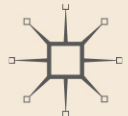


# POLITICAL DYNAMICS IN MICRO ORGANISATIONAL ACCOUNTING CHANGE

*Politics, Power and Fear*

LOAI ALSAID



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Politics, Power and Fear

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# Preface

To date, research studies into public sector cost management practices have taken different theoretical perspectives and employed various methodological paradigms. The majority of such work has been framed by the methodological inclinations of positivism and the theoretical propositions of contingency theory; it has mainly viewed cost management change as being contingent upon a set of variables and factors. Most scholars have relied on surveys and other quantitative approaches, while some have carried out consultancy-oriented model-building exercises. These studies, by and large, provide predictive models but have failed to appreciate changes in cost management practices as being examples of 'situated practice', that is, the precedent work has not tended to address such practices in their politico-historical, economic and social contexts. Thus, there is an academic requirement to better understand public sector cost management practices and the changes that have taken place in various political, cultural, economic and organisational settings, especially when we consider the organisational changes that have taken place, and continue to take place, in less developed countries, where there is greater political sensitivity surrounding such economic enterprises.

This book responds to this requirement and contributes to the management accounting literature by providing an empirical case study of how the macro political dynamics of the state can underpin micro-level changes in an organisation's cost management practices.

Taking an Egyptian state-owned enterprise as its case study, it explores the political evolution of cost management practices and how cost management became a political and, hence, strategic imperative. In doing so, the present work explores the roles played by neoliberal political reform, re-privatisation, modernisation and state budget reform in relation to micro-level changes in cost management practices.

Throughout, this work draws on Dillard et al.'s (2004) version of institutional theory to explore the macro dynamics of cost management, while Burns and Scapens's (2000) model of institutional theory is drawn upon to explain the micro dynamics. In terms of macro dynamics, the historical evolution of the organisation's cost management practices are explained with reference to the evolution of the political and field-level criteria of public sector performance; this work also looks at the ways in which wider macro political changes at the state level have had implications for the historical evolution of both field-level and organisational changes in cost management practices. Finally here, Burns and Scapens's (2000) version of institutional theory is deployed to explain how cost management technologies, procedures and practices are institutionalised within the particular neoliberal cost management regime in existence today.

The empirical data for this study comes from an extended case study of a state-owned enterprise in the Egyptian Electricity and Energy (E&E) sector, in which semi-structured interviews, field observations and documentary analysis have been deployed as the data collection methods. This particular methodological approach, introduced by early proponents of the Manchester School, and further developed by Michael Burawoy, extends the otherwise micro-oriented case study method to macro settings, so that the connection between the macro and the micro can be theorised. Thus, the extended case study method deployed here includes a triangulation of ethnographic fieldwork data on changes in micro-level organisational practices with macro-level data on changes in the historical, institutional and structural context. In particular, the selected case study has a specific political history that is closely associated with Egypt's postcolonial history, which was included in this analysis in order to explore whether, and how, micro-level changes might be affected by such historical dynamics.

The book concludes that it is necessary to see cost management change, especially in politically sensitive public utilities in less developed

countries, as a form of institutional change that is closely linked to the structural changes taking place in the wider arena of state politics. The new cost management practices deployed in such utility companies operate as technological and micro-level managerial tools that bring together the wider political objectives of the state and the narrower economic objectives of the firms. Hence, cost management is political and operates as an instrument of neoliberal reform. In an empirical sense, this means that E&E production and distribution in Egypt has been, historically, managed at three distinct but interrelated levels: the political level, the field level and the organisational level. Neoliberal political reforms, re-privatisation, modernisation and state budget reform have penetrated all these levels to transform cost management practices, in effect institutionalising a neoliberal regime in which the cost management has become not only a strategic imperative in a managerial sense but also a political imperative in terms of state politics. While re-privatisation instigated the changes required in political ideologies and ownership structures in order to establish the political and institutional infrastructure for neoliberal transformation, modernisation brought about the accounting technologies that enabled such ideological and structural transformation at the micro level. The state budget reforms then linked these changes to the crisis in public finance and, thus, the micro-level changes in cost management practices became a political as well as a managerial imperative. In this way, a set of apparently non-political management accounting technologies, especially ERP and performance-based budgeting, became a set of political tools.

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# Abbreviations

ABC	Activity-based costing
ABCM	Activity-based cost management
ABM	Activity-based management
AEUOCP	Authority for Electricity Utility Organisation and Consumer Protection
ANT	Actor-network theory
BOOT	Build Own Operate Transfer
BSC	Balanced scorecards
CAA	Central Agency for Accountability
CAPMS	Central Agency for Public Mobilisation and Statistics
CI	Continuous improvement
CMA	Capital Market Authority
COA	Central Operating Area
CRM	Customer relationship management
DTM	Disclosure and Transparency Management
E&E	Electricity and Energy
EEHC	Egyptian Electricity Holding Company
ERP	Enterprise Resource Planning
EU	European Union
EUCPRA	Electric Utility and Consumer Protection Regulatory Agency
EVA	Economic Value Added
GACM	General Authority for Capital Markets
GDC	General department of cooperation

GDCQ	General department of commercial quality
GDFQ	General department of financial quality
GDP	Gross domestic product
IMC	Industrial Modernisation Centre
IMF	International Monetary Fund
IMP	Industrial Modernisation Programme
JIT	Just-in-time
MEEDCO	Middle Egypt Electricity Distribution Company
MITD	Ministry of Industrial and Technological Development
MOEE	Ministry of Electricity and Energy
MOF	Ministry of Finance
MRP	Materials requirement planning
NEHEB	North of Egypt Hydro-Electric Board
NIE	New institutional economics
NIS	New institutional sociology
NPM	New public management
NREA	New and Renewable Energy Authority
OIS	Old institutional sociology
QMS	Quality management system
RES	Renewable Energy Stations
SCM	Supply chain management
SME	Small- and medium-sized enterprises
SOE	State-owned enterprises
SPAB	Society for the Preservation of Ancient Buildings
TID	Technical inspection department
TQM	Total quality management
VCA	Value chain analysis
WB	World Bank
WEO	World Environment Organisation

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# 1

## Overview

### 1.1 Introduction

This chapter provides an overview of the book in terms of its aims, problems, methodology, theory and its organisation. It discusses the main elements of the book in five main sections. [Section 1.2](#) establishes the background to the problem, which leads to a specification of the research issues. Here, the precedent literature is reviewed in order to establish the academic significance of studying cost management practices vis-à-vis their wider politico-economic and institutional settings. This section also discusses the methodological necessity of conducting in-depth field studies into micro-level practices of cost management in organisations, while also providing a historical analysis of wider structural change. It juxtaposes these two aspects in order to explain micro practices vis-à-vis macro structural change. [Section 1.3](#) provides the background to the theoretical triangulation adopted and its validity. [Section 1.4](#) outlines the methodological development occurred from science to reflexive research, that is, the ‘extended case method’, together with a summary of data collection sources. [Section 1.5](#) shows the

contributions of the book to the accounting knowledge. [Section 1.6](#) concludes the chapter with an outline of the book.

## 1.2 Problem Background

### 1.2.1 From Costing to Cost Management: Changing Managerial Regimes

Neo-classical economics, as well as other disciplines that draw on it, such as accounting and finance, holds that the primary aim of an economic enterprise is to maximise profit and thus, shareholders' wealth (see Friedman 1970). Hence, the notion of profit and shareholder wealth has long been a central tenet of business strategies. Given that profit is the difference between production costs and revenue, one may assume that cost is, accordingly, the central element in any corporate strategy. In the management accounting literature, however, cost and cost management became a 'strategic dynamic' only in the mid-1980s, and particularly following Porter's (1980, 1985) cost-centric writings on corporate strategy. Before this, there was a 'cost accounting paradigm' rather than cost management, where costs were seen to be affected by economies of scale and related technological properties of production, which, on the whole, were assumed to fall outside the accountants' domain of control: hence, costs were simply to be 'accurately' estimated, calculated, recorded and reported on. Cost management did not exist as a distinct disciplinary practice but as the cost accounting. Many of the accounting inventions and much of the literature written between the 1920s and the 1980s – the period of 'Relevance Lost' (see Johnson and Kaplan 1987) – focused on formulating better methods of cost calculation, especially in terms of the appropriation of overheads and the calculation of the 'true cost' of products. Ryan et al. (1992), for example, argue that before the Second World War the emphasis was on cost accounting, especially cost ascertainment. This focus created different methods of cost identification and allocation: for example, absorption costing was developed, which determines the full cost of units produced. Kaplan and Cooper (1998) also suggest that the

focus from the 1950s to the 1980s was on cost containment and the preservation of the status quo, to which end cost accounting was routinely applied.

At best, cost management practices were operational, not strategic and were embedded within budgeting and standard costing systems. Cost management has been regarded as a useful operational tool for providing relevant information to managers to assist in decision-making processes, especially in terms of operational planning and control decisions (see Ryan et al. 1992; Hoskin and Macve 1994, 2000). However, with the emergence of Japan as an economic superpower, especially in discourses about total quality management (TQM), continuous improvement (CI) and just-in-time (JIT) production regimes, the traditional use of standard costing and budgeting practices were attacked as promoting inadequate and inefficient regimes of production and control (see Hoskin and Macve 1994, 2000). For example, Morse et al. (1987) argued that the traditional labour, material and overhead cost standards incorporated a certain degree of leverage for waste, budgetary slack and other inefficiencies, resulting in a non-optimal (i.e., non-zero defect) production system. The traditional standard costing and budgetary systems conceive the attainment of zero defect quality levels non-optimal, that is, the zero defect quality level falls beyond the minimum total quality cost point (Johnson 1994). Since these traditional cost standards were taken for granted as optimal, there was no focus on CI (Daniel and Reitsperger 1992). It was only in the late 1980s that a managerial discourse emerged that highlighted the ‘strategic’ significance of cost management in terms of its centrality to TQM, as well as in relation to market positioning strategies (Porter 1980, 1985).

In the field of management accounting during the 1980s, criticisms were directed against traditional cost management practices: the new techniques – for example, activity-based costing (ABC), activity-based management (ABM), balanced scorecards (BSC) and beyond budgeting – were advocated as being more in tune with the contemporary competitive business environment. Johnson and Kaplan, in ‘Relevance Lost’ (1987), argued that cost management practices had failed to adapt quickly to the new manufacturing and market environment. In part this failure was regarded as being a result of the dominance of a ‘financial

accounting mentality' among US management during the twentieth century. They advocated the use of 'strategic cost management' principles and a 'Japanese style' approach to operations management. These new techniques re-oriented firms from a tendency towards excessive production and administration to a market- and strategy-oriented approach to managing corporations. The ultimate aim was taken to be the creation of value for customers through cost management practices (Johnson and Kaplan 1987).

Although it was Kaplan and Norton's (2001) and Porter's (1991) work that brought cost management to the centre of managerial discourse, the term 'strategic cost management' was first introduced by Simmonds (1981) to extend the traditional internal focus of cost and cost management to include external information about competitors. Traditional cost management practices have been criticised for their focus on providing financial, ex-post, internal information that supports routine operating decisions (Murphy et al. 1992), and strategic cost management was intended to overcome many of these limitations. It refers to 'the process of identifying, gathering, choosing and analysing accounting data ... [to help] the management team to make strategic decisions and to assess organisational effectiveness' (Hoque et al. 2001, p. 2).

Strategic cost management focuses on operating strategies and an organisation's competitive advantage. It provides information to support 'strategic decisions', that is, the decisions that determine market position, competitive advantage, the long-term market and technological sustainability. These constitute the Porterian concepts that underlie strategic discourses in management accounting. Porter's (1985) conception of what he terms 'generic strategies' has been central to the changes witnessed in terms of cost management. He identifies three generic strategies, namely, cost leadership, product differentiation and market focus, which he argues are the options available to a firm aiming to achieve a sustainable competitive advantage in the marketplace. Depending on the market circumstances, its technical competencies and leadership philosophy, Porter (1985) notes that a company may follow any of these strategies or a specific combination thereof. Depending on the generic strategy that the firm adopts, its strategic focus would be on cost management or product quality, or on a particular choice or combination of them in order to cater to a specific niche market.

Cost management is more important for companies pursuing a cost leadership strategy, while it is less significant for companies following a product differentiation strategy (Shank 1989). Miles and Snow (1978) identify two strategies based upon the competitive approach that a firm can assume in relation to its competitors: defenders or prospectors. Defenders are preferred in relatively stable environments, while prospectors are favoured in volatile and dynamic settings. Simons (1987) observes that companies using the defender strategy deploy financial measures (which are more concerned with cost management) to evaluate managers' performance. Ittner et al. (1997) argue that there is a tendency for more use of non-financial measures in companies that follow the prospector strategy (i.e., they are less concerned with cost management than with market differentiation and innovation). Nevertheless, cost management practices have incorporated specific strategic concerns and now relate to firms' overall marketplace strategies.

