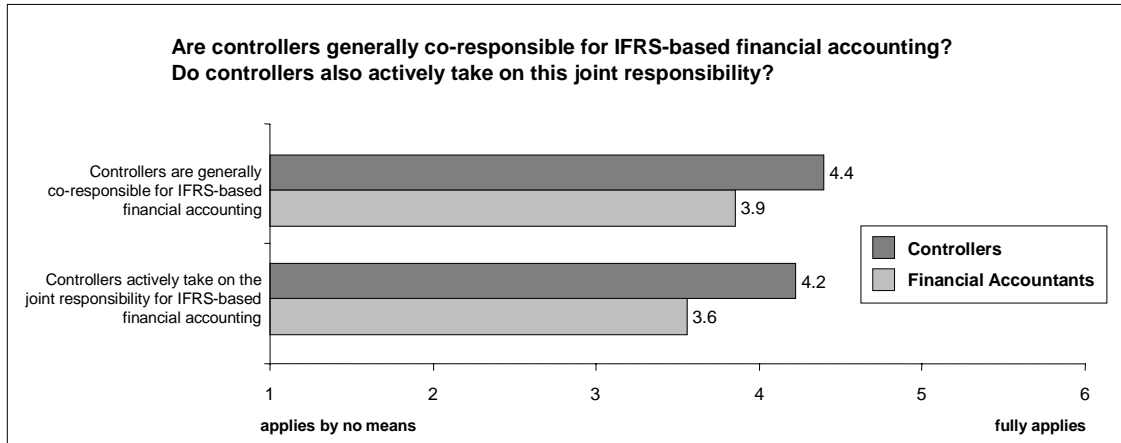


Figure 8: Co-responsibility of controllers for IFRS-based financial accounting

Another difference in perception between controllers and financial accountants can be stated regarding the adoption of controlling data for the preparation of impairment tests. Although both controllers and financial accountants indicate that controlling data actually is used in this context, they do not agree on the extent to which the data can be adopted (see Figure 9). Most of the controllers (47%) assume that planning data can be adopted as it stands, whereas financial accountants indicate that the data has to be modified (41%) or even that self-contained data has to be generated (27%).

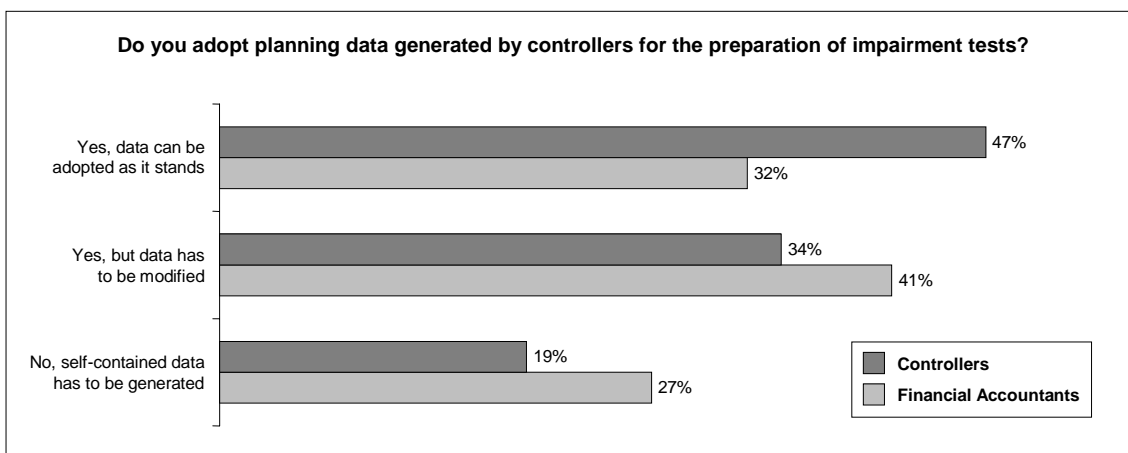


Figure 9: Adoption of planning data for impairment tests

This result indicates that there is still room for improvements in the cooperation of both controllers and financial accountants, not only with respect to efficiency gains within the finance functions, but also regarding the necessary compliance with IFRS regulation as IAS 36.33a states clearly that for purposes of an impairment test “cash flow projections [shall be based] on reasonable and supportable assumptions that represent *management’s best estimate* of the range of economic conditions that will exist over the remaining useful life of the asset”. This requires that cash flow projections have to be in line with the corporate planning data which in German-speaking countries are generally provided by controllers.

4 Controllership effectiveness under IFRS: Some empirical findings

In the preceding sections the focus was on the impact of IFRS on controllers’ tasks and roles. The following sections will deal with the controllership effectiveness under IFRS. Therefore, the analyses focus on the internal customers of controllers: Financial accountants and managers. First, some descriptive empirical findings concerning controllership effectiveness will be presented. Second, the drivers of controllership effectiveness under IFRS will be analysed, preceded by a section introducing the general research design for these dependency analyses.

4.1 Descriptive empirical findings concerning controllership effectiveness under IFRS

Due to the fact that controllers increasingly tend to act as internal consultants to management (see Section 3.3), the controllership effectiveness – interpreted as management satisfaction with the decision-making and control support provided by controllers – is an important issue.

In the context of the dissemination of integrated accounting systems especially the satisfaction of management with the monthly reporting system reports provided by controllers deserves closer attention. As Figure 10 shows, nearly two-thirds of the controllers (61.9%) indicate that they need less time for the completion of monthly reports now that accounting systems have been integrated, which points to an increase in reporting efficiency.

