

Chapter 4

Drivers of the Alignment of Financial Accounting to Management Accounting

4.1 Introduction

The previous sections discussed the premises for the alignment between Financial Accounting (FA) and Management Accounting (MA), with a special focus on the Italian setting. Section 4.2 will instead explore institutional theory, which could be used in supporting the convergence of process between FA and MA. Sections 4.3 and 4.4 will analyze the point of view of practitioners and academics with regard to the practical drivers that could be used in explaining the alignment of FA to MA, underlining that both IAS/IFRS and Information Technology (IT) are relevant issues in this convergence process.

4.2 Institutional Theory in Support of the Convergence Process of Financial Accounting and Management Accounting

As shown in Chap. 2, institutional theory could be the basis for explaining changes which affect the accounting procedures, methods and techniques, accounting information systems, information flow, and the functions and roles of accountants (see also: Meyer and Rowan 1977; DiMaggio and Powell 1983; Taipaleenmäki and Ikäheimo 2013).¹

In a similar vein, institutional theory could be the basis for explaining the development paths which affect MA tools and practices, and even, the basis for explaining the alignment of FA to MA.

¹Chapter 2 demonstrated that institutional pressures could affect both the objective and the subjective dimension of FA. Institutional pressures may be classified into four main categories: coercive, normative, mimetic and economic.

As seen in Chap. 2, examples for firms of coercive pressures which could bring about relevant changes in FA may be represented by legal and technical requirements requested by the government, such as financial reporting requirements. In terms of MA, coercive pressures could be linked, for instance, to the vicissitudes of the budget cycle, which could produce innovations in managerial techniques and methods (DiMaggio and Powell 1983). In circumstances where the above-mentioned coercive pressures affecting FA and MA run in the same direction, alignment between FA and MA may be undertaken; otherwise if they run in two different directions a divergence of the two aforementioned systems may be undertaken (Ikäheimo and Taipaleenmäki 2010).

As seen in Chap. 2, examples of normative pressures which could bring about relevant changes in FA may regard the possibility of hiring people from other organizations that could bring innovative tools in order to elaborate and produce FA information. In this regard, individuals could also bring their positive or negative past experiences and practices in producing and disclosing forward-looking and non-financial information. Similar considerations could arise for MA; in fact, hiring people from other firms could be positive, since new hires may bring their experiences with regard to MA information and practices. For instance, MA innovations could regard the introduction and the use of advanced methods, such as the balanced-scorecard.² Therefore, examples of normative pressures, which could bring an alignment between FA and MA, may regard the possibility of copying some solutions, with little expense and effort, from other organizations that have already found the solution for the same problem. This could happen especially in an uncertain environment (Cyert and March 1964; DiMaggio and Powell 1983). Another example of normative pressures, in terms of both FA and MA, could be the hiring of personnel from firms within the same industry with the aim of improving internal processes (DiMaggio and Powell 1983).³ This process could foster the convergence between FA and MA, if new employees have past experience in this field.

Finally, as seen in Chap. 2, examples of mimetic pressures, which could bring about relevant changes in FA, involve the possibility of imitating similar organizations in producing and disclosing additional information. Similar considerations could arise for MA. In addition, the imitation could also facilitate the convergence process of FA and MA (DiMaggio and Powell 1983; Ikäheimo and Taipaleenmäki 2010).

According to this framework, the aforementioned pressures could affect the development paths of both FA and MA and, thereby, foster the alignment of FA to MA.

²For further information about the balanced scorecard, see: Kaplan and Norton (1995, 1996, 2006).

³See also March and March (1977).

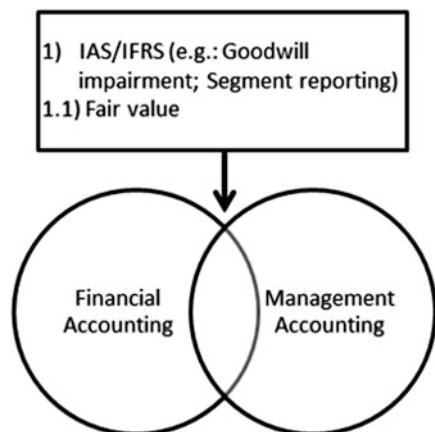
4.3 The Viewpoints of Professional Associations and Academics

Professional associations and academics agree that the introduction of IAS/IFRS in the worldwide annual reports of firms and, in particular, the new fair value perspective may foster the alignment process of FA to MA. The following sections focus on the literature on this topic, underlying the relevant contributions made by the international professional associations to the convergence process. As shown in Fig. 4.1, fair value is a consequence of the adoption of IAS/IFRS, as better explained in the following section.

4.3.1 IAS/IFRS: A Possible Driver of the Convergence Process Between Financial Accounting and Management Accounting

Most of the literature concurs that the harmonization of financial reporting standards has fostered the convergence process between FA and MA (Jermakowicz 2004; Jones and Luther 2005; Marchi et al. 2008; Procházka 2011; Quagli 2011; Zambon 2011; Marchi and Potito 2012; Taipaleenmäki and Ikäheimo 2013). As a matter of fact, Jermakowicz noted significant changes in internal and external reporting due to the adoption of IAS/IFRS (Jermakowicz 2004). In a similar vein, Jones and Luther identified innovations in MA practices and integration between financial and management accounting systems as a consequence of IAS/IFRS adoption (Jones and Luther 2005). Prochazka stated that IAS/IFRS could be considered as a driver of such convergence process (Procházka 2011). In particular, financial reporting standards that have mainly affected convergence regard

Fig. 4.1 IAS/IFRS and fair value: their role in the alignment of FA to MA (Source: author's presentation)



goodwill impairment and segment reporting (Marchi et al. 2008; Taipaleenmäki and Ikäheimo 2013).