Recent developments in information technologies have had a particularly significant impact on the emergence of strategic cost management practices. Porter and Miller (1985, p. 156), for example, suggest that IT 'has had a particularly strong impact on bargaining relationships between suppliers and buyers since it affects the linkages between companies and their suppliers, channels, and buyers. Information systems that cross company lines are becoming common'. In the context of the present case study, Enterprise Resource Planning (ERP) is a recent technology adapted to help organisations manage their operational chains and associated costs. Innovative business software companies (e.g., SAP or Oracle) have developed flexible and multi-functional modular packages (Hyvonen 2013), which initially focused on optimising internal business processes across the value-added chain. Currently, ERP vendors are also offering data warehousing and supply chain management (SCM) software. Additionally, demand forecasting and supply chain optimisation applications can be integrated into standard ERP modules (such as finance, sales and distribution, human resources and manufacturing). Taken together, such software (as well as hardware developments such as superfast networking and mobile scanning devices that can connect to online database systems for transaction and activity tracking) has provided a much-needed technological infrastructure by which cost accounting can be translated into cost management (Hyvonen 2013).

Cost management has thus evolved into a strategically significant practice across organisations (see Hoskin and Macve 1988, 2000). As discussed earlier, costing has now moved beyond simply measuring and reporting product and service costs within a comprehensive managerial philosophy, attitude and set of techniques. Rather, it is a philosophy of improvement, continually promoting the need to find ways of creating increased customer value at the lowest possible cost. It has also been established as a proactive attitude – that costs result from management decisions: that is, costs do not just happen. Business partners – suppliers and customers – do not simply document decisions and record costs. They become active partners in making decisions to improve products and/or services and reduce costs. Cost management constitutes strategic techniques, such as ABC, ABM, BSC and ERP, which can be used individually to support a specific decision or collectively to support the organisation's overall management. Cost management as an element of strategic management makes it not only research worthy but also raises the question of how the transformation of managerial regimes from costing to cost management, and then to strategic cost management, has been theorised in academic circles.

### **1.2.2 Theorising Cost Management Change: Approaches and Perspectives**

Cost management research has utilised different perspectives, including a positivistic (see Anderson and Young 1999; Williams and Seaman 2001), an interpretive (Perren and Grant 2000; Modell 2001) and a critical paradigm (Hopwood 1990; Ezzamel 1994). However, the large majority of the existing literature is framed by positivistic methodological inclinations to see cost management as contingent upon selected variables. Most scholars rely upon surveys and other quantitative approaches. Laitinen (2001), for example, conducted a survey in 93 small Finnish technology firms to explain cost management practices over a five-year period in terms of their organisation's characteristics and motivation patterns. Using factor analysis, Laitinen identified four types of companies: 'change-oriented', 'stable and conservative', 'performance-contented'

and 'discontent resourceless'. A mathematical model of technology firms was developed to obtain expectations for the differences in cost management practices between the four types of firms. These expectations were supported by correlation and regression analyses in order to explore the relationship of these four types to cost management practices. Many others follow similar positivistic methodological parameters and test hypotheses pertaining to either testable characteristics or grouping/factoring variables, or work to determine the factors affecting different cost management approaches (e.g., Libby and Waterhouse 1996; Williams and Seaman 2001; Haldma and Laats 2002).

Other researchers have developed consultancy-oriented prescriptive models or predictive models of corporate behaviour in relation to cost management (e.g., Kaplan 1986; Waweru 2008; Fleming et al. 2009). Mia and Clarke (1999), for example, examined the relationship between the intensity of market competition and business unit performance, by incorporating into the model a manager's use of the information provided by the cost management system using a sample of 61 business unit managers. They concluded that the intensity of market competition is a determinant of the use of the information, which, in turn, is a determinant of business unit performance. While such studies have provided useful predictive theories and models, they have not located cost management practices in their historical, economic and social contexts (see Yazdifar et al. 2012; Carr et al. 2013).

Nevertheless, since the early 1980s new directions have emerged in the existing literature on cost management. Some researchers have adopted a post-positivistic approach and the case study method to understand how various technologies may have achieved the strategic centrality of cost management structures, processes and practices. This direction reflects one of the current approaches to cost management case studies, which are usually informed by social interpretive and critical theories (Ryan et al. 1992). These involve a small number of firms and the close involvement of researchers; they regard cost management as a 'situated practice' but only within organisational parameters that give values for chosen contingent variables where the interaction of variables over time may be observed (Ryan et al. 1992).



Proponents of this research direction (e.g., Innes and Mitchell 1990; Kasurinen 2002; Yazdifar et al. 2012; Carr et al. 2013) have explored cost management practices and their changes within different historical, economic and social contexts. Drawing on seven field studies carried out in the electronics sector, for example, Innes and Mitchell (1990) argue that cost management practices can be conceptualised in terms of market-oriented practices, costing practices and performance measurement, and that changes in these practices can relate to three distinct forces, which they term motivators, catalysts and facilitators. Motivators are the external forces that relate to changes in market competition, organisational structure and production technology, which positively motivate firms to proactively make changes to their cost management practices with a view to aligning with changing environmental contexts. Catalysts are directly associated with poor financial performance, loss of market share and the launch of a competing product, all of which denote crisis situations; thus, changes to cost management practices in this context constitute a reactive, problem-solving strategy. Facilitators are those personnel who are necessary, but not sufficient, to lead a change in cost management practices, that is, accounting staff resources, accounting and computing resources and a degree of autonomy from the parent company. The connection among these three is such that motivators and catalysts interact positively to generate change but only when there are facilitators present.

Cobb et al. (1995) extended the analytical framework proposed by Innes and Mitchell (1990) through a longitudinal case study in a division of a large multinational bank. Their extension included barriers to change, leaders and momentum. Barriers to change refers to the factors that hinder, delay or even prevent change, such as changing priorities, accounting staff turnover and staff attitudes. The expectation of continuing change is referred to as momentum, and leaders is the term given to the individuals who play a role in cost management change processes. Motivators, catalysts and facilitators are necessary to create a potential for change. But leaders are needed to overcome the barriers to change and momentum is required to maintain the pace of change.

In these kinds of analyses, various organisational and social theories have also played an important role. Some case studies have adopted

specific theoretical analyses in order to make sense of their empirical results. For example, contingency theory has been combined with new institutional sociology (NIS) as a means by which to explore budgetary processes, coordination and control problems (e.g., Gupta et al. 1994; Alam 1997; Lee and Modell 2000). Agency theory and transactions cost theory have been used to explain management accounting and cost management systems in conditions of environmental and technological stability and uncertainty (e.g., Tiessen and Waterhouse 1983). Contingency theory has been used with labour process theory to address the relationship between budgeting characteristics and some environmental factors, such as industrial relations and the political climate (e.g., Hoque and Hopper 1997). NIS has been combined with other positivistic theories – for example, with resource dependence theory to address the issue of agency (e.g., Oliver 1991) and with economic theory to consider the technical environment in understanding organisational change (e.g., Granlund and Lukka 1998). However, such combinations are epistemologically and ontologically problematic. Hoque and Hopper (1997, p. 126) argue that ‘integration of theories and results, based on “interpretive” theories and allegedly “scientific” research, such as contingency theory, is probably philosophically impossible’ and hence misleading.

Other researchers have coupled different interpretive and critical theories. For example, Jones and Dugdale (2002) draw on actor-network theory (ANT) and Giddens’ concepts of modernity to explain the rise of ABC. Ezzamel (1994) uses the Foucauldian perspective of power/knowledge relations and the concept of a sociology of translation from ANT to study the dynamic processes of organisational change in a UK university, which replaced an incremental budget with a comprehensive one. Drawing on the work of Foucauld, Hoskin and Macve’s (1988, 1994, 2000) historical case studies have re-examined the power-knowledge relations in the historical development of cost and management accounting practices in the USA and the UK. In a further example, Burns and Scapens (2000) use old institutional sociology (OIS) and structuration theory to propose a framework for studying management accounting change. Combining such perspectives is less problematic than mixing the positivistic approach with the other two approaches, which are

consistent in much of their ontological, epistemological and methodological positions. However, they are still different in terms of holding a view of society as being ordered or in conflict (see Kholeif 2011).

Additionally, there has been a significant trend towards understanding various management accounting technologies and systems as political, institutional and cultural practices. There have also been significant attempts to locate management accounting practices within their wider socio-cultural and political contexts. This has been evident in recent research into management accounting practices in the context of the political idiosyncrasies of less developed countries (e.g., Uddin and Tsamenyi 2005; Wickramasinghe and Hopper 2005; Hopper et al. 2009, 2012). However, it is somewhat surprising to see that little attention has been paid, in these critical circles, to changes in cost management regimes, especially in relation to politically sensitive public utilities in less developed countries (LDCs). There are, of course, some exemplary political and economic studies on public utilities in LDCs, especially in Sri Lanka and Bangladesh (e.g., Uddin and Hopper 2003; Alawattage and Wickramasinghe 2008a, 2008b), which deal in various ways with how the structures of governance in publicly owned companies have evolved alongside the neoliberal political moves towards privatisation. However, an exploration of regimes of cost management is missing from the literature, and the present book intends to fill this gap. In so doing, it contributes to and extends political, economic and institutional analyses of management accounting practices in LDCs, and does so by drawing on a case study of Egyptian public utilities.

## 1.3 Theoretical Framework

### 1.3.1 Theoretical Triangulation Adopted

This book triangulates NIS and OIS to explain the historical and institutional dynamics that have taken place at both macro political and micro organisational levels: in other words, it provides a framework of theory to explore the connection between these two dimensions. This

triangulation helps us to understand the way in which macro politics penetrates organisations – at the macro political level (i.e., in state politics), the field level and the organisation level – in order to reform micro organisational cost management practices. In this regard, Dillard et al.'s (2004) framework plays a central analytical role here. Drawing on this framework, I relate Egyptian political history to industry- and organisational-specific change, in order to locate how certain political criteria are formulated with the changing political-ideological regimes of the state and then how they have been translated into a set of organisational and industry practices through re-privatisation, modernisation and budgetary reforms. It also helps to understand the effects of such change within the organisation, which has involved the institutionalisation of rules and routines along the lines of Burns and Scapens's model (2000). As Moll et al. (2006, p. 188) observe, 'Both [NIS and OIS] draw on broad variety of insights from cognitive science, cultural studies, psychology and anthropology, and both draw attention to multiple levels of analyses ranging from the individual organisation to society'.

Several researchers (e.g., Covaleski et al. 1996; Granlund and Lukka 1998; Collier 2001) have focused on NIS to explain the effects on systems that come from the external environment. NIS is useful for understanding the connection between the micro and the macro, especially in terms of how practices and routines become isomorphic within a given field. However, the problem with NIS is that (micro level) change processes within organisations cannot be explained in detail, especially in terms of company practices and routines. Others (e.g., Burns 2000; Burns and Scapens 2000; Ahmed and Scapens 2003; Mutiganda 2013) have adopted OIS to study change processes within organisations that occur in cost management systems and practices. However, the main limitation of OIS is this very focus on intra-organisational factors, while ignoring the external factors that affect systems and practices. Thus, the present book draws on both perspectives to avoid the individual limitations of NIS and OIS: one explains the connection between micro and macro levels, and the other explains the dynamics at work at the micro level.

I realise that the field of institutional theory has made enormous progress and advanced at an unprecedented pace, for example, path

dependencies, logics and incorporation of normative criteria. However, as Vakalfotis et al. (2011) suggest, the choice to be made among these approaches largely depends on the nature of the research question(s), the ontological and epistemological stance of the researcher and the themes that emerge from the empirical data, as well as the particular insight that each theoretical perspective provides in terms of understanding what the data suggest.

Very few studies used Dillard et al.'s (2004) model such as Hopper and Major, AAAJ (2007) (through extending it using an ANT) and Guerreiro et al., EAR (2015) (through extending it using an institutional entrepreneurs theory). Both studies implied Western states. To the best of my knowledge, this book is the first initiative uses Dillard et al.'s (2004) model to explain 'political accounting dynamics' in LDCs' context. LDCs studies addressed (neo-) liberalisation impacts on management accounting practices from different theoretical perspectives such as ANT, structuration theory and contingency theory. Most of these studies explained these impacts through 'static' analytical frameworks not through a 'dynamic' analytical framework as is in Dillard et al.'s (2004) model. Thus, the further understanding I provide of how political dynamics have been institutionalised in micro organisational accounting change will contribute to a more comprehensive appreciation of Dillard et al.'s (2004) model in LDCs' context.