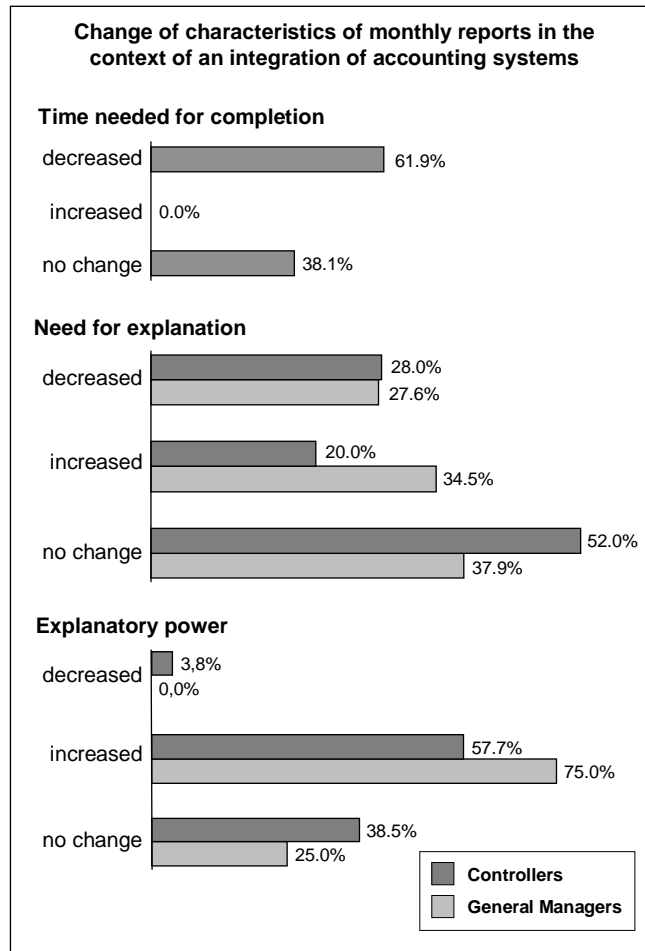


Figure 10: Change of monthly reporting in the context of integrated accounting systems

The assessment of the need for explanation of monthly reports turns out to be divergent, but overall general managers of the triad sample tend to indicate an increased need for explanation. Although this result could be interpreted in a negative way, we rather tend to another interpretation. To our mind, the increased need for explanation of monthly reports under an integrated accounting system reveals that general managers make an increased effort to deal with the information provided by controllers. This is also supported by a third result regarding the monthly reports, as the vast majority of controllers (57.7%) and general managers (75.0%) consistently indicate that the explanatory power of monthly reports has increased since accounting systems have been integrated.

Managerial satisfaction with the support from controllers is also reflected in the overall assessment of the quality of collaboration. As Figure 11 shows, general managers as well as controllers are content with the current situation regarding their mutual collaboration.

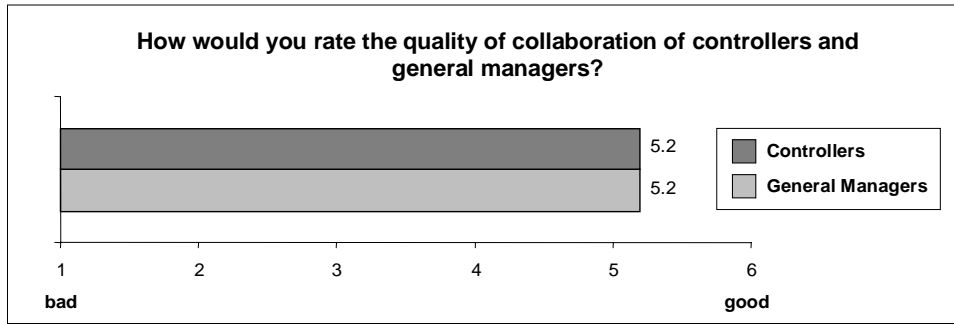


Figure 11: Quality of collaboration of controllers and general managers

Apparently, this assessment is to a certain degree also linked to the integration of accounting systems. 24.1% of the controllers and even 46.9% of the general managers indicate that the mutual collaboration has improved since the integration of accounting systems (see Figure 12).

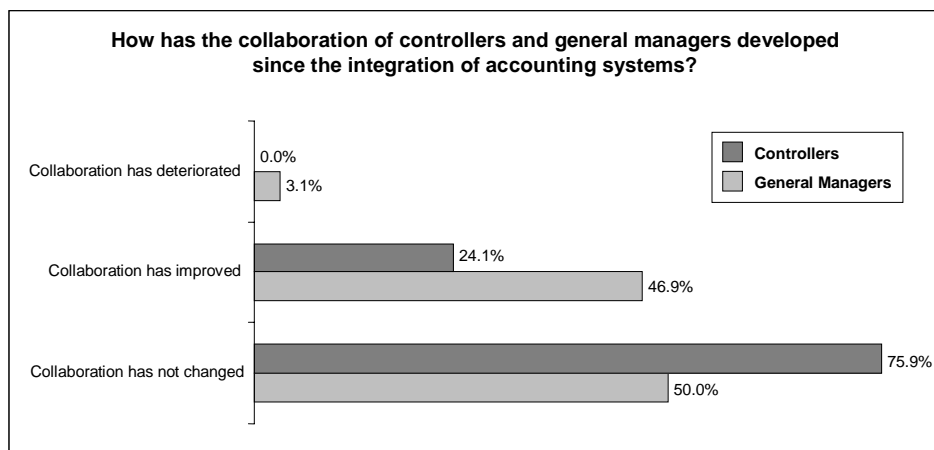


Figure 12: Development of collaboration of controllers and general managers

Controllers aim at supporting managerial decision-making and control. Therefore, to assess controllership effectiveness it is important to know whether managers perceive the impact of controllership – representing the bundle of controllers’ tasks – on their activities as being high or low. In addition, the question is whether managers’ perception of the impact is consistent with the controllers’ self-perception. Figure 13 shows not only that managers consider controllers to have a relatively high impact, but also that this is in line with the controllers’ self-perception.