Goodwill may be defined as an intangible asset, the value of which is the result of the negotiation between two companies when one company acquires another one. Such value thus represents the going concern value of the acquired company (Johnson and Petrone 1999; Troberg 2007; Petersen and Plenborg 2010). In detail, IFRS 3 and IFRS 36 require that acquired assets, liabilities and contingent liabilities are recognized at fair value in the annual report of the acquiring firm. If the fair value is less than the purchase price, the difference is the goodwill. According to IFRS, goodwill is never amortized, even if the managers have the responsibility to evaluate the goodwill value every year, in order to decide if the impairment is necessary. The impairment test is mainly based on the future estimates of cash flows; and thus, in carrying out this test it is necessary to have support from MA techniques (Hemmer and Labro 2008; Taipaleenmäki and Ikäheimo 2013).⁴ As Taipaleenmäki and Ikäheimo have stated, the main aim of FA is to support shareholders in their decision-making by assuring fair values of goodwill (Taipaleenmäki and Ikäheimo 2013). In this regard, Quagli has stated that: *“Through the impairment test, management accounting feeds financial accounting. But the opposite is true also: the necessity to test goodwill for impairment could impose the introduction of managerial techniques able to develop new and value-based oriented management accounting practices.”* (Quagli 2011: 17). According to his perspective, FA practices (the identification of CFUs, goodwill allocation, etc.) became opportunities for MA changes, whereas the structure of CGUs, asset allocation and other typical activities of MA can be viewed as potentialities which may be exploited by financial accountants, even in providing additional disclosure for markets (Quagli 2011).

As anticipated at the beginning of the current section, segment reporting could also represent a factor that may foster the convergence process between MA and FA. In particular, segment reporting standards (IFRS 8, operating segment) requires particular classes of entities (essentially those with publicly traded securities) to disclose information about their operating segments,⁵ products and services, the geographical areas in which they operate, and their major customers. Such types of information are based on internal managerial reports, in the direction of both the identification of operating segments and the measurement of disclosed segment information (for further details on segment reporting see, among others: Bens et al. 2011; Nichols et al. 2013). The alignment of FA to MA is therefore implicit

⁴ In practice, it is necessary to have support from MA, in the form of budgets concerning the near future, as well as the latest estimates and forecasts (Taipaleenmäki and Ikäheimo 2013).

⁵ An operating segment is a component of an entity: *“that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same entity) whose operating results are reviewed regularly by the entity’s chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance and for which discrete financial information is available.”* (IFRS 8.2).

in the IFRS 8, since it requires that information useful in producing financial reporting be based on the internal managerial reports. IFRS 8 thus requires some changes in MA processes, tools and reporting, since it requires that operating segments should be in line with the internal structure of a firm. Hence, FA and MA information should be aligned and integrated. It is possible to conclude that, consistent with the viewpoints of other researchers, through IFRS 8, MA facilitates changes in FA and, at the same time, FA motivates changes in MA (Taipaleenmäki and Ikäheimo 2013). In these circumstances, managers perceive the need to align MA and FA deadlines, especially for information that is forward-looking (Hemmer and Labro 2008).

Furthermore, other international standards may foster the alignment between FA and MA, such as IAS 32 and IFRS 9, which regard the disclosure needed for financial instruments; IAS 12, which regards income taxes; and IAS 40, which regards investment property (Ikäheimo and Taipaleenmäki 2010; Zambon 2011). Specifically, IAS 32 and IFRS 9 support the convergence of FA and MA, especially for forward-looking information required for impairment and hedge accounting; IAS 12 supports such convergence due to the necessity of having internal information in order to define a business combination for financial asset valuations; IAS 40 supports convergence due to the necessity of having advanced accounting systems to evaluate fair value, mainly based on managerial information.

Part of the literature has observed that firms can voluntarily adopt IAS/IFRS, since they are considered to be superior to most local GAAPs (Ashbaugh and Pincus 2001; Leuz 2003; Ding et al. 2007; Barth et al. 2008; Daske et al. 2008).

Daske and Barth et al. found a decrease in the cost of capital for firms that have voluntarily adopted IAS/IFRS in the year IAS were adopted (Barth et al. 2008; Daske et al. 2008), whereas Ashbaugh and Pincus found that analyst forecast accuracy improves after IAS adoption (Ashbaugh and Pincus 2001). Moreover, Barth et al. demonstrated that firms that adopted IAS showed less earning management (Barth et al. 2008), while Karamanou and Nishiotis demonstrated that IAS/IFRS disclosure allows firms to reduce asymmetric information between investors and managers, in accordance with the signalling theory⁶ (Karamanou and Nishiotis 2009). The existing literature, in fact, has suggested that a firm is perceived as having high value into the future, if its managers voluntarily increase the level of disclosure (Jovanovic 1982; Verrecchia 1983; Moel 1999; Karamanou and Nishiotis 2009). In a similar vein, Siegel argued that firms are prone to adopting behaviour in a voluntary way, if they expect a positive reputational effect from this behaviour (Siegel 2005). Francis et al. investigated whether the quality of FA could improve through IAS adoption, finding that features of both the firms and countries may affect the voluntary decision of IAS adoption⁷ (Francis et al. 2008).

Based on these considerations, even the voluntary adoption of IAS/IFRS could affect the features and the quality of the financial reporting and, in this way, foster

⁶ For further insights on signalling theory, see also Chap. 2.

⁷ See also Ball (2001) and Kothari (2001).

the alignment of FA to MA for the same considerations mentioned above for the cases in which IAS adoption is mandatory.⁸

4.3.2 Fair Value: A Possible Driver of the Convergence Process Between Financial Accounting and Management Accounting

According to the literature, one of the most relevant changes that affects FA information was the shift from historical cost accounting to fair value accounting (Taipaleenmäki and Ikäheimo 2013).

As Landsman stated, fair value became relevant starting from the early 1990s (in the U.S.) due to the evolution of the standard setting, as described in more detail below (Landsman 2007). At that time, the accounting debate regarded the issues surrounding the choice between the historical cost and current value; in particular, if changes in prices are able to affect the balance sheet accounts. Fair value was formally introduced for the first time in 1993 by FASB in order to improve the comparability and the reliability of financial statements, in opposition to other classical evaluation models, essentially based on historical cost.

Under the joint project developed by FASB and IASB, fair value is aimed at meeting two main objectives: informativeness and stewardship. The former is relevant for capital providers in allowing them to efficiently predict future cash flows, whereas the latter assists shareholders in evaluating the actions of managements. Such a joint framework stated that the main aim of financial reporting is to provide relevant information for investors, emphasizing market values and cash flow forecasts⁹ (IASB and FASB 2010).

⁸ As seen above, IAS/IFRS are indeed based on managerial information that fosters a possible alignment between FA and MA.