However, the main limitation of this model, which Dillard et al.'s paper recommended subsequent researchers to address, is that the model does not reflect in detail organisational actors' actions towards resultant accounting change. While Hopper and Major (2007) addressed this issue using an ANT, Guerreiro et al. (2015) addressed it using an institutional entrepreneur. This book addresses this issue through extending Dillard et al.'s (2004) model using Burns and Scapens's (2000) model, which adds a new theoretical/analytical dimension of Dillard et al.'s (2004) model to explain detailed routines, institutional artefacts, actions and power dynamics at micro organisational level.

Throughout, this book draws on Dillard et al.'s (2004) version of institutional theory to explore the macro dynamics of cost management, while Burns and Scapens's (2000) model of institutional theory is drawn upon to explain the micro dynamics. In terms of macro dynamics, the

historical evolution of the organisation's cost management practices is explained with reference to the evolution of the political and field-level criteria of public sector performance; this book also looks at the ways in which wider macro political changes at the state level have had implications for the historical evolution of both field-level and organisational changes in cost management practices. Finally here, Burns and Scapens's (2000) version of institutional theory is deployed to explain how cost management technologies, procedures and practices are institutionalised within the particular neoliberal cost management regime in existence today.

### 1.3.2 Validity

The book refers to changing development policies which reveal that the Egyptian experience deviates somewhat from the findings elsewhere (e. g., Skærbæk and Melander 2004; Wickramasinghe and Hopper 2005; Mir and Rahaman 2007; Alawattage and Wickramasinghe 2008a, 2008b; Agrizzia and Sian 2015; Sharma and Lawrence 2015; Jupe and Funnell 2015). Change in its policies and practices under dominant military regimes, as shown over the course of Chapters 5–7, are particularly inconsistent with changes elsewhere in developed and less developed countries. Such inter-organisational relation with the military is different from what was much more prevalent elsewhere in the world – including in the UK and USA. There was a massive nationalisation programme and communism was a popular political logic for the state. However, one of the key differences between this global trend and the Egyptian state (as well as in some other Islamic countries) was that it was not only nationalistic but also militarised.

This peculiarity of the Egyptian state has been clearly reflected in the military leadership of the case company. The director of the board is still the military man and he is the 'state man' and political power source of the company. His military ideals created what called the 'culture of fear' amongst employees in the company. The peculiarity of resultant accounting change has thus stem from understanding the extent to which this 'military man's' ideals were able to be achieved using the

ERP system since it was not tailored specifically to address his requirements.

Dillard et al.'s (2004) model is also valid to imply a non-Western state, considering its peculiarities and ideologies. Before proceeding to the empirical analysis (in Chapters 5–7), it was important to explore the ways in which cost management evolved in Western contexts, which is the epistemic reference point for many of the less developed countries, including Egypt. The development of Western cost management practices outlined in Chapter 2 illuminate the present case study, and especially my selection of theory (see Chapter 3) and methods (see Chapter 4). These experiences have historically transferred to Middle East countries, including Egypt, through colonial policies, international conditions or mutual agreements. Strategic management and cost management politics have emerged in Egyptian companies along with the gradual evolution of the national market. This emergence forms part of the recent neoliberal state reconstruction, in which new cooperation forms and entities have been established with the West. Examples include the establishment of multinational companies, foreign investment in the Egyptian stock market and mutual professional agreements made with Western institutions with respect to privatisation, modernisation and budgetary reforms. These Western ideological and economic reforms have reshaped the wider political settings and objectives at both field and organisational level in Egypt. According to Dillard et al.'s (2004) macro-micro dynamics, as shown in Chapter 3, the World Bank (WB) introduced a privatisation initiative to solve the state-owned enterprise's (SOE's) crisis, and the modernisation programme was an outcome of mutual agreements with the EU to modernise the technologies and strategies of SOEs. In addition, the state budget reform programmes were an International Monetary Fund (IMF) attempt to minimise the financial crisis. These Western experiences were adopted in Egypt in response to Egyptian companies' wish to enter the global market, alongside the extension of the ideological, political, economic and institutional characteristics of the state, which are an important aspect of any in-depth understanding of the macro- and micro-level dynamics of cost management change within the organisation studied here (see also Chapters 5–7).

## 1.4 Methodological Development in Cost Management Research

### 1.4.1 From Science to Reflexive Research: The Extended Case Method

This book adopts the extended case method (Burawoy 1998, 2009), which applies the reflexive approach to science to ethnography, in order to move from the ‘micro’ to the ‘macro’ by building on precedent theory. The extended case method deploys participant observation to locate everyday life in its extra-local and historical context. It emulates a reflexive model of science that takes as its premise the intersubjectivity of the scientist and the subject of study. Reflexive science, Burawoy (1998) argues, valorises intervention, process, structuration and theory reconstruction. It is the ‘Siamese twin’ of positive science, proscribing reactivity, but upholding reliability, replicability and representativeness (Burawoy 1998, p. 4). Positive science, exemplified by survey research, works on the principle of the separation of scientists and the subjects they examine. Positive science is limited by ‘context effects’ (interview, respondent, field and situational effects), while reflexive science is limited by ‘power effects’ (domination, silencing, objectification and normalisation) (Burawoy 2009). Burawoy (1998, 2009) is not the only researcher who advocates the extended case method; others include Max Weber and some of the early researchers from the ‘Manchester School’ (see Harrington 2005, p. 5), who claimed, ‘the extended case approach can bring us reflective understanding of the means which have demonstrated their value in practice by raising them to the level of explicit consciousness’.

In elaborating on the different dimensions of the extended case method, Burawoy (1998) presents it as a science, albeit a reflexive science, in order to improve its execution by recognising its limitations and drawing out broader implications for the way we study the world. Here, Burawoy returned to a study conducted between 1968 and 1972 in the then-newly independent African country of Zambia. He selected this study because it effectively illustrates both the virtues and the limits of the extended case method. First, the virtues: the extended case



method is able to dig beneath the political binaries of coloniser and colonised, white and black, metropolis and periphery, capital and labour, to discover multiple processes, interests and identities. At the same time, the postcolonial context provides fertile ground for recon- densing these proliferating differences around local, national and global links. Second, the limits: the extended case method comes up against the very forces it displays. As the renascent field of ‘colonial’ studies makes clear, the colonies were not simply the site of exotica but of experiments in new tactics of power, subsequently reimported to the metropolis (see Stoler 1995). Domination took on especially raw and exaggerated forms, transparently implicating sociologists and especially anthropologists, and colouring their vision in unexplicated ways (Stoler 1995). Colonial and postcolonial regimes of power throw into relief the inherent limitations of the extended case method.

Thus, this new method highlights the social embeddedness of reflexive research. Burawoy (1998, 2009) goes on to show how it violates each of the four principles of positive science (see Chapter 4). However, the extended case method is not alone in violating positive principles. Burawoy (2009) argues that survey research, the quintessentially positive method, transgresses its own principles because of inescapable context effects stemming from the indissoluble connection between interviewer and respondent, and from the embeddedness of the interview in a wider field of social relations. We can either live with the gap between positive principles and practice, all the while trying to close it, or formulate an alternative model of science that takes ‘context’ as its point of departure, that thematises our presence in the world we study. That alternative is the ‘reflexive’ model of science that, when applied to the technique of participant observation, gives rise to the extended case method.

Using this method, there has been a significant trend towards understanding various management accounting practices as political, institutional and cultural practices. There have been significant attempts to locate management accounting practices within their wider socio-cultural and political contexts. This has been evident in recent research into management accounting practices in the reflexive context of the political idiosyncrasies of LDCs (e.g., Uddin and Tsamenyi 2005; Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008a; Hopper et al. 2009).

However, it is somewhat surprising to see that little attention has been paid, in these critical circles, to such changes in cost management research methodologies, especially in relation to politically sensitive public utilities in LDCs.

### 1.4.2 Extended Case Site

The core of this book is an ethnographic case study of an SOE in the Egyptian E&E sector; it extends into an examination of the macro political and historical contexts. The Middle Egypt Electricity Distribution Company (MEEDCO) has been selected as the micro site while Egyptian political history in general, and the political history of the E&E sector in particular, provides the macro extension<sup>1</sup>. MEEDCO is one of the biggest Electricity and Energy (E&E) distribution companies in Egypt; it has 13 branches in different governorates. It has a unique competitive position in the Egyptian E&E market – its market share currently exceeds 56 per cent and its annual profits have increased to 1.7 billion Egyptian Pounds. It has 8,718 employees including engineers, technicians and administrative staff (see MEEDCO 2013), with qualified and experienced employees across specialised areas.

MEEDCO is illustrative of recent politico-economic transitions in Egypt as well as the level of access I gained during my fieldwork to the company's micro organisational practices. Formal written permission from the Egyptian Central Agency for Public Mobilisation and Statistics (CAPMS), alongside informal personal contact with the Financial Manager, was effective in enabling me to identify interviewees and access much of the empirical evidence associated with the study's

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<sup>1</sup> The primary focus indeed is to explore the role of the state and its political implications for micro organisational accounting change. The choice of Egypt, and this case company, made for two main reasons. Firstly, it is illustrative of wider current economic transitions: it is significantly influenced by economic and structural programmes that have been undertaken to transform Egypt from a centrally planned economy to a free market-oriented economy. Secondly, the selection of MEEDCO reflects the level of access gained during the empirical study (for more details, see [Chapter 4](#)).

research aims and questions<sup>2</sup>. Semi-structured interviews, field observations and documentary analysis have been deployed as the data collection methods (see [Chapter 4](#)). An interpretive theoretical framework, outlined above, which incorporates aspects of both NIS and OIS, was used as the analytical structure for these investigations.

## 1.5 The Contributions of the Book

This book addresses the academic necessity to theorise the micro-level organisational changes of cost management practices in the context of wider political reforms. This macro extension critiques existing institutional knowledge on the accounting issues studied, where institutional theory is too thin to capture the political dynamics of cost management change in the case company. Institutional theory involves particular micro-economic dynamics, which include competition, markets and consumers, as well as organisational factors, such as culture and power (see Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007). This narrower view of institutional theory is inconsistent with the wider institutional dynamics of my case company. Accordingly, this book fills a gap in the existing literature by examining the wider political dynamics that have had a crucial impact on the success of management change in general, and of cost management change in particular. It provides a political theorisation of micro-level changes in cost management in organisations.

These dynamics include the fact that E&E costs in the Egyptian business environment have been managed historically at three

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<sup>2</sup> I was planned to do two case studies but I found some difficulties emanated from the political turbulence in Egypt due to the both revolutions of 25th January 2011 and 30th June 2013. The aim was to find a research site that could provide relevant data for my study and was willing to cooperate. The choice of MEEDCO was consistent with Marshall and Rossman (1995), who delineate four ideal conditions for research sites. These are that entry is possible, that there is a high probability that a rich mix of processes, people, programmes, interactions and structures of interest are present, that the researcher is likely to be able to build trusting relations with the participants in the study and that data quality and the credibility of the study are reasonably assured (for more details, see also [Chapter 4](#)).

distinct but interrelated institutional levels: the political, the field and the organisational (see Dillard et al. 2004; Hopper and Major 2007). For example, a performance-based budget has been institutionalised with a new set of cost estimation planning rules and routines in response to political endeavours that have aimed to minimise state expenditure. With modernisation programmes initiated by the Egyptian government and supported by the international development agencies such as the European Union (EU), advanced ERP technologies have been installed to institutionalise costing rules and routines. With ERP, cost calculations, allocations and measurement processes have been redefined into a single procedural protocol. Additionally, with the move towards re-privatisation, new forms of periodic control reports have been instigated, including a ‘cost report’ that has been instrumental in changing managerial actions and behaviours.

Empirically, the book addresses the academic need to study politically sensitive organisations such as those in the public sector. The management accounting literature needs more research into public sector political reforms, especially in less developed countries where political sensitivity around public sector organisations is greater. Although there is the academic necessity of researching these reforms and their salient implications upon the cost management field, there are quite a few research endeavours that dealt with such issues (e.g., Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008a; Mutiganda 2013; Agrizzia and Sian 2015). This case study investigates neoliberal public sector change in terms of re-privatisation, modernisation and budgetary reform at different government levels. It includes official departments, or organisations within organisational field level and the organisational level, and employs the framework proposed by Dillard et al. (2004) and Burns and Scapens (2000). Thus, the present study aims to increase our understanding of recent public sector political reforms, and the impact of each reform at different institutional levels (see Sharma and Lawrence 2015; Jupe and Funnell 2015; Bowman 2015), whilst also exploring the implementation of cost management change at the micro level (see Skærbæk and Melander 2004; Uddin and Tsamenyi 2005; Noguchi et al. 2015).

## 1.6 The Structure of the Book

The book is structured in nine chapters. An overview of the eight main chapters is presented below.