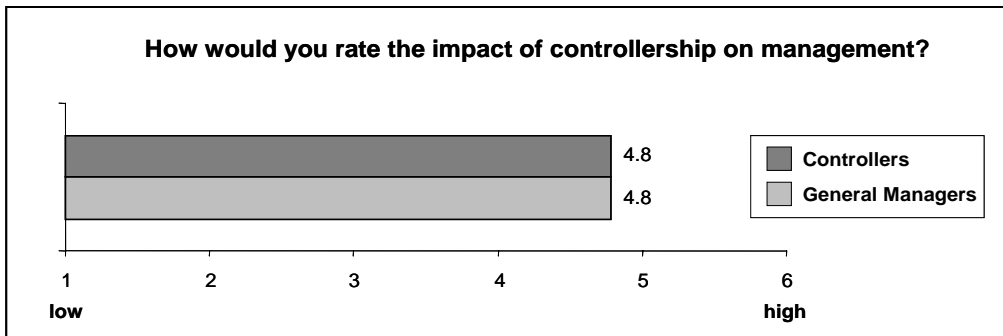


Figure 13: Impact of controllership on management

From a conceptual point of view, the integration of accounting systems under IFRS is an opportunity for controllers to increase their impact on managers. Under a unified financial language the potential for confusion and even wrong management decisions caused by divergent financial and cost accounting profitability measures is reduced.

This notion is basically supported by the empirical results. Whereas 53.3% of the managers said the integration did not affect the impact, 43.3% mentioned an increase in the impact. Only 3.3% indicated a decreased impact (Figure 14). Yet, the controllers' perception is partially different. Compared to the managers' answers only 34.6% of the controllers saw an increase in their impact and almost two third (65.4%) considered the impact to be unchanged. The findings raise the question whether controllers possibly underestimate the opportunities of the integration of accounting systems under IFRS.

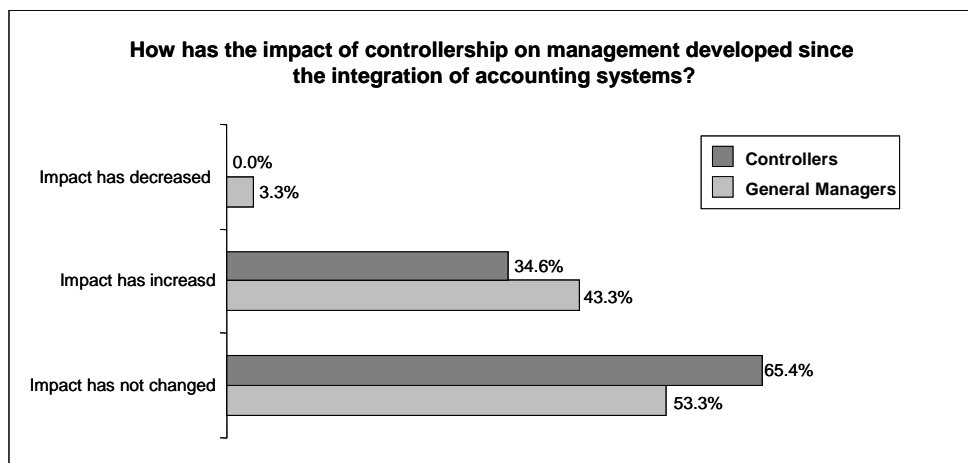


Figure 14: Development of impact of controllership on management

As pointed out in section 2, in the context of IFRS financial accountants become 'internal customers' of controllers. Like the managers, the financial accountants appear to be

generally satisfied with the support provided by controllers. However, the controllers' self-perception of their support of financial accountants is slightly (yet not significantly) higher. Figure 15 shows the results.

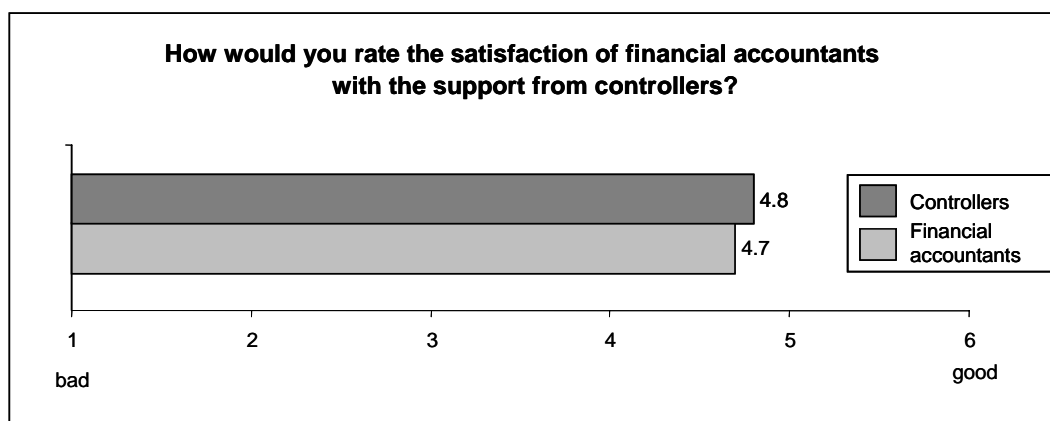


Figure 15: Satisfaction of financial accountants with support from controllers

The results indicate that controllers have managed to take on the challenges imposed by the adoption of IFRS and serve their internal customers – financial accountants and managers – well. Perhaps, they even underrate the opportunities given by the integration of accounting systems under IFRS.