⁹ In the U.S., SFAC n. 5 identified five different accounting models that could be used: historical cost, current cost, current market value, net realizable value, and present value of future cash flows. The historical cost is defined as the original transaction value, that is the amount of cash, or its equivalent, paid to acquire an asset, commonly adjusted after acquisition for amortization or other allocations (Hermann et al. 2006; SFAS n. 5, section 67a). The other models represent different measures of fair value, therefore SFAS n. 5 defined different concepts of fair value. Current cost is a replacement cost, which is the amount of cash, or its equivalent, that would have to be paid if the same or an equivalent asset were acquired currently. Current market value is the amount of cash, or its equivalent, that could be obtained by selling an asset in an orderly liquidation. Net realizable value is the non-discounted amount of cash, or its equivalent, at which an asset is expected to be converted, in due course of business, less any direct costs eventually required to make that conversion. The present value is the present or discounted value of future cash inflows at which an asset is expected to be converted. In due course of business, net of present values of cash outflows necessary to obtain those inflows. In the Anglo-Saxon context, the first IASB Framework for the Preparation and Presentation of Financial Statements (1989) had some similarities with FASB's framework. As a matter of fact, similar to FASB, IASB defined fair value in IFRS 13 (May

The accounting standards concerning fair value are: IAS 36 for the impairment test; IAS 39 for financial instruments, and IAS 41 for agriculture firms.

According to the framework set out by FASB and IASB, it is possible to find a relevant distinction in the evaluation of balance sheet items using fair value: the perspective of the financial institutions and the perspective of the industrial companies. In the context of financial institutions, fair value accounting (FVA) regards in particular financial instruments such as assets and liabilities,¹⁰ whereas with regard to the industrial firms FVA is generally applied for the evaluation of property, plant and equipment.

The following considerations can be made for industrial firms.

In the Anglo-Saxon setting, the current rules for the measurement of property, plant and equipment are provided for in IAS 16 and in IAS 40 and 41 for the accounting of investment property and agriculture. IAS 16 allows for the measurement of property, plant and equipment using two different accounting models, if the evaluation is subsequent to the initial recognition. Such models are the cost and the revaluation model. According to the first model, the asset is carried at cost, minus accumulated depreciation and impairment (IAS 16.30), whereas, according to the second, the asset is carried at a revalued amount: its fair value at the date of revaluation less subsequent depreciation and impairment, provided that fair value can be measured reliably (IAS 16.31). Under this model, the revaluations should be carried out regularly, so that the carrying amount of an asset does not differ materially from its fair value at the balance sheet date. Moreover, if an item is revalued, the entire class of assets to which that asset belongs should be revalued (IAS 16, section 34).

In the U.S., revaluation is a violation of U.S. GAAP; in fact, the SEC removed this option and the AICPA stated in 1965 that “...*property, plant and equipment should not be written up by an entity to reflect appraisal, market or current values which are above cost to the entity*” (AICPA 1965: section 17). There is one exception to this rule: SFAS 144 states that an impairment exists when the sum of the undiscounted expected future net cash flow of an asset is lower than its carrying amount (FASB 2001).

2011) as an “exit price” (such as a selling price) using a fair value hierarchy. Furthermore, IFRS defined fair value in a similar way, namely as the amount at which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm’s length transaction (IAS, 39).

¹⁰ Regarding assets and liabilities, FASB 157, Fair value Measurements, (September, 2006) states that fair value is the price that would be received to sell an asset or would be paid to transfer a liability in an orderly transaction, between market participants at the measurement date. It is mandatory to use quoted prices in active markets for identical assets and liabilities, if they are available. Otherwise, if they do not exist, the preparers of the balance sheet must use quoted prices for similar assets or liabilities in active markets, or in inactive markets with other relevant market data. Finally, if this information is not available, the preparers have to use a mark-to-model approach, that is often the outcome of a mathematical modeling exercise with several assumptions regarding economic, market, or corporate conditions in order to infer the price of the financial instrument if the market existed (FASB 2006).

There is a substantial difference between the American context and the Anglo-Saxon context since, while the accounting systems in the U.K. and the International Standards (IFRS) permit the use of fair value for the revaluation models, the accounting systems in the U.S. do not allow the revaluation model and, therefore, the use of fair value for the valuation of property, plant and equipment. The United States strictly adheres to historical cost (Hermann et al. 2006).

From the literature review it emerges that before the financial crisis researchers especially highlighted the advantages of FVA, whereas after the financial crisis they especially analyzed the disadvantages of the FVA, with some authors arguing that this evaluation model can even be blamed for the recent financial crisis. This could be especially true for those companies, like financial institutions, that have had the possibility of adopting fair value for their balance sheet items.

As a matter of fact, before the financial crisis, some studies found that fair value has more explanatory power than historical cost (Barth 1994; Barth et al. 2001). Hermann et al. argued that fair value can be used for the valuation of property, plant and equipment, since in this way the decision makers can base their analysis on more relevant data. Moreover, Hermann et al. argued that fair value measurements may improve predictive the value, timeliness, comparability and consistency of FA information (Hermann et al. 2006). In a similar vein, Whittington identified the following main features and consequences of fair value: (1) usefulness for economic decisions; (2) more attention focused on current and prospective investors and creditors; (3) more interest in forecasted future cash flow; (4) the relevance and reliability of FA information; and (5) the need for the accounting information to reflect the future (Whittington 2008). Therefore, the proponents of fair value argued that this value is superior to historical cost; some advantages of fair value are: (1) investors prefer to base their analysis and decisions on the value derived from FVA; (2) fair value provides up-to-date information about the value of assets; (3) fair value reflects the true economic substance; (4) fair value is a market value and is not affect by specific factors of firms; and (5) fair value may be the solution to income measurement problems (Penman 2007).

Despite these considerations, other researchers began to point out the disadvantages of the FVA, even before the recent economic crisis starting in 2008. Watts et al. stated that FVA worsens the verifiability and the reliability of financial reporting, especially for non-financial assets (Watts 2003). They stated that fair value evaluations using level 2 and 3 inputs could increase manipulation actions by managers (see also Benston 2008). In a similar vein, Henderson and Cudahy highlighted that several firms involved in financial scandals, like Enron, used variants of FVA (Henderson and Cudahy 2005).