[Chapter 2](#) provides a historical narrative of how cost accounting and management practices evolved in a dialectical relationship with the evolution of capitalism in the West, which is the point of departure and geo-political comparison area for the research. This chapter highlights early practices of cost accounting and internal contracting in the pre-capitalist phase. It then moves gradually to the nineteenth and early twentieth centuries, when micro-level practices of budgeting, cost standards and family management at the level of the organisation were located in the macro regime of industrial capitalism. The chapter concludes with an examination of the strategic management and cost management practices that emerged alongside post-industrial capitalism.

[Chapter 3](#) establishes the theoretical framework that is used to analyse the empirical data. This framework draws mainly on NIS, especially Dillard et al.'s (2004) model, although it also draws on Burns and Scapens's (2000) OIS model, as outlined earlier in this chapter. [Chapter 3](#) explains how the triangulation of old and new institutional analysis can bring about a fuller investigation of cost management practices with simultaneous reference to their macro and micro dynamics. While NIS allows us to theorise the macro–micro connection, OIS complements this connection by enabling us to theorise the intra-organisational dynamics of cost management change.

[Chapter 4](#) provides (a) a review of the methodologies and methods deployed in the precedent cost management research and (b) justification of the extended case method used in the present work. It explains the ontological, epistemological and methodological approach taken here, and the specific data collection methods used.

[Chapters 5–7](#) provide the data and analysis. [Chapter 5](#) discusses the political and field-level dynamics of cost management with particular attention paid to the key political reforms that shaped practices in the field of electricity in the recent past: for example, in terms of re-privatisation, modernisation and state budget reform. This analysis

establishes the macro historical context in which the case company operated; it explores how the company evolved over time alongside the macro change occurring at the level of the Egyptian nation state. Thus, this chapter establishes the historical context within which change occurred at the (micro) company level.

**Chapter 6** explains the structural and managerial changes that took place in the case study organisation in response to macro-level political reform in Egypt. It explores the company's structural changes, that is, the ways in which the ownership and administrative structure was changed, as well as how the managerial orientation moved from being an administrative regime to a marketing regime. Alongside an analysis of the moves towards re-privatisation, this chapter illustrates the historical transformation of the case company from an operational to a more market-driven orientation. It discusses the macro-level changes wrought by modernisation that accompanied the micro-level changes in E&E production and distribution through the ERP implementation. Finally, the chapter addresses the impact of macro-level budget reform in terms of the legitimacy and practices of the case company's new performance-based budget.

**Chapter 7** deals with developments in cost management practices and technologies and the ways in which they have been institutionalised within the firm. It explains the changes in cost management practices that accompanied the wider political reforms of the state, and how such reforms were instrumental in changing the case company's structures, processes and practices from costing to cost management. This chapter also discusses how each macro political reform of re-privatisation, modernisation and the budget has been institutionalised into a durable set of micro cost management practices, which have included radical changes in cost estimation planning, calculation, allocation, measurement, reporting and control.

**Chapter 8** provides a discussion of the book findings, alongside a discussion of the institutional dynamics that were explored over the course of the previous chapters at economic and political, organisational field and organisational levels. This penultimate chapter also explains the role of Dillard et al.'s (2004) macro-micro dynamics, supported by

Burns and Scapens's (2000) power relations, in the successful changes made to cost management practices in MEEDCO. It discusses the findings alongside relevant accounting literature in terms of *politics* of cost management change, *power* relations and a culture of *fear* imposed by the military management of the state and that governed changes in cost management structures, processes and practices within the case study company.

The concluding chapter summarises the 'conclusions' in a manner which particularly aims to advance both the theoretical and empirical contributions of this study. This chapter also illuminates limitations and related suggestions for future directions, briefly outlining an extension of Dillard et al.'s (2004) basic model to incorporate more recent institutional works, addressing in detail internal conflicts and, last but not least, exploring the intervention of the military in the management accounting practices in less developed countries.

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# 2

## From Costing to Cost Management: How Cost Management Became a Strategic Imperative

### 2.1 Introduction

This study explains how cost management became a strategic imperative within an Egyptian politico-economic and industrial context; it does so by offering an account of how cost is managed in a specific company. Before proceeding to the empirical analysis (in [Chapters 5–7](#)), however, it is important to explore the ways in which cost management evolved in some Western contexts, which is the epistemic reference point for many of the less developed countries, including Egypt. Thus, this chapter explains how management accounting practices in Western countries have evolved from costing to strategic cost management in response to overarching macroeconomic, political and technological change, which was mediated through change in organisational forms and structures. In the process, although organised as a historical analysis, this chapter also provides a review of cost management and related literature.

The development of Western cost management practices outlined in this chapter illuminate the present case study, and especially my selection of theory (see [Chapter 3](#)) and methods (see [Chapter 4](#)). These experiences have historically transferred to Middle East countries,

including Egypt, through colonial policies, international conditions or mutual agreements. Strategic management and cost management politics have emerged in Egyptian companies along with the gradual evolution of the national market. This emergence forms part of the recent neoliberal state reconstruction, in which new cooperation forms and entities have been established with the West. Examples include the establishment of multinational companies, foreign investment in the Egyptian stock market, and mutual professional agreements made with Western institutions with respect to privatisation, modernisation and budgetary reforms. More details will be given in the forthcoming empirical chapters (see [Chapters 5–7](#)).

These Western ideological and economic reforms have reshaped the wider political settings and objectives at both field and organisational level in Egypt. According to Dillard et al.'s (2004) macro–micro dynamics, as shown in [Chapter 3](#), the WB introduced a privatisation initiative to solve the SOE crisis, and the modernisation programme was an outcome of mutual agreements with the EU to modernise the technologies and strategies of SOE. In addition, the state budget reform programmes were an IMF attempt to minimise the financial crisis. These Western experiences were adopted in Egypt in response to Egyptian companies' wish to enter the global market, alongside the extension of the ideological, political, economic and institutional characteristics of the state, which are an important aspect of any in-depth understanding of the macro- and micro-level dynamics of cost management change within the organisation studied here (see also [Chapters 5–7](#)).

The kinds of institutionalised management accounting practices discussed here (especially costing and cost management practices) evolved with the political, economic, social and organisational settings in which they are embedded. That is, the practices are framed by the surrounding organisational forms and management systems, which, in turn, are affected by wider political and economic conditions. For example, because of the emergence and growth of particular historical movements such as Taylorism, Fordism, liberalism and bureaucratisation, a transformation took place from feudal craft production to regimes of mass production. One outcome of these changes was the gradual development of cost and management accounting, and then cost management under conditions of

mass production (see Littler 1982; Wickramasinghe and Alawattage 2007). Following the emergence of post-Fordist manufacturing methods and advanced production technologies, such as flexible manufacturing systems (e.g., cell-based manufacturing), there was also a transformation in organisational forms and management systems, whereby managerial behaviour has been transformed from administration to strategic management and from cost accounting to strategic cost management (see Porter 1980, 1985; Tomkins and Carr 1996a, 1996b).

This implies that management accounting practices, including cost management practices, are 'situated practices': that is, they are particular sets of organisational and technical practices that frame organisational strategic priorities and other management systems, which, in turn, are framed by wider socio-political and institutional conditions. They are situated within, and evolve with, the historical changes taking place in wider socio-political, economic and technological contexts. This has long been appreciated in the critical accounting research, especially in debates among transaction cost theorists (e.g., Johnson and Kaplan 1987; Johnson 1994), labour process theorists (e.g., Braverman 1974; Hopper and Armstrong 1991) and Foucauldians (e.g., Foucault 1980; Hoskin and Macve 1988, 1994; Ezzamel 1994) over the evolution of management accounting. Beyond this management accounting history debate, management accounting practices have often been theorised as institutionalised practices that are situated within organisational boundaries (e.g., Burns 2000; Burns and Scapens 2000) and beyond (e.g., Dillard et al. 2004; Hopper and Major 2007).

The present work follows this line of thinking and attempts to contextualise and theorise cost management practices through an Egyptian case study. It sets as its epistemic and historical reference point the evolution of cost management practices in the West. Despite the historical trajectory that Egypt, as a postcolonial nation, has taken in its modernisation projects, and although the trajectory of its management accounting history could be quite different from the Western experience, this Western history provides an important epistemic reference point for the current study, in that it offers a comparison by which the differences can be appreciated. Additionally, the present analysis is based upon precedent management accounting and other related literature. It is organised as an



account of cost accounting and management practices from the perspective of the historical evolution of Western capitalism, starting from the feudal mode of production and continuing to the era of late capitalism.

The remainder of this chapter is divided into four main sections. [Section 2.2](#) discusses the pre-capitalist mode of production and cost management. It highlights the absence of coherent and systematic profit calculations along with discussion of the dominant costing and bookkeeping practices in craft production regimes. [Section 2.3](#) discusses the mode of production and cost management in the period of industrial capitalism. This section is divided into four sub-sections that outline the emergence of cost management along with Fordist mass production methods. [Section 2.4](#) discusses the mode of production and cost management in post-industrial capitalism. It explores the later developments of calculative practices as well as the social system that witnessed the emergence of strategic cost management in post-Fordist manufacturing regimes. It pays particular attention to the epistemic significance of Michael Porter's (1980, 1985, 1991) conception of generic strategies and the value chain, which was instrumental in making cost a strategic imperative, at least at a discursive level. [Section 2.5](#) summarises and concludes the chapter.

## 2.2 The Pre-capitalist Mode of Production and Cost Management

The pre-capitalist mode of production was craft production, which took place in a feudal system. The church, manors and guilds were the purest expression of social structure in medieval society. Of course, in a feudal craft production regime, as in any other production regime, factors of production, land, tools and labour were combined. However, the combination of these factors in the manor and in the guild was organic and largely traditional. The production units had a fixed and acknowledged place in a hierarchical social order and the framework for production was the internal provision of sustenance for the manors' inhabitants. The economic motive of profit was of subordinate significance (Goudzwaard 1979).

In feudal craft production regimes, the 'internal contracting system' was the instrument that governed relationships between capitalist and

labourer. This socio-economic relationship was almost always prescribed by a written document known as a 'contract' (Macaulay 1963), the purpose of which was rational planning of the transaction with careful provision for as many future contingencies as could be foreseen. The contract also outlined potential legal sanctions to induce performance of the exchange, or to compensate for non-performance (Macaulay 1963). Cuganesan (2007) finds that internal contracting mediated through an internal contractor performed the role of an institutional mechanism for the formulation of expectations in the pre-commitment phase of the relationship. Roxenhall and Ghauri's (2004) case study finds that this kind of social contract was used to coordinate actions, direct attention to specific issues, exercise power, delegate responsibility and tasks, and transmit knowledge. This method of internal contracting was intended primarily to serve as a means of communication. Jakobsen (2010) argues that the internal contract defined the topics for negotiation between capitalist and labourer: the negotiations were to be carried out by the internal contractor in the form of an intermediated relationship. During negotiations people representing capital and labour, with the internal contractor in the middle, participated in order to make the two ends meet.

In the extract that follows, Littler (1982, pp. 64–65; see also Wickramasinghe and Alawattage 2007, pp. 35–36) provides a detailed breakdown of the contractual relationship in a feudal craft production regime:

Capitalism in its early stages expands, and to some extent operates, not so much by directly subordinating large bodies of workers to employers, but by sub-contracting exploitation and management. Thus, the immediate employer of many workers was not the large capitalist, but an intermediate, internal contractor who had a contractual relationship with the overarching employer, and in turn was an employer of labour himself. The employer provided the fixed capital, supplied the raw materials and much of the working capital and controlled the sale of the finished product. The contractor hired and fired, supervised the work process and received a lump sum from the employer for completed work. The contractor's income consisted of the difference between the wages he paid to his employees or gang (plus the cost of any working

capital he might provide) and the payments from the employer. In addition, the contractor was sometimes responsible for his own financial control and much of his own purchasing.

Although the contract may not seem to be a cost management instrument, this form of internal contracting provided the broader framework within which labour was exploited and a surplus value created. Hence, it did have some cost management implications. The internal contractor facilitated the integration of technical, logistical and economic aspects of the contractual relationship between capitalists (i.e., employers) and labourers (i.e., employees). Cost and profit calculations, let alone cost management, were not structural necessities in a feudal craft system of production characterised by internal contracts. At best, cost management within this contractual relationship involved both actual cost awareness and accounts of costs written into the contract, with neither 'profit logic' involved nor the calculative practices of a return on capital (see Garner 1988). Wickramasinghe and Alawattage (2007, p. 36) argue:

There was not much role for accounting within this system of production and control. Effectively, the internal contract system acted as a substitute for accounting. That is because internal contracting helped the capitalists spread the capital risk among subcontractors and effectively avoided the necessity for cumbersome accounting calculations of return on capital. In fact, it was a type of quasi-market mechanism which coordinated units of 'domestic manufacturing' to meet the demands of a wider market without a coherent and systematic management structure.