4.2 General research design for drivers of controllership effectiveness under IFRS

This section analyses the impact of the controllers' work under IFRS. As mentioned in section 4.3 controllers' roles can be categorized as follows (*International Group of Controlling* 2005, 53): Controllers are internal consultants to management and therefore contribute to the achievement of the firm's profitability and shareholder value goals, controllers provide methods and systems that are required for the generation of the – mainly accounting – information needed for internal consulting purposes, and – on account of the adoption of IFRS – controllers provide information required by all people in charge of the preparation, audit, and communication of the IFRS-based financial accounting data.

The main focus of controllers and what they aim at is primarily a consulting function for (general) managers (*Merchant/Van der Stede* 2003, 493, *Sathe* 1982); the data presented

in Figure 8 underline that notion. Nevertheless, the impact of controllership on the success of an organization is supposedly not a direct one, as there are many other variables influencing and explaining it (*Bauer 2002, 137-140, Chong 1996*). In addition, the sample size of this study does not allow advanced statistical methods to analyze this direct relationship, e.g., the confirmatory maximum likelihood factor analysis.

Therefore, for measuring the success of controllership under IFRS the controllers' (internal) customers are examined, i.e. the manager with regard to the controllers' consulting role and the financial accountant to whom controllers have to provide internal data, e.g. cash flows or segment results, for IFRS-based financial disclosure.

Based upon the triad research design it is possible to analyze the impact of controllership under IFRS on the internal customers – general managers and financial accountants. Figure 16 gives an overview of the research model and the variables.

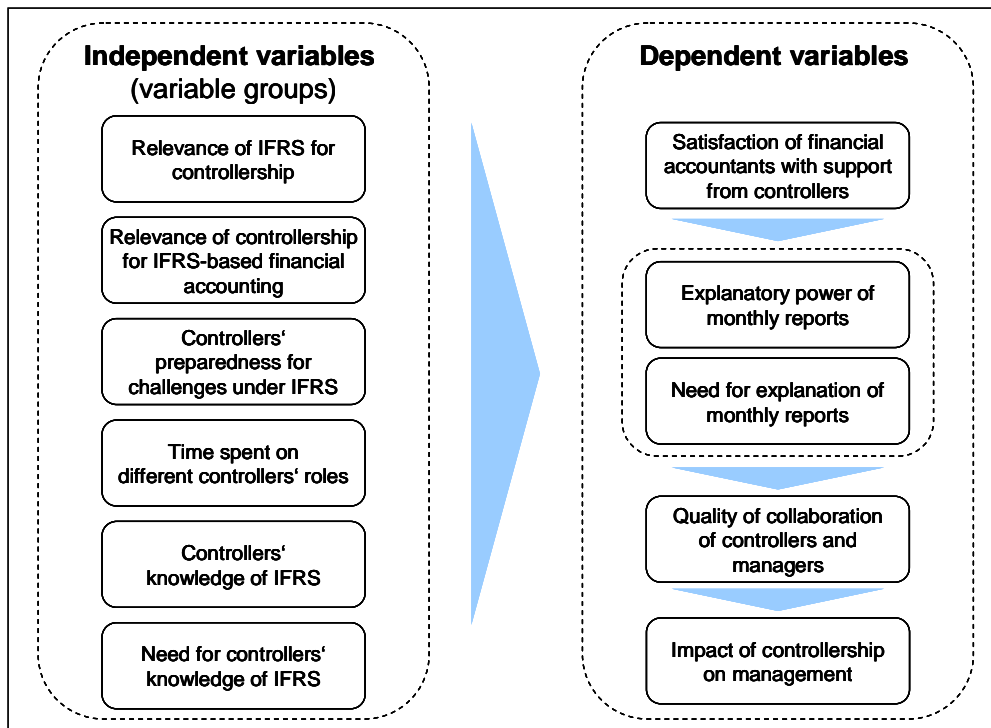


Figure 16: General research design for analyzing controllership effectiveness under IFRS

As independent variable groups the following factors are used: the relevance of controllership for IFRS-based financial accounting, the relevance of controllership for IFRS-based financial accounting, controllers' preparedness for challenges under IFRS, the time spent on different controllers' roles (as mentioned above), the controllers' know-

ledge of IFRS, and the need for controllers' knowledge of IFRS. These variable groups consist of several variables which are listed in the appendix. Descriptive survey results on these variables and variable groups were presented in section 4. The independent variable groups chosen refer to the set up of the controllership, e.g., time spent on different roles, and perceptions concerning knowledge and relevance of certain aspects.