During a financial crisis there are substantial doubts and concerns about fair value evaluation; the main concern regards the suspicion that the FVA could facilitate managers' manipulation. In fact, managers could evaluate financial instruments using market prices in order to avoid losses and impairments. Furthermore, it is possible that prices based on FVA are distorted by market inefficiencies or liquidity problems. In this regard, some studies have stressed the possibility that the FVA could be one of the main reasons for the decline in asset values and for

earnings instability. As a matter of fact, the pro-cyclical nature of fair value evaluations seems to create asset bubbles, defined as “*funny assets*” by some authors (Wallison 2008; Pozen 2009).

In a similar vein, other researchers have discussed “*funny revenues and expenses*”, since, through fair value evaluation, earnings are not predictive of the future. This may happen because the exit value, typical of fair value, is not able to meet the informativeness and stewardships aims. Another problem may be the fair value evaluation in the level 3 measure (FASB 157), since this is characterized by a lack of reliability and may be subject to bias and abuse (Magnan 2009).

In this framework and according to some scholars, the shift from historical cost accounting to fair value cost accounting seems to foster the alignment between FA and MA. This happens because fair value requirements have focused more attention and challenges on the quality of MA tools and information. As a matter of fact, FVA is mainly based on forward-looking information that managers can properly find and produce through MA techniques (Penman 2007; Hemmer and Labro 2008; Weißenberger and Angelkort 2011; Taipaleenmäki and Ikäheimo 2013). For instance, the convergence process of MA and FA is facilitated by the evaluation of the impairment test. As a matter of fact, the preparers of financial reporting should require the future estimates of cash flow and the fair values for goodwill impairment; such values are produced by controllers. Hemmer and Labro have argued that, in this case, the quality of forward-looking MA information can affect the quality of FA information (Hemmer and Labro 2008).

Fair value-based principles thus required the use of internal information for external reporting purposes, thereby facilitating the alignment of FA to MA.

4.4 The Role of Information Technology on the Convergence Between Financial Accounting and Management Accounting

The most advanced integrated IT solution is represented by Enterprise Resource Planning (ERP)¹¹ (Granlund and Malmi 2002). IT, and in particular ERPs, are able to collect and integrate data using a common database, and thus they represent a good basis for the overall accounting process (Chapman and Kihn 2009).

For their potential benefits, ERPs became popular during the 1990s in firms all over the world (Arnold 2006; Sutton 2006). Before that date, companies usually

¹¹ ERP could be defined as: “*enterprise wide packages that tightly integrate business functions into a single system with a shared database*” (Lee and Lee 2000; Quattrone and Hopper 2001; Newell et al. 2003; Grabski et al. 2011). In a similar vein, Kumar and Hillegersberg defined ERP as: “*information systems packages that integrate information and information-based processes within and across functional areas in an organization.*” Both the aforementioned definitions of ERP underline the relevance of integrated information across different functional areas of an organization (Kumar and van Hillegersberg 2000: 22).

used different information systems for each functional area within the organization, which did not allow an easy and timely exchange of information among different functional managers. Furthermore, this fact also discouraged the comparability of accounting information (Rom and Rohde 2007). To solve these problems and to exploit the potentialities of the new Information System Integration (ISI), ERPs were introduced especially to facilitate the exchange of information among managers and, in general, foster internal relationships (Davenport 1998). Therefore, their use is generally justified by the need to share consistent information across different functional areas of a company (Robey et al. 2002).

The literature about potential benefits of an ERP have focused on the effects that ERP adoption could produce on both financial¹² and non-financial performance indicators,¹³ so that some authors have even referred to tangible and intangible benefits (Markus et al. 2000; Nicolaou 2004; Fang and Lin 2006; Florescu 2007; Skibniewski and Ghosh 2009; Trucco and Corsi 2014). In particular, Gattiker and Goodhue found that ERP adoption is able to produce the following benefits: (1) better information quality; (2) more efficient internal business processes; and (3) better coordination among different organizational units of a company (Gattiker and Goodhue 2005). Despite such considerations, which have highlighted the potential advantages produced by ERP implementation, Davenport and other scholars have revealed the disadvantages, risks and costs related to ERP adoption. Furthermore, some authors have stressed the potential risks that accounting integration due to ERP adoption could bring to the company. As a matter of fact, even if the ERP system is perceived as a strategic investment within the firm (Cooke and Peterson 1998), the most relevant risk related to this strategic investment is, indeed, the failure of the ERP implementation, which could even lead to firms' bankruptcy (Davenport 1998; Markus et al. 2000).

Costs are both monetary and relative to the human resources required to implement and manage the ERP system and its integration within an organization (Granlund and Malmi 2002). Some authors emphasized that an integrated information system could reduce the flexibility in firms' processes (Davenport 1998; Dillard and Yuthas 2006; Rikhardsson and Kræmmergaard 2006).

¹²The main studies which focused on the effects that ERP adoption could produce on financial performance were carried out by Poston and Grabski (2001), Hunton et al. (2002), Hitt and Wu (2002) and Nicolaou (2004). The aforementioned authors found that the introduction of an ERP is able to produce important effects on the following financial performance indicators: (1) Return On Assets (ROA); (2) Return On Investment (ROI); (3) Return On Sales (ROS); (4) Cost of Goods Sold over Sales (CGSS); and (5) Employee to Sales (ES). Although they found controversial results, even if they used a similar method to carry out their studies, they all agreed that ERP adoption is able to produce all its effects after a certain time-lag (Poston and Grabski 2001; Hunton et al. 2003; Nicolaou 2004; Nicolaou and Bhattacharya 2006).

¹³Fang et al. explored the effects of ERP introduction on non-financial measures by exploiting the balanced scorecard; Qutaishat et al. underlined that ERP adoption could produce benefits in terms of customer satisfaction and employee productivity (Qutaishat et al. 2012); Trucco and Corsi found that ERP adoption is able to produce benefits on classical financial indicators, on corporate governance and on social and organizational aspects (Trucco and Corsi 2014).

However, researchers agree that a holistic view of the effects of ERP implementation is necessary (Jarrar et al. 2000; Markus et al. 2000; Gattiker and Goodhue 2005), since the long and deep process of ERP adoption affects the whole organization (Rose and Kræmmergaard 2006).