Nevertheless, the foundations of later developments in comprehensive cost and profit calculations were laid during this era of feudal production methods. Their further elaboration led to the emergence of capitalism and its associated costing and cost management regimes. Generally, cost accounting is considered to be a product of the nineteenth century, when large business enterprises such as textile mills and iron and steel works were developed alongside extensive use of machinery in industrial production (Wilson and Chua 1993). While this argument also holds true in part for the systematic recording techniques of cost accounting that were

developed in the nineteenth century, and greatly extended in more recent decades, some cost accounting elements are much older and can be seen in the form of industrial 'bookkeeping' practices and techniques. Garner (1988, p. 50), for example, argues that 'some medieval business records ... show that industrial accounts, early and very simple forms of cost accounting, were used as early as the beginning of the fourteenth century'. Edwards and Newell (1990, p. 41) note that 'the use of product costing is not a product of the nineteenth century where the large scale mass production environments, but its roots belonged to the craft production era where there were very simple forms of cost calculations'. The authors then provide examples of cost accounts from iron-makers' business records in Wealden over the period 1330–1773.

It is accepted among accounting historians that double-entry bookkeeping started with the first textbook on accounting, *Summa*, written by an Italian monk Lucas Paciolo in 1494. However, this system had been explained and practised by Venetian merchants and others in northern Italy approximately 200 years before *Summa's* publication (Haydn 1985). Due to the extensive trade between Italian merchants and Arabs living in the Middle East, North Africa and Spain (Garner 1988), Arabic numerals were introduced around the early thirteenth century (Durham 1992). Bookkeeping practices covering commercial activities appeared after the Crusades, which began at the end of the eleventh century (Durham 1992). As businesses grew, accounts were used in the process of costing products, albeit using very simple methods and practices.

One example of these early practices is provided by the Del Bene accounts (Garner 1988). Del Bene, a firm established in Florence, Italy, was converting raw wool into a useful and saleable product. The firm's accounting records date back to 1318. They represent one of the earliest examples of 'cost bookkeeping', although the system is crude when compared with the developments that will be discussed later. In 1350 only prime costs were derived; however, a large amount of additional information was provided to owners and managers. Accountants of the firm established two types of books, one of which was for 'the results of trading or mercantile activity' and the other for 'the central workshop data'. By 1368, other books – 'the book of raw wool purchased', 'the labourers wage book' and 'the dyers wage book' – were established. These books recorded

every transaction for purchasing wool; the labour expenses necessary to manufacture a certain quality and quantity of woollen cloth; and the cost of dyers, established by opening an account for each dyer. These were summarised at specific intervals and the totals were carried to a ledger book that had many of the characteristics of a modern ledger. At the end of each manufacturing cycle, a 'Bilancio' was prepared to evaluate profit or loss for the period, the duration of which depended on the production of a certain quantity of woollen cloth. The periods were distinguished from each other using alphabetical letters. By subtracting liabilities, capital and deferred sales from the total assets, a profit or loss was determined, which was allocated to the partners using a predetermined ratio.

Another example is given by De Roover (1941; see also Garner 1988). The Medici family, who lived in the early sixteenth century, had a cloth manufacturing business. Records of the books kept were in double-entry form, and from 1513 eight books were used: a waste book, a journal, a ledger, a cash book, a wage ledger, a book of dyers and workers, a book of weavers and a book of spinners. The system that Medici applied was adequate for the needs of the management of the organisation in controlling the flow of materials and funds. The account books show that the Medicis had approximate but sufficient information for their needs about the cost of the items produced. This cost information was used mainly in pricing decisions although, De Roover (1941, p. 28) argues, 'it was not yet a cost calculation system, but it came very close to being one'.

There are other examples of the early emergence of costing and bookkeeping practices in the institutions of non-Western ancient civilisations. In the context of ancient Egypt, Ezzamel (2012) argues, cost accounting was probably one of the oldest managerial tools used in the determination of the amount of taxes to be taken by the kings; it was also used in pricing the products that traders wanted to sell. The trading people of ancient times, such as the Chinese, Egyptians and Arabs, had accountants working in the service of the royal courts, some of whom were experts in the determination of costs. Perren (1944, p. 1059; see also Ezzamel 2012, pp. 17–18); outlines some of the evidence for this:

In Egypt, 3,000 years before Christ, accountants had to present to the Pharaohs each year a detailed report on the net cost of harvest, so that just

taxes on wheat could be levied. The ancient Code of Manu made obligatory the periodical auditing of trading profits by court auditors . . . In Books VII and VIII of these sacred Laws we find the following two passages: ‘Merchandising experts will establish the sales price of goods, so that the king may levy 1/20 of the profit thereon’ . . . ‘the sales price of merchandise shall be evaluated according to the distance it has travelled, the time it is kept in storage, the expenses connected with it, the time it has to travel to reach its final destination, and the profit that can be anticipated.

As noted above, the purpose of calculating the cost of products in ancient Egypt was to determine the amount of taxes, and this duty was always performed by court officials. Government auditing, budgetary accounts, expenditure control and periodic reporting, which had also been in existence in China since 1100 BC (Lin 1992), are other examples of costing techniques adopted for governmental needs in ancient civilisations (see Ezzamel 2012). According to some accounting historians such as F. De Roover (1941), S. P. Garner (1988) and Edwards and Newell (1990), as well as in Ezzamel’s (1994, 2012) seminal studies on accounting in Ancient Egypt, the first simplistic forms of product costing applications date from the medieval era, that is, from the pre-capitalist phase.

Some challenges were regarded as ‘crises’ within feudal craft production regimes. There was a basic contradiction in the feudal system, which related to internal contracting and the associated tension between the three class layers (i.e., the capitalist, the internal contractor and the labourer) with the internal contractor in the middle. Some literature argues that the use of internal contracts among these three partners in a shared contractual relationship concerning craft businesses was inefficient: firstly, the contracts were static, and hence incompatible with the need for flexibility, which was important in an era when capital accumulations, innovations and market expansions were occurring (e.g., Hedberg et al. 2000). Secondly, they signalled mistrust (e.g., Granovetter 1985). Despite these problems, however, Alvarez et al. (2003) observe that 98 per cent of business relationships in the medieval era, especially in agricultural businesses, were contractual and the use of internal contracts was regarded as a governance device. Wickramasinghe

and Alawattage (2007, pp. 37–38) describe the ‘crisis’ as resulting from contradictory interests among the three parties. These contradictions led to an instability in social relations and created a crisis in production systems during a time that witnessed major changes in the technology and organisation of agriculture and industry. This was a starting point for the decline of the feudal craft production regime and the transformation towards a new mode of production (e.g., mass production):

Craft production was dominated by the intermediate subcontractors who had a discretionary power over the control of production techniques and the labour. It was this power itself that provided the impetus for its demise, as the exercise of that power contradicted the interests of both the underhand labourers and the overarching capitalists. At the bottom end, the underhand workers reacted against the petty tyrannies of their master craftsmen. At the top end, power of internal contractors undermined and threatened the capitalist control over production and made the production system relatively inflexible to growing needs of the capitalists to meet expanding market demands. As a result, the internal contractor was squeezed from both ends and the system of internal contracting began to deform. However, an old system of production and its associated social relations would not disappear unless a superior mode of production was available to replace it. By the beginning of the twentieth century, capitalists had begun to discover a superior system of production – the technology of mass production and its associated organisational and social apparatus. (Wickramasinghe and Alawattage 2007, p. 38)

## 2.3 Modes of Production and Cost Management in Industrial Capitalism

### 2.3.1 Modes of Production Under Industrial Capitalism

The historical emergence of *the firm* has had major effects on management and accounting practices (Johnson 1983, 1984). In the context of the nineteenth and twentieth centuries, firms grew from small family partnerships into large corporations. Few Western societies have

undergone a greater change in a shorter period than that which transformed the shape of others between 1770 and 1870. The UK, for example, changed from a relatively simple rural agricultural country to a densely populated, urbanised and industrial country. Total manufacturing increased in value from some £30 million in 1770 to over £348 million in 1870, and from around 24 per cent to 38 per cent of gross national product (GNP) (Rostow 1975). By 1870 some Western countries, including the UK, were the greatest industrial nations in the world. Turner (1971) argues that over 50 per cent of the world's coal was raised from Western pits such as those in the UK; over 50 per cent of its pig-iron and 40 per cent of its steel came from Western furnaces such as those in the USA; and almost 50 per cent of its cotton cloth was spun and woven in UK mills. The UK produced well over a third of the world's output of manufactured goods. Its export trade was greater than that of France, Germany and Italy put together, and four times that of the USA.

There was visible manifestation of these changes in Western societies. Huge numbers of factories were built, with their attendant smoking chimneys and increased surrounding population. There was a corresponding development and change in the structure of business organisations. Whereas the previously mentioned churches, manors and guilds were the purest expression of social structure in medieval society, by the eighteenth and nineteenth centuries the industrial enterprise or factory became the dominant form of organisation, bringing in the age of industrial capitalism (Turner 1971).

Significant changes occurred in the production unit of the industrial enterprise or factory compared to that of the manors and guilds. Of course, in both, the factors of production, land, tools and labour were combined. Nevertheless, in contrast to craft businesses (see Section 2.2), factory production was mechanical and based on the dynamics of technical innovation. The factory was not rooted in the social stability of a craftsman's traditionally recognised place in society, as it had been in the old feudal regime, but was founded on the flexibility of the will of the entrepreneur and his personal initiative with respect to capital (Goudzwaard 1979). In the factory, the guideline for production was maximum financial yield by means of the most profitable expansion of an external market for its products. The primary concern of industrial



enterprise was to stay ahead of competitors and thus to serve the highest purpose of society as a whole, namely, the creation of the maximum quantity of goods to increase the common welfare (Goudzwaard 1979).

Closely associated with the rise of the industrial enterprise was the rise of the market economy. Polanyi (1957, p. 40) argues that other changes 'were merely incidental to [this] basic change'. Although Polanyi's argument is perhaps an exaggeration, the old restrictions on the mobility of capital and labour and, to a lesser extent, land gradually disappeared, thus enabling a period to develop in which the market came as close as any market has ever done to operating as freely as economic theory suggested it should. From 1770 to 1870 market size increased as a result of developments in transportation. First, the new turnpike roads, then the canals and finally, from around 1840, the railways, rendered Western countries, and in particular the UK, into a single market for the new industrial manufacturers. At the same time, the growth in shipping services was breaking down physical barriers to international trade. Furthermore, the existence of middlemen contributed to an even greater expansion in trade, which necessarily accompanied the industrial expansion. By the end of the eighteenth century, bankers, factory owners' and merchants, as well as foreign currency, insurance and shipping brokers, were well established and facilitated the huge expansion in international trade that had taken off in the second half of the eighteenth century (Polanyi 1957, p. 40).

The economic growth that occurred during the industrial revolution and continued into the latter half of the nineteenth century came about because entrepreneurs realised the importance of at least three factors: the possibility of using human labour more efficiently through the division of labour, the development and use of tools and machines, and the development and use of technical innovations. These elements were most effective when they reinforced each other and were applied in mutual coherence (Goudzwaard 1979). Hartwell (1971) observes that the factors encouraging economic growth in the eighteenth and nineteenth centuries, and the accompanying industrial capitalism, could be seen in terms of six forces: capital accumulation, innovations (e.g., changes in the technology and organisation of agriculture and industry), fortunate factor endowments (e.g., a skilled labour force, a favourable trading site for growth markets, as in the

USA and Asia), laissez-faire attitudes (e.g., long-term changes in philosophy, religion, science and laws), market expansion due to increasing foreign trade and domestic consumption, and 'miscellaneous' (e.g., continental wars).

These six forces were behind the changes in the common production environment at that time. Clegg (1990), for example, argues that new politico-economic changes, such as bureaucracy, provided a technically superior form of organisational structure within which expectations of scientific management and Fordist dreams of mass production could be realised. Accounting, especially cost accounting, complemented this change towards mass production by providing a rational and unified mode of ascertaining costs and effectively monitoring capital and labour behaviour at a distance. Taylorism provided the epistemic origin of this transformation and Fordism was its technological foundation. Economic and political liberalism were the political contexts within which this transformation occurred; bureaucratisation was the organisational context within which mass production occurred (Wickramasinghe and Alawattage 2007). As will be discussed later, cost accounting and management accounting are the calculative technologies that materialised these changes. They formed the calculative technology through which the notion of 'profit' is materialised in the context of modernity and its management (see Section 2.3.3).