A first dependent variable is the satisfaction with the support of the controllers as perceived by the financial accountants. They have to set up the financial accounting data and statements required by IFRS and partially have to receive data supplied by the controllers. Other dependent variables are management-related and consist in the perceptions of general managers concerning the explanatory power of monthly reports, the need of explanation for these reports, the quality of collaboration of controllers and managers, and the impact of controllership on management. These variables indicate the effectiveness of controllership. Hereby, a general relationship among these dependent (success) variables is assumed: The higher the satisfaction of the financial accountants with the support by the controllers, the higher the explanatory power and the lower the need for explanation of these reports; the higher/lower the latter variables, the higher the quality of collaboration of controllers and managers as perceived by the manager; and the higher the perceived quality of the cooperation, the higher the impact of controllership on management again as perceived by the managers. Whereas the dependent variables are the perceptions of the controllers on these variables, for the dependent variables the perceptions of the controllers' internal customers - financial accountants and managers - are used.

Due to the sample size of this study and being one of the first empirical studies in this area of research (see the literature review in section 2) the research approach is not a confirmatory one, but rather an exploratory one. The objective of analysing the variables is to explore dependencies and derive conclusions and first hypotheses for further research. Therefore, stepwise bivariate regression analysis was applied to identify statistically significant relationships between independent and dependent variables.

4.3 Empirical findings concerning drivers of controllership effectiveness under IFRS

All independent variables mentioned in the general research design are analysed in single, independent regression analyses with regard to their impact on the individual dependent variables. The empirical findings are shown and discussed in the following sections. Detailed statistical data on the analyses are presented in the appendix. A six-point Likert Scale was used for all variables.

4.3.1 Relationships between independent variable groups and satisfaction of financial accountants with support from controllers

On the scale used (1 very low – 6 very high) the financial accountants rate their satisfaction with the support by the controllers on average 4.69 (i.e. the mean, standard deviation is 0.963). In general, financial accountants seem to be satisfied with the support. In the following section the possible drivers of that satisfaction are analysed.

The results of the regression analyses show a significant impact of the variable *Relevance of controllership for IFRS reporting – (a) today and (b) in three to five years* as perceived by the controllers on the satisfaction of the financial accountants with the support from the controllers (level of significance 0.061 (a) and 0.095 (b) respectively, standard coefficients 0.334 (a) and 0.295 (b) – for more details statistical data on the regression analyses see the appendix). The relevance of IFRS for controllers is twofold: The IFRS database facilitates an integration of accounting system (at least for reporting at the corporate and segment/business unit level) and controllers have to supply information to financial accountants for their financial disclosure purposes, e.g., for segment reporting (IAS 14), impairment of assets (IAS 36) or intangible assets (IAS 38). If controllers recognize the relevance of IFRS in these two dimensions – which cannot be taken for granted in the context of a (formerly) dual accounting system – the support for financial accountants should be given. The empirical findings support these theory-driven considerations.

Furthermore, it can be assumed that the higher the relevance of IFRS for controllers and of controllership for IFRS-based financial accounting, the better controllers are prepared for the challenges due to IFRS, thus the more time they spend on the role as an information provider to financial accountants, and therefore the better the controllers' know-

ledge of IFRS, meaning the higher the satisfaction of financial accountants with the support by the controllers. In addition to that positive relationship, the need for controllers' knowledge of IFRS should have a negative impact on the satisfaction of the financial accountants.

However for all these independent variables the data of this study do not show a statistically significant relationship with the satisfaction of financial accountants with the support of the controllers. According to the findings, the quantitative input of controllers (as measured by the relative time spent on the roles) does not affect the satisfaction of the financial accountants with the support. For the interpretation of this result it has to be noted that there is no significant difference between the time allocated to the role currently and the desired time to be allocated as perceived by the controller. Additionally, there is no significant difference between the perception of the controllers and that of the financial accountants with regard to the time spent by controllers on that role. Therefore, based upon the findings of this study additionally allocating more time on supporting financial accountants does not increase the satisfaction of financial accountants. The empirical findings indicate that only the relevance of IFRS for controllership, as perceived by the controllers, has a positive impact on the satisfaction of financial accountants.

4.3.2 Relationships between independent variable groups and explanatory power of monthly reports

In the context of integrated accounting systems the monthly reports and managers' satisfaction with these reports are important. One aspect is the perceived explanatory power of the monthly report as perceived by the manager. Nevertheless, similarly to the analysis of section 4.3.1, only few dependent variables show a significant impact on the explanatory power.

First, the better controllers perceive themselves as being prepared for the challenges under IFRS, the higher the explanatory power of the monthly reports (standard coefficient 0.451, level of significance 0.014, r square adjusted 0.174). According to our findings, controllers also can increase their effectiveness as perceived by the managers; taking on the challenges under IFRS and preparing themselves for IFRS contributes to good reports (and possibly good comments on financial figures) which is appreciated by the managers.

Second and closely related to the findings mentioned, the controllers' IFRS knowledge contributes to the explanatory power of monthly reports as well. Yet, this is only statistically significant for the knowledge of controllers at the segment and business unit level (standard coefficient 0.391, level of significance 0.072, r square adjusted 0.153), not for the corporate or production/cost center level. Integrated financial accounting is not of high importance at the production/cost center level as shown in section 3 (figure 5 and 6) on the efficient integration path. Therefore, IFRS-knowledge is not required at that level. At the segment and business unit level there often is an integrated profit and loss statement. Hence, controllers should have good knowledge of IFRS for preparing and commenting on the monthly reports. The empirical findings support this. On the corporate level the IFRS-knowledge of controllers does not have a significant impact on the explanatory power. This empirical finding is not expected as on the corporate level the accounting system usually is integrated, based upon IFRS (see the descriptive results in Section 3).