In such a framework, a stream of literature about IT has investigated the complex relationships between ERP and FA (Davenport 1998; Poston and Grabski 2001; Hitt and Wu 2002; Marchi 2003; Mauldin and Richtermeyer 2004; Brazel and Dang 2008; Grabski et al. 2011). Some authors have especially highlighted the effects that ERP systems could produce on the final users, uncovering the positive and general impacts that ERP adoption may have on the reliability, timeliness, comparability and relevance of accounting information for external and internal users.

Moreover, prior studies have investigated the market reaction to ERP implementation announcements, finding that stakeholders perceive potential advantages of a new ERP system (Wah 2000; Hayes et al. 2001; Hunton et al. 2002). In particular, Hunton et al. found that analysts reacted positively to ERP announcements, results that varied depending on the firm's size and health. In fact, they found that analysts who participated in the experimental study perceived that a firm may have some benefits due to the use of an integrated IT system (Hunton et al. 2002).

Despite these considerations about the potential positive effects of ERPs on FA, Brazel and Dang found decreased measurements for the reliability of financial statements for external users in the years after the ERP system had been adopted, based on the value of discretionary accruals. According to their framework, this could happen because of a potential increase in the discretion managers have in the use of accounting information (Brazel and Dang 2008). In fact, ERPs allow managers greater access and control of financial information (Dillon 1999).

Furthermore, a quite recent stream of literature about IT has investigated the complex relationships between ERP and management control systems (Maccarone 2000; Quattrone and Hopper 2001; Granlund and Malmi 2002; Shang and Seddon 2002; Hartmann and Vaassen 2003; Marchi 2003; Caglio 2003; Chapman 2005; Dechow and Mouritsen 2005; Dechow et al. 2006; Chapman and Kihn 2009; Granlund 2011; Kallunki et al. 2011).

In particular, Marchi identified the features that accounting information should have. The author especially focused on the internal and managerial perspective, pointing out the necessity to properly balance the reliability and timeliness of information depending on the final users (Marchi 2003). Shang and Seddon emphasized that managerial benefits following ERP implementation may arise from the better planning and management of resources (Shang and Seddon 2002), whereas Maccarone identified two main classes of benefits produced by adopting ERP: (1) a reduction in the time needed to perform managerial activities, and (2) an improvement in the quality of data and control activities in general (Maccarone 2000). Sangster et al. have recently carried out a survey using a questionnaire addressed to 700 management accountants in large U.K. firms, in order to identify the perceived success of ERP implementation in relation to the role of the

respondents, finding that ERP generally improves the quality of the role of management accountants if ERP adoption is successful¹⁴ (Sangster et al. 2009).

Even if most scholars have emphasized the positive, even small, correlation between the use and implementation of an ERP within an organizations and managerial controls (see also: Quattrone and Hopper 2001; Spathis and Constantinides 2004; Kallunki et al. 2011¹⁵), others have found a quite limited impact on the improvements in management control systems and practices due to ERP adoption. Booth et al. examined the CFOs' perception of the impact of ERPs on the adoption of new accounting practices, finding little evidence to support this. Specifically, they found that ERPs seem to open the way to data manipulation rather than lead to an easier collection and elaboration of management data (Booth et al. 2000).

According to other authors, limited impacts may be linked to resistance to change on the part of controllers and the huge time lag between ERP adoption and the relative effects on management control systems, on organization structure, relationships and roles (Granlund and Malmi 2002; Scapens and Jazayeri 2003).¹⁶ Specifically, Granlund and Malmi found that ERPs bring about an increased centralization of control and a homogenization of relative practices. Even if they found that ERP seems not to produce its strong effects on managerial control and in reporting practices (in terms of content, form and scheduling), they concluded that the processes of ERP implementation are quite long and some effects could arise over time (Granlund and Malmi 2002).

In the ERP environment, management accountant seems to become a business consultant (Booth et al. 2000; Caglio 2003; Rom and Rohde 2007). ERP could be seen as a limitation on the discretion of managers in changing managerial controls in the future, since it is difficult to forecast the long-term implications of ERP during its initial phase of implementation. To overcome this limitation a possible, but not sufficient, solution could be to adopt a strategic and long-term vision during the ERP implementation phase (Grabski et al. 2001, 2011; Quattrone and Hopper 2001).

However, this stream of literature emphasized that management control in the ERP context is a collective affair,¹⁷ useful in creating the notion of global management (Dechow and Mouritsen 2005).

¹⁴ Their research model and their empirical findings are consistent with findings produced by Grabski et al. (2009).

¹⁵ Kallunki et al. have investigated the role of management accounting control systems as mediating variables of ERP in increasing the positive performance of firms. They found that the more extensive use of financial and operational ERPs is positively correlated with formal and informal controls. Therefore, they demonstrated that ERPs are antecedents to formal and informal controls (Kallunki et al. 2011).

¹⁶ As for financial effects due to ERP adoption, a certain time lag should be taken into account for MA effects as well (Quattrone and Hopper 2001; Granlund and Malmi 2002).

¹⁷ As a matter of fact, ERP is not just a property of the accounting function (Dechow and Mouritsen 2005).

Moreover, another stream of literature has pointed out initial evidence on the important role that ERP can have in fostering the relationship between external financial information and internal managerial information (Innes and Mitchell 1990; Caglio 2003; Taipaleenmäki and Ikäheimo 2013). Some authors have argued that IT may represent a facilitator, motivator, even an enabler for the convergence between FA and MA, and for accounting and management change in general (Innes and Mitchell 1990; Cobb et al. 1995; Booth et al. 2000; Lukka 2007). Booth et al. (2000) asserted that IT is able to set the premises for high levels of information integration.

Taipaleenmäki and Ikäheimo stated that IT could be a useful basis for changes in the accounting system, sometimes even leading to changes and relative integration. As a matter of fact, they asserted that integration could be linked to the contemporary need to understand IT and to decrease in accounting resources (their perspective on the levels of information analysis is summarized in Fig. 4.2) (Ikäheimo and Taipaleenmäki 2010; Taipaleenmäki and Ikäheimo 2013).

Figure 4.3 summarizes the drivers that may foster the convergence between FA and MA; therefore, they could be seen as antecedents of the aforementioned convergence.