Such transformations have created pressures in certain industries (e.g., the textile industry, cotton manufacturing and the manufacturing sector more widely). During the industrial revolution these heavy industries succeeded in changing their production modes from pre-industrial, home-based, craft industries into highly mechanised, capital-intensive factory industries (see Hannah 1983). In some industries, leading firms responded to these pressures by extending their plant to the new optimally efficient size, and through technical innovations they reduced prices, thus eliminating many of their rivals still operating with earlier technology. In other industries, trade associations were formed, through which people attempted to instigate collective price and output control. These were instruments for maintaining the status quo and for suppressing potentially serious competition; they appealed to the smaller and less efficient enterprises, and held back processes of rationalisation and merger (Turner 1971).

From around 1910 onwards the structure of industry in Western societies (i.e., in the UK, the USA, Japan, France and Italy) was becoming very different from three or four decades earlier. The rationalisation movement (including a programme of merger, inter-firm agreements and ‘scientific’ management) of the 1920s and 1930s was used by businesses to maximise profit and growth during a time of significant pressures (wars and economic depression, for example) (Hannah 1983). Hannah (1983, p. 23) notes that ‘on a number of fronts – technical, commercial and also financial – there were, in the closing decades of the nineteenth century, both strong pressures and new opportunities making for larger scale enterprise’. Fayne (1967, cited in Wallerstein 2011, pp. 14–66) argues that the waves of mergers that occurred during these years were far more intense than any which had been experienced earlier in the century. Between 1888 and 1914 an average of at least 67 firms disappeared in mergers in each year, and in the three peak years of high share prices and intense merger activity between 1898 and 1900, as many as 650 firms valued at £42 million were absorbed in 198 separate mergers. The foundations of the modern corporate economy were discernible in the large firms that were thus created (e.g., Imperial Tobacco, Watney, Dunlop, GKN and Vickers). The ensuing rise of the corporate economy was a gradual, emerging process over time. After several decades of slightly increasing industrial concentration, the period of 1919 to 1930 saw an acceleration of structural change and that the rise of the corporate economy was most naturally dated (Hannah 1983).

### 2.3.2 Structural and Managerial Development

In 1870, Western industry was both fragmented and competitive: most businesses in the UK, the USA and Japan were still in the hands of individual entrepreneurs (see Payne 1974; Hoskin and Macve 1988, 1994, 2000). Although some had benefited from the Companies Acts to incorporate with limited liability, the majority had not; even those who had still resembled a modern family company (Hannah 1983). However, in the last two to three decades of the nineteenth century, this situation changed. Whereas in earlier decades the corporate form had

been prominent in terms of examples in the railways, insurance, mining and banking industries, manufacturing industries now began to join this conversion. The response was slow, however, and by 1885 limited companies in the UK and the USA accounted for at most between 5 and 10 per cent of the total number of important business organisations (see Payne 1974; Hoskin and Macve 1994). It was only in shipping, iron and steel, and cotton that this new influence could be said to have been considerable (Payne 1974). Although a legal structure existed in these Western countries by the mid-1860s, which made possible changes in the structure of the individual enterprise, few trod the path, and it took until 1930 for the corporate economy had become a significant part of the Western economy (Hannah 1983). Throughout most of the nineteenth century, the basic business unit remained that of individual proprietorship. This was not simply a consequence of companies acts that were passed in some Western environments – such as the Bubble Act of 1720 in the UK, whereby the creation of a joint-stock company with transferable shares and corporate status was possible only with the consent of the state – but because there seems to have been no perceived need to depart from the traditional organisational structure (see Payne 1974; Hoskin and Macve 1994).

The development of organisational structures in response to the accompanying history of industrial capitalism has been explored through theories of internalisation. While some business historians (e.g., Scott 1970; Williamson 1970; Hoskin and Macve 1988, 1994, 2000) have described the development of organisations in the USA, others (e.g., Chandler 1962; Johnson 1984) have modified these ideas in the context of the UK, for example. Chandler (1962) highlights the stages of development from small owner-run concerns to vertically integrated, multi-divisional organisations. The firms Chandler investigates in the USA began as single unit, owner-run operations. They had a single function and operated in one industry. Such firms developed through volume expansion, which led to market expansion. The problems that ensued were ones of coordination between different operating locations. In the next phase, vertical integration occurred: the firms stayed in the same industry but acquired other functions. The manufacturing firm acquired distribution and supply facilities. This expansion in business scope and organisational structure

led to planning, control and coordination problems. The third phase (which was characterised by large-scale mass producers) related to an increasing diversification of company activities. As firms' original markets became more saturated or declined, they moved into different product or service areas. This caused administrative problems of planning and controlling the various industries and markets. Chandler (1962, p. 51) argues:

The inherent weakness in the centralised, functionally departmentalised operating company . . . became critical only when the administrative load on the senior executives increased to such an extent that they were unable to handle their entrepreneurial responsibilities efficiently. This situation arose when the operations of the enterprise became too complex and the problems of coordination, appraisal, and policy formulation too intricate for a small number of top officers to handle both long-run, entrepreneurial, and short-run, and operational administrative activities. To meet these new needs, the innovators built the multi-divisional structure with a general office whose executives would concentrate on entrepreneurial activities and with autonomous, fairly self-contained operating divisions whose managers would handle operational ones.

The multi-divisional form, then, emerged as an innovative response to administration problems. Such structural development in large-scale mass organisations imposed particular management systems that were characterised as 'administrative'. Until the late nineteenth century, owners had nearly always managed their own enterprises. Those few that hired managers rarely employed as many as four or five, and they retained a close personal relationship with their managers, often making them partners in the firm. Such an enterprise may be termed a personal one (Chandler 1976), as opposed to what Chandler (1976, p. 28) goes on to observe here:

As firms grew large and began to carry out more than one function, the number of salaried managers increased, reaching 20 or 30 or over 50. Such employees or, to use the British term, servants of the company rarely held large holdings of its stock. These shares remained in the hands of the entrepreneurs who built the company, or in those of their families. These share-holders continued to have a major say in the selection of managers, in the making of

over-all policy, and in long-term planning and allocation of resources. Such manager-manned but owner-controlled enterprises can be termed entrepreneurial ones. As firms grew larger and as their activities were extended and diversified, stock ownership tended to become widely scattered. Full-time, salaried career managers who owned little or no stock took over positions in top as well as middle and lower management. They made long-term as well as short-term decisions. Owners became rentiers, more concerned with the dividends than the operation of their company. The owners had neither the time, information, experience nor commitment required to manage. Such manager-dominated enterprises can properly be termed 'managerial'.

The trajectory of these kinds of developments has differed, of course, according to the social, economic and legal idiosyncrasies of the Western countries explored here (see Hoskin and Macve 1988, 1994, 2000). In the UK, for instance, family management limited the expansion of firms, so that the family could remain in control of the company. This resulted in a managerial backwardness relative to companies in the USA and Japan (Chandler and Daems 1979). The nature of consumption was also different in the UK, in the sense that regional and class tastes varied more widely than in the USA, Japan and France (Johnson 1984). Johnson (1984, p. 14) claims that 'Britain's geographically concentrated economic infrastructure ... incorporating the world's most sophisticated financial services, market exchanges and transportation networks, gave British organisers a relatively slight incentive to internalise economic activities in the nineteenth and early-twentieth centuries'. Their legal contexts were another difference among Western countries. Cartels and restrictive practices were legal in the UK and Italy, but not in the USA, Japan and France, for example, where the coordination of sales policies and the securing of monopolistic control over prices had to be achieved through merger (Hannah 1983). Although there is some debate about these differences among Western countries, different stages of this structural and organisational development have been used by accounting historians (e.g., Chandler 1977; Johnson and Kaplan 1987; Hoskin and Macve 1988, 1994; Hopper and Armstrong 1991; Hoskin and Macve 2000) to explore the development of management accounting practices in the contemporary social system (capitalism).

### 2.3.3 Cost Management Implications

Management accounting practices in organisations have been significantly affected by the kinds of structural and organisational change outlined throughout this chapter. The major developments of management accounting practices under industrial capitalism moved from bookkeeping to a centralised accounting system and then on to cost management. Johnson's historical case studies (1972, 1975, 1978) reveal these changes in his examination of management accounting in three organisations at three stages of development. His first study (1972) explores the cost accounting system of Lyman Mills, a New England textile mill. This system enabled the coordination of the process involved in the conversion of raw materials into finished goods: it was based on the company's double-entry book of accounts; it provided information on finished goods, workers' productivity and the stock of raw cotton; and it facilitated the control of worker productivity and raw cotton stocks.

Johnson's (1975) second case study examines management accounting in a vertically integrated firm. It took the form of an examination of the DuPont Powder Company management accounting system, which had been developed to control and coordinate the diverse activities of the company:

The DuPont Powder Company became a centrally managed enterprise coordinating through its own departments most of the manufacturing and selling activities formerly mediated through the market by scores of specialised firms. A centralised accounting system was indispensable to the DuPont Powder Company's elaborate department structure. Information provided by the Powder Company's centralised accounting system enabled top management to carry out two basic activities that comprised the task of planning: the allocation of new investment among competing economic activities (including the maintenance of working capital) and the financing of new capital requirements. (Johnson 1975, pp. 186–187)

This decentralised, functional organisation required a performance system to motivate and evaluate departmental performance and guide

the firm's overall strategy. The DuPont Company devised the accounting measure 'return on investment' (ROI), which served as an indicator of the efficiency of its diverse operating departments, allocated funds across departments and measured the financial performance of the company as a whole.

Johnson's third case study (1978) addresses General Motors in the 1920s. Johnson (1978, pp. 493–494) describes the innovative management accounting system that was developed to meet the demands of General Motor's new multi-divisional structure:

GM's management accounting system did three things to help management accomplish 'centralised control with decentralised responsibility'. First, it provided an annual operating forecast that compared each division's ex ante operating goals with top management's financial goals. This forecast made it possible for top management to coordinate each division's expected performance with company-wide financial policy. Second, the management accounting system provided sales reports and flexible budgets that indicated promptly if actual results were deviating from planned results. They specified, furthermore, the adjustments to current operations that division managers should make to achieve their expected performance goals. The sales reports and the advanced flexible budget system provided, then, for control of each division's actual performance. Third, the management accounting system allowed top management to allocate both resources and managerial compensation among divisions on the basis of uniform performance criteria. This simultaneously encouraged a high degree of automatic compliance with company-wide financial goals and greatly increased the division manager's decentralised autonomy.

Furthermore, Johnson (1984, pp. 12–13) argues, 'the use of ROI in the multi-divisional organisation represents the culmination of accounting's evolution as a source of decision-useful information about the internal non-market activities of an organisation'.

Johnson's historical case studies (1975, 1981, 1983, 1984) suggest that the history of cost and cost management (broadly, management accounting) has to be seen in the context of the history of the firm as it emerged in Western market economies. Johnson and Kaplan (1987)



argue that of interest to accounting historians is the growing body of literature on organisation theory, and particularly Williamson's organisational failures approach. Johnson (1983) observes that although the cost and management accounting practices that emerged at that historical phase of capitalism were, at best, operational, their emergence was to resolve organisational difficulties in those firms that increasingly internalised market activities into a durable set of cost management practices (e.g., forecasting, flexible budgeting and resource allocation):

Management accounting systems in multi-divisional organisations (such as the one used by General Motors during the 1920s) accomplished the same objectives that cost accounting, budgeting, and other internal accounting procedures fulfilled in factories and vertically integrated firms. They defined an internal, non-market domain in which search for gain was governed by the objectives of a firm's organisers. And they enabled organisers to intensify their search for ways to take every advantage of resources within that domain. But the management accounting procedures in a multidivisional firm also facilitated a unique kind of quest. The search for gain as it was conducted by organisers in factories and vertically integrated firms focused simply on deriving the most benefit from resources in production processes or in raw material and consumer markets. However, the organisers of the multidivisional firm associated gain with deriving the utmost benefit from their treatment of other organisers; specifically, the manager of divisions. (Johnson 1983, pp. 144–145)

### 2.3.4 Theorising Cost Management Change in Industrial Capitalism

Different theoretical approaches have created debate among accounting historians on the subject of cost management change under industrial capitalism. The market-hierarchy internalisation approach has built on the seminal works of Coase (1937, p. 395), who defines a rule for internalisation: given transaction costs, firms 'tend to expand until the cost of organising an extra transaction within the firm becomes equal to the cost of carrying out the same transaction by means of an exchange in

the open market'. Williamson's (1975) organisation failures framework posits that transactions that might otherwise be handled in the market at considerable cost or loss of efficiency are instead performed internally and governed by the administrative processes within a hierarchy. Based on these epistemic references, Johnson and Kaplan (1987) argue that to understand accounting one must understand the forces that cause people to cooperate consciously in economic exchange rather than rely on unconscious 'market' coordination, and that the organisation failures framework predicts why management accounting should exist. Johnson and Kaplan's (1987) explanation of transaction cost economics, and of the progression of management accounting and its associated capitalist developments, indicates that costing and cost management practices have evolved in terms of the relative gains to be made from the internal coordination of economic activities by management over external coordination by the market, where the evolution of these practices moved from an evaluation of a company's internalised processes towards the evolution of a company's social form in market.