Consequently, managers need information on that. As both financial accountants and controllers can serve as contact persons for the managers and supplier of the monthly reports, a possible explanation could be that financial accountants rather than the controllers take on that task and role. Additionally, on a corporate level especially of capital-market oriented firms managers may be not so much be focused on a disaggregated control perspective, but rather on the aggregate perspective taken on in the financial statements. This notion is also supported by a study of *Weber et al.* (2006, 48) indicating that on a corporate level financial accountants are perceived as important 'competitors' regarding management attention.

4.3.3 Relationships between independent variable groups and need for explanation of monthly reports

The descriptive empirical results on the need for the explanation of monthly reports showed an inconsistent pattern: whereas 27.6% of the managers said the need for explanation had decreased in the context of an integration of accounting systems, another 34.5% of the managers saw an increase. As these results can be interpreted both negatively and positively as already explained, the forthcoming results have to be viewed cautiously.

There is a statistically significant positive relationship between the relevance of IFRS for controllership (as perceived by the controllers (a) for today and (b) in three to five years) and the need for explanation of monthly reports (for relevance today and in three to five years: standard coefficient 0.422 (a) and 0.581 (b), level of significance 0.018 (a) and 0.01 (b), r square adjusted 0.178 (a) and 0.337(b)). Hence, the controllers' rating of the relevance of IFRS seems to facilitate the need for explanation (to be considered positively as the managers increasingly work with, and on, the monthly reports. In addition, the future relevance of controllership for IFRS-based financial accounting also positively relates to the need for explanation (standard coefficient 0.305, level of significance 0.095, r square adjusted 0.093). Yet, the controllers' perception of the current relevance and the other independent variables do not show any significant relationship with the need for explanation of the monthly reports. These mixed empirical findings are supplemented by the variable *Time spent on the different controllers' roles*, especially the role of the internal consultant. The desired time spent on the role of an internal consultant shows a negative relationship with the need for explanation (standard coefficient -0.319, level of significance 0.08, r square adjusted 0.102). The current time spent on that role does not show a significant impact. The interpretation depends on the assessment of an increased or decreased need for explanation which might be considered to be positive or negative. As this is not possible based upon the variable as used in this study, a final interpretation can not be made (as opposed to the preceding dependent variable: explanatory power of monthly reports). For future research these two aspects of the need for explanation have to be differentiated.

4.3.4 Relationships between independent variable groups and the quality of collaboration of controllers and managers

As for the quality of collaboration of controllers and managers as perceived by the managers, especially the role of the controller as an internal consultant, should show a positive relationship. Yet, except for one independent variable all variables do not show any significant impact on the quality of cooperation: neither the relevance of IFRS for controllership, the relevance of controllership for IFRS-based financial accounting, controllers' preparedness for challenges under IFRS, the time spent on different controllers' roles (see the forthcoming exception to be explained), the need for controllers' know-

ledge of IFRS, nor the controllers' knowledge of IFRS have a significant relationship with the quality of the collaboration of controllers and managers.

Especially for the role of an internal consultant, this empirical finding is surprising. The time the controllers spend on that specific role (and according to their answers they desire to expand that role) does not seem to positively affect the perceived quality of the cooperation. Yet, one role does show a significant impact: the role of providing information required for the IFRS-based financial accounting (as desired for the future: standard coefficient 0.333, level of significance 0.063, r square adjusted 0.111; there is no statistically significant impact of this role on the current situation).

Based upon that finding, the role of an information provider for IFRS-based financial accounting can contribute to improving the quality of collaboration of controllers and managers. Consequently, controllers can consider that role to be an indirect lever for improving the quality of their work to support managers. The required data provided by controllers might contribute to avoiding complexity and confusion concerning these aspects and increase the quality, though finally prepared by the financial accountant, so that IFRS-based integrated reporting also might be interpreted as a means of 'quality control' for accounting information provided for decision-making and control. As a consequence, under IFRS controllers should not (only) view financial accountants as a competitor for managers' attention (*David 2005, 28*), but (also) as an indirect lever for improving the collaboration between themselves and the managers.

Further analysis supports the indirect lever concerning IFRS-financial accounting for successful controllership. The explanatory power of the monthly reports has a significant positive impact on the quality of cooperation between managers and controllers (standard coefficient 0.356, level of significance 0.053, r square adjusted 0.096). As shown, the explanatory power itself is positively influenced by how well controllers are prepared for the challenges under IFRS. Therefore, (pro-)actively dealing with IFRS-related issues does not only help financial accountants to meet their legal requirements, but additionally contributes to controllership effectiveness.

4.3.5 Relationships between independent variable groups and the impact of controllership on management

In general, controllers ultimately support managers. Therefore, the impact of controllership on management, as perceived by the managers themselves, is an indicator for successful controllership. As with the preceding dependency analyses only few independent variables showed significant relationships. This has to be viewed considering the following aspects: This impact of controllership on management is affected by other non IFRS-related aspects of the controllership as well, as described in the introductory remarks of this section. In addition, it has to be noted that the independent variables supposedly do not directly affect this dependent variable, but rather have an indirect effect via the other dependent variables. Therefore, no strong and only few significant relationships should be expected for the relationships analysed in this section. In general, the findings are in line with that notion.

Only the variable indicating how well controllers perceive themselves to be prepared for the challenges under IFRS shows a positive statistical significance for the impact of controllership on management as perceived by the managers (standard coefficient 0.326, level of significance 0.078, r square adjusted 0.075). The other variables do not show a significant positive relationship with the dependent variable. Repeatedly, an IFRS-related aspect shows a possible lever for rendering successful controllership possible.