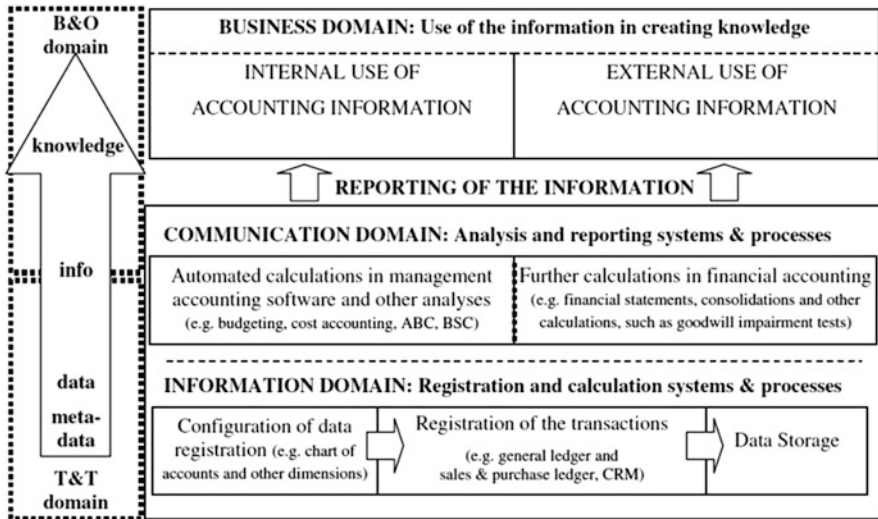
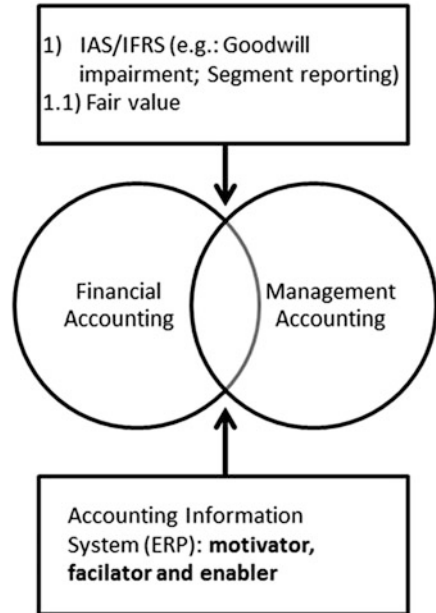


Fig. 4.2 From the registration of accounting data to the reporting of information, and the use of knowledge with accounting information systems (Source: Taipaleenmäki and Ikäheimo 2013: 328)

Fig. 4.3 Drivers that foster the convergence between financial accounting and management accounting (*Source: author's presentation*)



References

- AICPA (1965) Accounting principles board opinion, no. 6. Status of accounting research bulletins. AICPA
- Arnold V (2006) Behavioral research opportunities: understanding the impact of enterprise systems. *Int J Account Inf Syst* 7:7–17
- Ashbaugh H, Pincus M (2001) Domestic accounting standards, international accounting standards, and the predictability of earnings. *J Account Res* 39:417–434
- Ball R (2001) Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. *Brook-Whart Pap Financ Serv* 2001:127–169
- Barth ME (1994) Fair value accounting: evidence from investment securities and the market valuation of banks. *Account Rev* 69:1–25
- Barth ME, Beaver WH, Landsman WR (2001) The relevance of the value relevance literature for financial accounting standard setting: another view. *J Account Econ* 31:77–104
- Barth ME, Hodder LD, Stubben SR (2008) Fair value accounting for liabilities and own credit risk. *Account Rev* 83:629–664
- Bens DA, Berger PG, Monahan SJ (2011) Discretionary disclosure in financial reporting: an examination comparing internal firm data to externally reported segment data. *Account Rev* 86:417–449
- Benston GJ (2008) The shortcomings of fair-value accounting described in SFAS 157. *J Account Public Policy* 27:101–114
- Booth P, Matolcsy Z, Wieder B (2000) The impacts of enterprise resource planning systems on accounting practice – the Australian experience. *Aust Account Rev* 10:4–18
- Brazel JF, Dang L (2008) The effect of ERP system implementations on the management of earnings and earnings release dates. *J Inf Syst* 22:1–21

- Caglio A (2003) Enterprise resource planning systems and accountants: towards hybridization? *Eur Account Rev* 12:123–153
- Chapman CS (2005) Not because they are new: developing the contribution of enterprise resource planning systems to management control research. *Account Organ Soc* 30:685–689
- Chapman CS, Kihn L-A (2009) Information system integration, enabling control and performance. *Account Organ Soc* 34:151–169
- Cobb I, Helliard C, Innes J (1995) Management accounting change in a bank. *Manag Account Res* 6:155–175
- Cooke DP, Peterson WJ (1998) SAP implementation: strategies and results. The Conference Board, New York
- Cyert R, March J (1964) A behavioral theory of the firm. *Organizational Behavior 2: Essential theories of process and structure*. Prentice-Hall, Englewood Cliffs
- Daske H, Hail L, Leuz C, Verdi R (2008) Mandatory IFRS reporting around the world: early evidence on the economic consequences. *J Account Res* 46:1085–1142
- Davenport TH (1998) Putting the enterprise into the enterprise system. *Harv Bus Rev* 76:121–131
- Dechow N, Mouritsen J (2005) Enterprise resource planning systems, management control and the quest for integration. *Account Organ Soc* 30:691–733
- Dechow N, Granlund M, Mouritsen J (2006) Management control of the complex organization: relationships between management accounting and information technology. In: Chapman CS, Hopwood AG, Shields MD (eds) *Handbook of management accounting research*. Elsevier, Amsterdam, pp 625–640
- Dillard JF, Yuthas K (2006) Enterprise resource planning systems and communicative action. *Crit Perspect Account* 17:202–223
- Dillon C (1999) Stretching toward enterprise flexibility with ERP. *APICS: Perform Advant* 9:38–43
- DiMaggio PJ, Powell WW (1983) And collective rationality in organizational fields. *Am Sociol Rev* 48:147–160
- Ding Y, Hope O-K, Jeanjean T, Stolowy H (2007) Differences between domestic accounting standards and IAS: measurement, determinants and implications. *J Account Public Policy* 26:1–38
- Fang M, Lin F (2006) Measuring the performance of ERP system – from the balanced scorecard perspectives. *J Am Acad Bus* 10:256–263
- FASB (2001) Statement of financial accounting standards no. 144: accounting for the impairment or disposal of long-lived assets. FASB, Norwalk, CT
- FASB (2006) Preliminary view: conceptual framework for financial reporting: objective of financial reporting and qualitative characteristics of decision-useful financial reporting information. Financial accounting series no. 1260–001. 6 July. Norwalk, CT: FASB
- Florescu V (2007) TIC Et Performance De L'entreprise: Un Modèle General D'analyse. *Rev. Repères Econ. Inform.* 2
- Francis JR, Khurana IK, Martin X, Pereira R (2008) The role of firm-specific incentives and country factors in explaining voluntary IAS adoptions: evidence from private firms. *Eur Account Rev* 17:331–360
- Gattiker TF, Goodhue DL (2005) What happens after ERP implementation: understanding the impact of interdependence and differentiation on plant-level outcomes. *MIS Q* 29:559–585
- Grabski S, Leech SA, Lu B (2001) Risks and controls in the implementation of ERP systems. *Int J Digit Account Res* 1:47–68
- Grabski S, Leech S, Sangster A (2009) *Management accounting in enterprise resource planning systems*. Butterworth-Heinemann, Oxford
- Grabski SV, Leech SA, Schmidt PJ (2011) A review of ERP research: a future agenda for accounting information systems. *J Inf Syst* 25:37–78
- Granlund M (2011) Extending AIS research to management accounting and control issues: a research note. *Int J Account Inf Syst* 12:3–19