Other accounting historians have expressed concern about these neo-classical economic explanations of the history of management accounting. Spicer and Ballew (1983), for example, suggest that the organisation failures framework approach can be used to analyse a firm's management accounting system in two ways. First, it can be employed to see how the accounting and control system controls and evaluates employees in an organisation, and especially how it alleviates bounded rationality and reduces opportunistic behaviour. Secondly, the framework can identify the significance of organisational structures for accounting systems and that a wrong match of structure to accounting system may affect overall transactional efficiency in the market. Hopper and Armstrong (1991), on the other hand, provide a different labour process view of the evolution of the early factory organisations in the mid nineteenth century: 'Much of the gain in profitability from the early factory organisation of production came ... from the ability of owners/entrepreneurs to intensify labour through close disciplinary control and to extend the working day' (p. 413). Some of the accounting and cost information was used to intensify the extraction of labour from the labour force. They attributed the presence and even subsequent absence of costing and management accounting practices to

the changing forms of control over the labour process. The shift in the relative bargaining power of entrepreneurs and workers explains the rise and fall of cost and management accounting practices within the market-hierarchy internalisation framework.

Drawing on the work of Foucauld, Hoskin and Macve's (1988, 1994, 2000) historical case studies have re-examined the power-knowledge relations of the historical development of cost and management accounting practices in the USA and the UK. In their first study, Hoskin and Macve (1988) re-analyse apparently economic-rational changes in accounting and accountability in a wider frame which explains their development as aspects of a general shift in power-knowledge relations – a shift which Foucault characterised as the development of disciplinary power and which they argue originated in elite educational institutions. Hoskin and Macve (1994), in their second study, reappraise the genesis of 'managerialism' through re-examining the role of accounting at the Springfield Armory during the colonial period from 1815 to 1845. They argue that accounting had a significance in this historical period, insofar as it constituted part of the new reform of administrative coordination, with its role being particularly prominent in the development of interchangeable-part manufacture within the single-unit factory. Hoskin and Macve's third case study (2000) addresses the theoretical issues and seek to clarify the import of the 'disciplinary view' and its contribution to understanding how the nineteenth-century accounting practices shaped emerging managerial discourses, initially in the USA and the UK. Here, Hoskin and Macve (2000) argue that, until businesses adopted this new disciplinarity, there remained an absence of practices focused on calculating human performance, and accounting was not fully deployed to construct the system of 'administrative coordination' which distinguishes modern management action and control. Related to these results, Ezzamel et al. (1990) introduce another perspective on the work of Johnson and Kaplan (1987). They argue that changing cost and management accounting practices (in Western countries) from the nineteenth century to the 1980s could be attributed to changing alignments of power/knowledge relations, which reflect differences in their unique cultural history.

In addition, some institutional theorists (e.g., Ahmed and Scapens 2000; Burns and Scapens 2000) use OIS as an alternative to the

transaction cost approach to identify the roles of social institutions (trade unions and government ministries, for instance) in structuring and implementing cost allocation practices in the UK. Although there is clearly a vigorous debate on the theorising of social systems and their dialectical relation to calculative practices, the emerging synthesis of historical accounting and capitalism contributes much to management accounting history. An awareness of the organisational context of management accounting and research into company records have made important contributions to the study of cost management history in the light of industrial capitalism (see Hoskin and Macve 1988, 1994, 2000).

## 2.4 Modes of Production and Cost Management in Post-industrial Capitalism

Significant events and developments in the recent past have triggered changes in the mode of production and in cost management thinking and practices, which have altered the management accounting function in some Western firms (Kulmala 2004). One key factor that has driven this alteration was the dotcom crash at the turn of the millennium and the subsequent transformative impact of the internet on organisational activities. The rapid pace of digitisation is forcing deep changes in the modus operandi of management structures, decisions and strategies. It is giving birth to novel business models with concomitant accounting repercussions (Bhimani and Bromwich 2009).

Since 2008, enterprises in the West have also been affected by the deepest worldwide recession since the Great Depression, accompanied by the most extensive government bailout initiatives of modern times (Bhimani and Bromwich 2009). The now tighter corporate governance regulatory requirements facing firms in developed and emerging economies have altered management practices and controls. This outcome is tied to the global financial crisis and the attendant economic measures put in place by governments, oversight bodies and financial institutions; these have had a direct impact on cost management and financial control systems across many enterprises (Helper and Sako 1995). For example, Bhimani and Bromwich (2009) argue that readily available finance and

the achievability of high leverage for many business organisations until early 2007 enabled specific cost structures to be pursued as intentional strategies. Such leverage was achieved by the utilisation of legitimate financial innovations. It was often the result of undesirably lax financial practices and poor controls.

The ready access to funding that produced high cost infrastructures is no longer easy to attain for most firms today, let alone to sustain (Kulmala 2004). The sourcing of fixed costs within enterprises is likely to continue to be subjected to more demanding assessments of their rationales and sustainability (Dyer and Singh 1998). Investors and stakeholders are now more likely to engage in close monitoring of investment activities and enterprise performance to ensure the achievement of expected yields and a desired return on equity (Spekle 2001). The regulatory demands on organisations will further expand going forward in most recent economies. Requirements for more transparency, accountability, watchful governance and greater levels of disclosure will make further demands on enterprise information systems. More regulatory hurdles and closer monitoring of operational achievement and effectiveness will continue to affect financial controls (Bhimani and Bromwich 2009).

Aside from technological advances and the rise of regulatory constraints on contemporary firms in an era of post-industrial capitalism, industries are being reshaped by emergent organisational forms. Rather than being temporary, these new entities are gaining permanence as creators of corporate value. Examples of new organisational forms are global strategic alliances, virtual companies and joint ventures (see Sheth and Sharma 1997; Groot and Merchant 2000; Kamminga and Van Der Meer-Kooistra 2007). Bhimani and Bromwich (2009) argue that managers regard the swift pace of change they face in their organisations as the only constant. What used to be seen as 'normal' is now rapidly being transformed and a 'new normal' is emerging (Bhimani and Bromwich 2009). As novel disruptions, challenges and deep financial alterations at the macroeconomic level make their presence felt, there is an ongoing impact resulting from these politico-economic and technological forces of change on the structuring, strategies and managerial control mechanisms deployed by enterprises (Sheth and Sharma 1997). Hence, it seems

reasonable to suppose that production and cost management practices will continue to change in response to the forces of post-industrial capitalism.

So far, these global forces have triggered changes in enterprises' modes of production and their operational cost management practices: contemporary manufacturing industries in particular are mostly characterised by competition and the need to respond to change (Bhimani 2013). Competition on a global scale, coupled with customer-driven demands for improved quality, variety, ever smaller batch sizes, higher performance, shorter lead-times to market and, at times, lower costs, has also had a major impact on most manufacturing organisations in the West (Shaharoun et al. 1993). To cope with these current forces and the new requirements of post-industrial capitalism, or post-Fordism, multi-divisional companies in the West have embraced the latest in advanced manufacturing technologies – for example, robotics, automated guided vehicles, computer-aided design, computer-aided manufacture, flexible manufacturing systems and the accompanying software systems. Their application has revolutionised the manufacturing shop floor (Shaharoun et al. 1993).

Accompanying these technological advances have been equally dramatic changes in manufacturing management philosophies. The adoptions of JIT (Cobb 1991), materials requirement planning (MRPI/MRP II) (Krinsky and Miltenburg 1991), TQM, optimised production technology (Waldron and Galloway 1992), Kaizen (continuous improvement) (Yoshikawa and Kouhy 2013), design for assembly (Burbidge et al. 1987) and concurrent engineering (Sullivan and Malik 1993) have led to a reshaping of operational managers' administrative priorities into a durable set of strategic management practices and a transformation from cost accounting practices to strategic cost management (see Hoskin and Macve 1994, 2000).

This emergence of strategic cost management may broadly be attributed to three trends in production, market and epistemic environments (see Hoskin and Macve 1988, 1994, 2000). First, in the production environment, overhead costs have become a large percentage of the total product cost due to production automation and the use of advanced manufacturing systems – for example, in flexible manufacturing systems

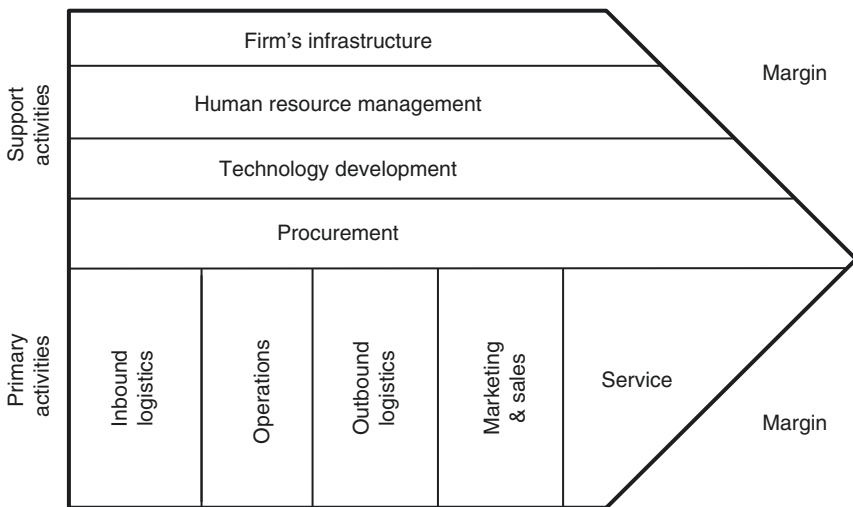
and numerical control machines (Cokins 2001). Overheads have become a critical problem, the tracing/absorption of which into production units has become a critical managerial issue in determining 'positioning strategies' (especially pricing strategy) in the market (Hoskin and Macve 1994, 2000). Secondly, techniques and technologies (especially ABC, ABM and ERP) have emerged that are capable of translating cost calculations into cost management.

More recently, ABC has evolved into ABM, which focuses more on cost management than on cost accounting. ABM may be non-financial or of a strategic cost nature (Johnson 2002). It focuses managers' attention on the underlying drivers of cost and profit on the assumption that people cannot manage costs unless they manage the activities that drive costs. ABM views the business as an interconnected set of activities that collectively add value for the customer. It provides relevant information about activities across the chain of value-adding business processes – for example, across design, production, marketing and after-sales services. It enables organisations to satisfy customer needs while making fewer demands on organisational resources, which must deliver the highest value at the lowest total cost. ABM analyses costs by activities and by sub-activities across departmental boundaries, whereas traditional budgets and control reports analyse costs only through responsibility centres and types of expense (Johnson 2002). According to ABM's proponents, this method provides a necessary technological and managerial approach to translating cost accounting into cost management.

Thirdly, academic and consulting discourses have now emerged that conceptualise a link between corporate and market positioning strategies and the factory-level operational activities that drive costs (e.g., Porter 1985; Kaplan and Norton 2001). This conceptualisation introduced new and significant approaches – value chain analysis (VCA) and SCM, for example – to managing costs through strategic sense and orientation. Traditional cost management systems have been criticised because their absorption and apportionment bases do not represent the true incidence of costs, and such costing practices may result in distorted product costs. ABC has been proposed to overcome this problem (see Cooper 1988). An activity-centred analysis of costs provides a better strategic view of operational processes, especially from a value-chain perspective (Dekker 2003),

which is relevant to Porter's value-chain view of economic enterprises; it also provides a sound base from which to strategically manage operational activities and costs.

Porter's (1980, 1985, 1991) concepts of generic strategies and the value chain are a major instrument in making cost a strategic imperative under the recent manufacturing regimes of post-industrial capitalism. Three strategic cost management concepts have been identified: VCA, strategic positioning analysis and cost driver analysis (Shank and Govindarajan 1993), which in combination produce strategy-relevant cost data. The first offers 'a broad focus, external to the firm' (Shank 1996, p. 193) for effective cost management (this is discussed further below; see Fig. 2.1). The second is addressed by the question: 'What role does cost management play in the firm?' (Shank 1989, p. 55). Cost analysis differs according to the strategy chosen, that is, according to whether it is cost leadership or differentiation as proposed by Porter (1985). There are a number of differences, according to Shank (1989); for example, the strategic emphasis that is relevant to cost leadership is



**Fig. 2.1** The generic value chain

Source: Porter (1985, p. 37)



irrelevant to differentiation and vice versa. Marketing cost analysis is perceived as critical to success for product differentiation, for instance; however, it is not regarded as important for cost leadership (Shank 1989).