Again the different roles – especially the role of the internal consultant – do not have a significant positive effect on the dependent variable. In general, the time spent on the different roles does not have a significant impact. Therefore, the empirical findings indicate that the quantitative aspect of the different roles do not play a major role. Consequently, the qualitative aspects seem to have a prevailing impact. The positive effect of the controllers' preparedness for the challenges under IFRS supports that notion. Furthermore, there is a direct positive effect of the explanatory power of monthly reports on the impact of controllership on management (standard coefficient 0.397, level of significance 0.03, r square adjusted 0.128). The explanatory power itself is positively affected by how well controllers are prepared for the challenges under IFRS. Hence, how well controllers are prepared for IFRS seems to have both a direct and indirect effect on the dependent variable. This underlines the importance of IFRS-related aspects for successful controllership.

There is another variable with a significant effect on the impact of controllership on management. Yet, it is a negative one: The need for controllers' knowledge of IFRS at the production/cost center level is negatively related to the dependent variable (no significant effect on the corporate or segment/business unit level). This finding is inconsistent with the mentioned consideration that at that level the need for IFRS knowledge is not as necessary as at the other two levels.

5 Summary and conclusion

The objective of our study was to explore controllership in German-speaking countries, like Austria or Germany, under IFRS. From a conceptual point of view, IFRS-based financial accounting systems have a twofold impact on controllership, (1) by driving the use of integrated financial accounting systems instead of the traditional dual accounting model for decision-making and control purposes and (2) by extending the controllers' roles towards becoming an information provider to the financial accountants. Empirical evidence on both changes as well as the influence on controllership effectiveness is still scarce.

Analysing these research questions with a triadic research design amongst Austrian IFRS users, we obtain several interesting results. From a descriptive point of view, most IFRS users have indeed adopted integrated accounting systems, but only on a partial basis. Regarding the controllers' roles, we find indications that controllers not only aim at advancing their role of internal business consultant, but also that they allocate a considerable amount of their time – about eight hours per week – to the new role of information provider to the financial accounting department. Nevertheless, far from being detrimental to the role of business consultant, our dependency analysis shows that an active use of IFRS has a significantly positive impact on managerial satisfaction variables.

From a critical perspective however, our study has several limitations that have to be taken into account. First, the limited sample size makes the generalization of our findings, while not impossible, at least difficult. Additionally, only very strong effects can be measured with such a small sample. Second, a direct measurement of the variables was chosen due to the novelty of the empirical research in this area and the exploratory character of this study. A conceptualization and operationalization of the constructs,

e.g., impact of controllership on management, would give a more accurate view of the variables used, but was not possible, once again due to the sample size. Third and consequently, no sophisticated statistical methods for analysing dependencies between variables (and in addition indirect ones) could have been applied. Finally, our study does not include contingent variables other than the IFRS-related ones.

In spite of the limitations we think that our study represents a further step into the analysis of controllership under IFRS, generating several critical observations which may be used not only to advance research on controllership in German-speaking countries, but which may – due to an increasing international assimilation of the finance function in organizations – also stimulate international research on the work of the managerial accountants.

Appendix

Variables of variable groups and results of regression analyses

Independent variable groups and variables (answered by controller)	Independent variable		
	How satisfied are you with the support from the controllers?		
	(answered by financial accountant)		
	Standardized coefficient	Level of significance	R square adjusted
Relevance of IFRS for controllership			
How do you assess the relevance of IFRS for controllership <i>today</i> ?	no significance		
How do you assess the relevance of IFRS for controllership in <i>three to five years</i> ?	no significance		
Relevance of controllership for IFRS-based financial accounting			
How do you assess the relevance of controllership for IFRS-based financial accounting <i>today</i> ?	0.334	0.061	0.082
How do you assess the relevance of controllership for IFRS-based financial accounting in <i>three to five years</i> ?	0.295	0.095	0.087
Controllers' preparedness for challenges under IFRS			
How well are the controllers in your company prepared for the future challenges under IFRS?	no significance		
Time spent on different controllers' roles			
Allocate your time spent on the following roles :			
Controllers are internal consultants to management - <i>as of today</i>	no significance		
Controllers are internal consultants to management - <i>as desired</i>	no significance		
Controllers provide methods and systems - <i>as of today</i>	no significance		
Controllers provide methods and systems - <i>as desired</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as of today</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as desired</i>	no significance		
Controllers' knowledge of IFRS			
How do you assess the current IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		
Need for controllers' knowledge of IFRS			
How do you assess the need for IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		

Independent variable groups and variables (answered by controller)	Independent variable		
	How do assess the explanatory power of the monthly reports? (answered by general manager)		
	Standardized coefficient	Level of significance	R square adjusted
Relevance of IFRS for controllership			
How do you assess the relevance of IFRS for controllership <i>today</i> ?	no significance		
How do you assess the relevance of IFRS for controllership in <i>three to five years</i> ?	no significance		
Relevance of controllership for IFRS-based financial accounting			
How do you assess the relevance of controllership for IFRS-based financial accounting <i>today</i> ?	no significance		
How do you assess the relevance of controllership for IFRS-based financial accounting in <i>three to five years</i> ?	no significance		
Controllers' preparedness for challenges under IFRS			
How well are the controllers in your company prepared for the future challenges under IFRS?	0.451	0.014	0.174
Time spent on different controllers' roles Allocate your time spent on the following roles :			
Controllers are internal consultants to management - <i>as of today</i>	no significance		
Controllers are internal consultants to management - <i>as desired</i>	no significance		
Controllers provide methods and systems - <i>as of today</i>	no significance		
Controllers provide methods and systems - <i>as desired</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as of today</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as desired</i>	no significance		
Controllers' knowledge of IFRS			
How do you assess the current IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>segment/business unit controllers</i> ?	0.391	0.072	0.153
How do you assess the current IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		
Need for controllers' knowledge of IFRS			
How do you assess the need for IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		