- Granlund M, Malmi T (2002) Moderate impact of ERPS on management accounting: a lag or permanent outcome? *Manag Account Res* 13:299–321
- Hartmann FG, Vaassen EH (2003) The changing role of management accounting and control systems: accounting for knowledge across control domains. <http://dare.uva.nl/record/1/215071>
- Hayes DC, Hunton JE, Reck JL (2001) Market reaction to ERP implementation announcements. *J Inf Syst* 15:3–18
- Hemmer T, Labro E (2008) On the optimal relation between the properties of managerial and financial reporting systems. *J Account Res* 46:1209–1240
- Henderson WD, Cudahy RD (2005) From insull to enron: corporate (re)regulation after the rise and fall of two energy icon. Faculty Publications. Paper 308. <http://www.repository.law.indiana.edu/facpub/308>
- Hermann D, Saudagaran SM, Thomas WB (2006) The quality of fair value measures for property, plant, and equipment. *Account Forum* 30:43–59
- Hitt LM, Wu XZD (2002) Investment in enterprise resource planning: business impact and productivity measures. *J Manag Inf Syst* 19:71–98
- Hunton JE, McEwen RA, Wier B (2002) The reaction of financial analysts to enterprise resource planning (ERP) implementation plans. *J Inf Syst* 16:31–40
- Hunton JE, Lippincott B, Reck JL (2003) Enterprise resource planning systems: comparing firm performance of adopters and nonadopters. *Int J Account Inf Syst* 4:165–184
- IABS, FASB (2010) Conceptual framework – IASB-FASB joint project
- Ikäheimo S, Taipaleenmäki J (2010) The divergence and convergence of financial accounting and management accounting – institutional analysis of the US, Germany and Finland. *Betriebswirtschaft* 70:349–368
- Innes J, Mitchell F (1990) The process of change in management accounting: some field study evidence. *Manag Account Res* 1:3–19
- Jarrar YF, Al-Mudimigh A, Zairi M (2000) ERP implementation critical success factors-the role and impact of business process management. In: Proceedings of the 2000 I.E. international conference on management of innovation and technology, vol. 1, ICMIT 2000, pp 122–127
- Jermakowicz EK (2004) Effects of adoption of international financial reporting standards in Belgium: the evidence from BEL-20 companies. *Account Eur* 1:51–70
- Johnson LT, Petrone KR (1999) Commentary: is goodwill an asset? Social Science Research Network, Rochester, NY
- Jones CT, Luther R (2005) Anticipating the impact of IFRS on the management of German manufacturing companies: some observations from a British perspective. *Account Eur* 2:165–193
- Jovanovic B (1982) Truthful disclosure of information. *Bell J Econ* 13:36–44
- Kallunki J-P, Laitinen EK, Silvola H (2011) Impact of enterprise resource planning systems on management control systems and firm performance. *Int J Account Inf Syst* 12:20–39
- Kaplan RS, Norton DP (1995) Putting the balanced scorecard to work. In: Schneier CE, Shaw DG, Beatty RW, Baird LS (eds) Performance measurement, management, and appraisal sourcebook. Human Resource Development Press, Amherst, MA
- Kaplan RS, Norton DP (1996) The balanced scorecard: translating strategy into action. Harvard Business Press, Boston
- Kaplan RS, Norton DP (2006) Alignment: using the balanced scorecard to create corporate synergies. Harvard Business Press, Boston
- Karamanou I, Nishiotis GP (2009) Disclosure and the cost of capital: evidence from the market's reaction to firm voluntary adoption of IAS. *J Bus Financ Account* 36:793–821
- Kothari SP (2001) The role of financial reporting in reducing financial risks in the market. Conference series-Federal Reserve Bank Boston. Federal Reserve Bank of Boston; 1998, pp 89–102
- Kumar K, van Hilleberg J (2000) Enterprise resource planning: introduction. *Commun ACM* 43:22–26

- Landsman WR (2007) Is fair value accounting information relevant and reliable? Evidence from capital market research. *Account Bus Res* 37:19–30
- Lee Z, Lee J (2000) An ERP implementation case study from a knowledge transfer perspective. *J Inf Technol* 15:281–288
- Leuz C (2003) IAS versus U.S. GAAP: information asymmetry – based evidence from Germany's new market. *J Account Res* 41:445–472
- Lukka K (2007) Management accounting change and stability: loosely coupled rules and routines in action. *Manag Account Res* 18:76–101
- Maccarrone P (2000) The impact of ERPs on management accounting and control systems and the changing role of controllers. Paper presented at the 23rd conference of the EAA, Munich, Germany, 29–31 March
- Magnan ML (2009) Fair value accounting and the financial crisis: messenger or contributor? *Account Perspect* 8:189–213
- March JC, March JG (1977) Almost random careers: the Wisconsin school superintendency, 1940–1972. *Adm Sci Q* 22:377–409
- Marchi L (2003) *I sistemi informativi aziendali*. Giuffrè Editore, Milano
- Marchi L, Potito L (2012) *L'impatto dell'adozione degli IAS/IFRS sui bilanci delle imprese italiane quotate*. FrancoAngeli, Milano
- Marchi L, Paolini A, Catellano N (2008) *Principi contabili internazionali e sistemi di controllo interno*. FrancoAngeli, Milano
- Markus ML, Axline S, Petrie D, Tanis SC (2000) Learning from adopters' experiences with ERP: problems encountered and success achieved. *J Inf Technol* 15:245–265
- Mauldin EG, Richtermeyer SB (2004) An analysis of ERP annual report disclosures. *Int J Account Inf Syst* 5:395–416
- Meyer JW, Rowan B (1977) Institutionalized organizations: formal structure as myth and ceremony. *Am J Sociol* 83:340–363
- Moel A (1999) The role of information disclosure on stock market listing decisions: the case of foreign firms listing in the US. Unpublished working paper, Harvard Business School, MA
- Newell S, Huang JC, Galliers RD, Pan SL (2003) Implementing enterprise resource planning and knowledge management systems in tandem: fostering efficiency and innovation complementarity. *Inf Organ* 13:25–52
- Nichols NB, Street DL, Tarca A (2013) The impact of segment reporting under the IFRS 8 and SFAS 131 management approach: a research review. *J Int Financ Manag Account* 24:261–312
- Nicolaou AI (2004) Firm performance effects in relation to the implementation and use of enterprise resource planning systems. *J Inf Syst* 18:79–105
- Nicolaou AI, Bhattacharya S (2006) Organizational performance effects of ERP systems usage: the impact of post-implementation changes. *Int J Account Inf Syst* 7:18–35
- Penman SH (2007) Financial reporting quality: is fair value a plus or a minus? *Account Bus Res* 37:33–44
- Petersen C, Plenborg T (2010) How do firms implement impairment tests of goodwill? *Abacus* 46:419–446
- Poston R, Grabski S (2001) Financial impacts of enterprise resource planning implementations. *Int J Account Inf Syst* 2:271–294
- Pozen RC (2009) Is it fair to blame fair value accounting for the financial crisis. *Harv Bus Rev* 87:84–92
- Procházka D (2011) Readiness for the voluntary adoption of the IFRS by non-listed companies: a Czech perspective. *Recent Res Appl Econ WSEAS* 3:81–86
- Quagli A (2011) Goodwill accounting as a missing link between financial and management accounting: literature review and research agenda. *Financ Rep* 3:17–39
- Quattrone P, Hopper T (2001) What does organizational change mean? Speculations on a taken for granted category. *Manag Account Res* 12:403–435

- Qutaishat FT, Khattab SA, Zaid MKSA, Al-Manasra EA (2012) The effect of erp successful implementation on employees' productivity, service quality and innovation: an empirical study in telecommunication sector in Jordan. *Int J Bus Manag* 7:p45
- Rikhardsson P, Kræmmergaard P (2006) Identifying the impacts of enterprise system implementation and use: examples from Denmark. *Int J Account Inf Syst* 7:36–49
- Robey D, Ross JW, Boudreau M-C (2002) Learning to implement enterprise systems: an exploratory study of the dialectics of change. *J Manag Inf Syst* 19:17–46
- Rom A, Rohde C (2007) Management accounting and integrated information systems: a literature review. *Int J Account Inf Syst* 8:40–68
- Rose J, Kræmmergaard P (2006) ERP systems and technological discourse shift: managing the implementation journey. *Int J Account Inf Syst* 7:217–237
- Sangster A, Leech SA, Grabski S (2009) ERP implementations and their impact upon management accountants. *J Inf Syst Technol Manag* 6:125–142
- Scapens RW, Jazayeri M (2003) ERP systems and management accounting change: opportunities or impacts? A research note. *Eur Account Rev* 12:201–233
- Shang S, Seddon PB (2002) Assessing and managing the benefits of enterprise systems: the business manager's perspective. *Inf Syst J* 12:271–299
- Siegel S (2005) The contents of perception. In: Zalta EN (ed) *The Stanford encyclopedia of philosophy*, Summer 2005 Edition. <http://plato.stanford.edu/archives/sum2005/entries/perception>
- Skibniewski MJ, Ghosh S (2009) Determination of key performance indicators with enterprise resource planning systems in engineering construction firms. *J Constr Eng Manag* 135:965–978
- Spathis C, Constantinides S (2004) Enterprise resource planning systems' impact on accounting processes. *Bus Process Manag J* 10:234–247
- Sutton SG (2006) Enterprise systems and the re-shaping of accounting systems: a call for research. *Int J Account Inf Syst* 7:1–6
- Taipaleenmäki J, Ikäheimo S (2013) On the convergence of management accounting and financial accounting – the role of information technology in accounting change. *Int J Account Inf Syst* 14:321–348
- Troberg P (2007) IFRS and US GAAP: a Finnish perspective. Talentum, Helsinki
- Trucco S, Corsi K (2014) The Influence of ERP Systems Implementation on Accounting, Organizational and Social Improvements: Evidence from Italy and the UK. In: Baglieri D, Metallo C, Rossignoli C, Iacono MP (eds) *Information systems, management, organization and control*. Springer International Publishing, Cham, pp 115–138
- Verecchia RE (1983) Discretionary disclosure. *J Account Econ* 5:179–194
- Wah L (2000) Give ERP a chance. *Manage Rev* 89:20
- Wallison PJ (2008) FVA: a critique, American enterprise institute for public policy research. *Financial Service Outlook*, Washington, DC
- Watts RL (2003) Conservatism in accounting part I: explanations and implications. *Account Horiz* 17:207–221
- Weissenberger BE, Angelkort H (2011) Integration of financial and management accounting systems: the mediating influence of a consistent financial language on controllership effectiveness. *Manag Account Res* 22:160–180
- Whittington G (2008) Fair value and the IASB/FASB conceptual framework project: an alternative view. *Abacus* 44:139–168
- Zambon S (2011) The managerialisation of financial reporting: an introduction to a destabilising accounting change. *Financ Rep* 3:5–16