Independent variable groups and variables (answered by controller)	Independent variable		
	How do assess the need for explanation of the monthly reports? (answered by general manager)		
	Standardized coefficient	Level of significance	R square adjusted
Relevance of IFRS for controllership			
How do you assess the relevance of IFRS for controllership <i>today</i> ?	0.422	0.018	0.178
How do you assess the relevance of IFRS for controllership in <i>three to five years</i> ?	0.581	0.01	0.337
Relevance of controllership for IFRS-based financial accounting			
How do you assess the relevance of controllership for IFRS-based financial accounting <i>today</i> ?	no significance		
How do you assess the relevance of controllership for IFRS-based financial accounting in <i>three to five years</i> ?	0.305	0.095	0.093
Controllers' preparedness for challenges under IFRS			
How well are the controllers in your company prepared for the future challenges under IFRS?	no significance		
Time spent on different controllers' roles			
Allocate your time spent on the following roles :			
Controllers are internal consultants to management - <i>as of today</i>	no significance		
Controllers are internal consultants to management - <i>as desired</i>	-0.319	0.08	0.102
Controllers provide methods and systems - <i>as of today</i>	no significance		
Controllers provide methods and systems - <i>as desired</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as of today</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as desired</i>	no significance		
Controllers' knowledge of IFRS			
How do you assess the current IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		
Need for controllers' knowledge of IFRS			
How do you assess the need for IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		

Independent variable groups and variables (answered by controller)	Independent variable		
	How do assess the quality of collaboration of controllers and managers in your company? (answered by general manager)		
	Standardized coefficient	Level of significance	R square adjusted
Relevance of IFRS for controllership			
How do you assess the relevance of IFRS for controllership <i>today</i> ?	no significance		
How do you assess the relevance of IFRS for controllership in <i>three to five years</i> ?	no significance		
Relevance of controllership for IFRS-based financial accounting			
How do you assess the relevance of controllership for IFRS-based financial accounting <i>today</i> ?	no significance		
How do you assess the relevance of controllership for IFRS-based financial accounting in <i>three to five years</i> ?	no significance		
Controllers' preparedness for challenges under IFRS			
How well are the controllers in your company prepared for the future challenges under IFRS?	no significance		
Time spent on different controllers' roles			
Allocate your time spent on the following roles :			
Controllers are internal consultants to management - <i>as of today</i>	no significance		
Controllers are internal consultants to management - <i>as desired</i>	no significance		
Controllers provide methods and systems - <i>as of today</i>	no significance		
Controllers provide methods and systems - <i>as desired</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as of today</i>	no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as desired</i>	0.333	0.063	0.111
Controllers' knowledge of IFRS			
How do you assess the current IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the current IFRS-knowledge of <i>production/cost center controllers</i> ?	no significance		
Need for controllers' knowledge of IFRS			
How do you assess the need for IFRS-knowledge of <i>corporate controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>segment/business unit controllers</i> ?	no significance		
How do you assess the need for IFRS-knowledge of <i>production/cost center controllers</i> ?	0.356	0.053	0.096

		Independent variable		
		How do assess the impact of controllership on management in your company?		
Independent variable groups and variables (answered by controller)		(answered by general manager)		
		Standardized coefficient	Level of significance	R square adjusted
Relevance of IFRS for controllership				
How do you assess the relevance of IFRS for controllership <i>today</i> ?		no significance		
How do you assess the relevance of IFRS for controllership in <i>three to five years</i> ?		no significance		
Relevance of controllership for IFRS-based financial accounting				
How do you assess the relevance of controllership for IFRS-based financial accounting <i>today</i> ?		no significance		
How do you assess the relevance of controllership for IFRS-based financial accounting in <i>three to five years</i> ?		no significance		
Controllers' preparedness for challenges under IFRS				
How well are the controllers in your company prepared for the future challenges under IFRS?		0.326	0.078	0.075
Time spent on different controllers' roles				
Allocate your time spent on the following roles :				
Controllers are internal consultants to management - <i>as of today</i>		no significance		
Controllers are internal consultants to management - <i>as desired</i>		no significance		
Controllers provide methods and systems - <i>as of today</i>		no significance		
Controllers provide methods and systems - <i>as desired</i>		no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as of today</i>		no significance		
Controllers provide information required for IFRS-based financial accounting - <i>as desired</i>		no significance		
Controllers' knowledge of IFRS				
How do you assess the current IFRS-knowledge of <i>corporate controllers</i> ?		no significance		
How do you assess the current IFRS-knowledge of <i>segment/business unit controllers</i> ?		no significance		
How do you assess the current IFRS-knowledge of <i>production/cost center controllers</i> ?		no significance		
Need for controllers' knowledge of IFRS				
How do you assess the need for IFRS-knowledge of <i>corporate controllers</i> ?		no significance		
How do you assess the need for IFRS-knowledge of <i>segment/business unit controllers</i> ?		no significance		
How do you assess the need for IFRS-knowledge of <i>production/cost center controllers</i> ?		-0.394	0.051	0.155

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