The third concept – cost driver analysis – does not refer to the conventional idea of what drives cost volume, but takes a broader approach. Cost drivers are split into two categories (Shank 1989, p. 56): structural and executional. The former category contains five possible cost drivers regarding a ‘firm’s underlying economic structure’ (Shank 1989, p. 56), which are (investment) scale, scope of operations, (past) experience, (process) technology and product/service – complexity (Shank 1996, p. 194). The second category is ‘executional cost drivers’, to which ‘the more the better’ applies (Shank 1996, p. 194). The most important ones include employee participation, TQM, capacity utilisation, product/service configuration and exploitation of customer/supplier linkages (Shank 1989, p. 57). The term ‘cost driver’ could be understood as a reference to ABC as developed by Cooper and Kaplan (1988); however, this approach was regarded as too volume-focused (see Shank and Govindarajan 1993).

The value chain identifies which activities in an organisation add value to the products and/or services they offer (Shank and Govindarajan 1993). Shank and Govindarajan (1993) advocate the value chain as most useful for cost analysis, with a strong external focus. Cost analysis objectives should reflect the conventional objectives but depend on strategic positioning and the adoption of structural and executional cost drivers for understanding cost behaviour (Shank and Govindarajan 1993, p. 27). Porter (1985) outlines the steps according to which a VCA should be undertaken: identify the value chain and assign costs and assets, determine cost drivers for each value activity, and devise competitors’ value chains for competitive comparison.

VCA is then another managerial tool that facilitated the emergence of cost management, especially in terms of giving it a strategic perspective. VCA, proposed by Porter (1985), creates links within and among the company, its suppliers and customers, helping the company to gain competitive advantage by lowering costs and/or enhancing product differentiation. Porter (1985, pp. 33–34) explains, ‘the value chain disaggregates a firm into its strategically relevant activities... A firm gains

competitive advantage by performing these strategically important activities more cheaply or better than its competitors'. Shank and Govindarajan (1992) also advocate the use of VCA as a strategic approach to cost management. They criticise traditional cost control systems for their internal focus, which starts with purchases and stops at the point of sale. Traditional cost control systems miss opportunities to exploit links with suppliers and eliminate opportunities to exploit links with customers. Shank's (1989) case study of an American automobile company further reinforces this message: he demonstrates that traditional cost control thinking fails to exploit links with suppliers, as price increases from suppliers tend to offset internal cost savings achieved from adopting JIT manufacturing.

The value chain is not superior to other suggested strategic cost management practices, although managers perceive it to have merit (Shank and Govindarajan 1993). Shank (1996), for example, regards these concepts as a necessary complement to net present value techniques for investment evaluation. Tomkins and Carr (1996b) undertook a study in 51 international firms to investigate whether these concepts are being applied. They found that the most successful firms were those that 'devoted most of their attention to the value chain and competitive advantage analyses' (p. 213), rather than economic analyses. However, Bromwich (2000) proposes that the notion might not be easily understood and communicated by managers due to its complexity. He considers the essence of strategic cost management approaches as being to 'release management accounting from the factory floor to allow it to also aid directly in meeting market challenges' (Bromwich 1990, p. 28). Costs will influence and be influenced by revenue-generating strategic plans (Bromwich 2000).

Even academics who have promoted the value chain readily admit that such analysis is not an easily undertaken exercise. Dekker (2003), for example, provides an account of a real-life value chain, used for inter-firm cost management, in a large UK supermarket group. However, only the supply chain activities of the VCA have been considered in the cost analysis, when compared with the literature. In Dekker's view this has addressed the critique by Hergert and Morris (1989), who assert that traditional costing systems do not do the value chain justice. Chenhall

and Langfield-Smith (1998) investigated the relationship between cost management practices and strategic management techniques, and identified that performance was improved in a specific strategic context. They identified organisations that should follow cost leadership, differentiation or a combination of the two, in line with Porter's (1985) findings. Based on the cost management practices in place, for example, traditional budgeting, ABC features, and strategic planning, and management techniques, such as process improvements, team-based work arrangements and innovation focus, Chenhall and Langfield-Smith devised a model identifying how these practices and techniques and their relationships influenced organisational performance.

There are further practices geared towards a strategic imperative for management and cost management in post-industrial capitalism. Bjornenak and Olson (1999) outline recent (strategic) cost management innovations – ABC, ABM and BSC, for instance. These highlight that cost management is more diversified. The system's design characteristics determine how the system is applicable. For example, firm-internal variable factors are matched with external variables. Guilding et al. (2000) explored 12 strategic cost management practices, namely, attribute costing, brand valuation, competitor cost assessment, competitive position monitoring and competitor appraisal based on published financial statements, lifecycle costing, quality costing, strategic costing, strategic pricing, target costing and value chain costing. Of these, they found that only strategic pricing and competitor accounting were widespread. Guilding (1999) undertook a survey on competitor accounting and found that it was reasonably widespread, despite the low profile in both cost and management accounting literatures. Here, competitor accounting was found to be contingent upon company size, competitive strategy and strategic mission.

Practices of strategic cost management differ even among Western countries. Although the global forces of post-industrial capitalism are largely similar among many Western countries, comparative management accounting research has observed differences in strategic cost management practices across countries (e.g., Kajuter and Kulmala 2010; Moeschler 2012). Only a few studies compare the application of these practices cross-nationally, with a focus on target costing as a market-driven cost management practice

(Ansari et al. 2007). For example, exploring the importance attached to various modern management accounting tools by Japanese and Australian firms, Wijewardena and De Zoysa (1999) observe a difference in the perceived relevance of target costing in the two countries. While it was considered to be the most important cost management tool in Japan, it was ranked tenth in Australia. Furthermore, Tani et al. (1996) argue that there are some 'particularities' relating to the application of these techniques in German firms compared to their use in Japanese companies. First, the adoption of strategic cost management practices (especially target costing and value engineering practices) have been initiated by management accountants in German firms, whereas the engineering function played a leading role in developing these practices in Japanese companies. Second, German firms apply target costing with a stronger customer focus (e.g., by using conjoint analysis) than their Japanese counterparts. Third, target costs are more market-driven in Germany, whereas in Japan they are more frequently derived from long-term profit plans.

Having said this, there are also similarities in strategic cost management practices among Western countries under post-industrial capitalism (see Kajuter and Kulmala 2010; Moeschler 2012). Based on the observations of some comparative management accounting research, it would appear that one of the common structural and organisational developments in post-industrial organisations and, hence, in the sphere of strategic cost management, is inter-organisational cost management (e.g., Fayard et al. 2012; Jakobsen 2013). Organisations extend their management structures and cost management to their strategic allies in the supply/value chain in a bid for greater competitiveness. Cooper and Slagmulder (2004), for example, discuss inter-organisational decision-making regarding make-or-buy decisions. They conclude that buyers and suppliers develop rich interactions in order to take advantage of each other's capabilities. Inter-organisational cost management renders decision-making more complex as further considerations need to be given, for example, to the time spent on arranging inter-organisational cost management. Coad and Cullen (2006) investigate the impact of evolutionary theories on inter-organisational cost management. They found that the line between inter- and intra-organisational practices is hazy as the core concepts of such theories – institutionalisation, capabilities, learning and change – move

within and between organisations. Existing routines may have had an impact on their judgement, which subsequently led to a questioning of trust in practices with which they had previously identified.

A further form of post-industrial capitalism, or the strategic alliance of organisational structures and accounting systems, is extending to other disciplines (see Roslender and Hart 2002). This extension is considered beneficial to other disciplines, most notably to marketing, where cost management studies could be more integrative. Roslender and Hart (2002) put forward a concept called 'strategic marketing cost management', expressing the potential for collaboration between marketing and management accounting employees in an example of strategic positioning. They refer to brand 'cost management' as an inter-disciplinary practice.

Modern information technology, such as ERP systems, has brought about a recent development in post-industrial capitalism in terms of strategising management and cost management. ERP and associated technologies reorganise a company's hierarchical structures and management systems in order to span all functional areas and keep managers informed about what is happening in real time throughout an organisation. Davenport (1998), for example, argues that ERP systems support strategic planning in the form of a tighter integration of functions to support process orientation. Fahy and Lynch (1999) suggest that there is a trend among ERP vendors towards adding new application areas to their products, mainly in the form of front office applications, business intelligence and decision support capability. These capabilities have extended the reach of ERP beyond transaction processing and process management to a more strategic role in decision-making and cost management. Trends such as activity-based cost management and a balanced scorecard have prompted vendors such as SAP to focus on analytical applications that are designed to support senior managers in their decision-making, especially around cost management. For example, PWC and SAP have jointly developed a strategic enterprise management tool to support senior managers facing strategic management problems.

ERP technologies provide a comprehensive set of TQM measures. As Ito (1995) observes, advances in computer technology and

networking have assisted companies to process extensive data and make them available for users when they are needed for TQM implementation. ERP-based accounting systems can capture financial data such as field service expenses, prevention costs and other quality cost elements. Operational systems, such as MRPI-based production planning, can deliver most of the operational data such as defect rates, yields, downtime and idle capacity. Sales and marketing data, for example, on-time delivery and the number of customers and complaints, captured at the point of sale or return, need to be included. ERP systems have a positive impact on the ability of market-based organisations to implement TQM (Ito 1995).

Thus, modes of production and cost management technologies have witnessed significant change as a result of the global politico-economic, technological and organisational changes that have taken place in the era of post-industrial capitalism. Indeed, there have been three major changes that have led companies to rethink their modes of production and cost management practices: the spread of internet technologies, the rise of novel organisational forms (e.g., global strategic alliances, virtual companies, joint ventures) and the advent of new approaches to using, accessing and analysing information. Perhaps the Porterian concepts of generic strategies and the value chain, alongside the gradual emergence of flexible manufacturing technologies, are key sources of managerial wisdom in post-industrial capitalism. Arguably, the transformations from administrative to strategic management and from cost accounting to strategic cost management have been the most significant aspects of this recent phase in the historical development of cost management.

Table 2.1 summarises this historical transformation from cost accounting to strategic cost management that has taken place in response to overarching macroeconomic, political and technological changes, which have been mediated through changes in organisational structures and management systems.

This implies that management accounting practices, including cost management practices, are 'situated practices': that is, they are particular sets of organisational and technical practices that frame organisational strategic priorities and other management systems, which, in turn, are framed by wider socio-political and institutional conditions.

**Table 2.1** The historical development of cost management

Development phases	Pre-capitalist	Industrial capitalism	Post-industrial capitalism
Relations of production	<ul style="list-style-type: none"> <li>• A feudal craft production regime</li> <li>• Single unit operations, generally owner-run</li> </ul>	<ul style="list-style-type: none"> <li>• Individual partnership</li> <li>• Mechanisation</li> <li>• Deskilling</li> <li>• Standardisation</li> <li>• Centralisation of operations</li> <li>• Mass production regimes</li> </ul>	<ul style="list-style-type: none"> <li>• Empowerment</li> <li>• CAD</li> <li>• CAM</li> <li>• FMS</li> <li>• Robotics</li> <li>• AGVs</li> </ul>
Role of the market in coordinating economic activities	<ul style="list-style-type: none"> <li>• Organic</li> <li>• Traditional</li> <li>• Small and family based</li> </ul>	<ul style="list-style-type: none"> <li>• Market economy</li> <li>• Economies of scale</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate economy</li> <li>• Economies of scope</li> </ul>
Organisational forms	<ul style="list-style-type: none"> <li>• Simple rural agricultural regime</li> <li>• Small workshop and enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• Vertically integrated firms</li> <li>• Diversified multi-divisional firms</li> </ul>	<ul style="list-style-type: none"> <li>• Networked firms</li> <li>• Global strategic alliances</li> <li>• Virtual companies</li> <li>• Joint ventures</li> </ul>
Managerial philosophy	<ul style="list-style-type: none"> <li>• Contractual relations between capitalist and labourers mediated through internal contractors</li> </ul>	<ul style="list-style-type: none"> <li>• Family management</li> <li>• Administrative</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic management</li> <li>• TQM</li> <li>• JIT</li> <li>• MRPI/MRPII</li> </ul>
Epistemic references for organising production	<ul style="list-style-type: none"> <li>• Internal contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Taylorism</li> <li>• Fordism</li> <li>• Liberalism</li> <li>• Bureaucratisation</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility</li> <li>• Cost reduction</li> <li>• Quality</li> <li>• Time</li> </ul>
Dominant calculative practices	<ul style="list-style-type: none"> <li>• Costing and bookkeeping practices without profit calculations</li> </ul>	<ul style="list-style-type: none"> <li>• Operational (traditional) cost management practices (e.g., budgeting, standard costing)</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic cost management (e.g., Porterian concepts of generic strategies and the value chain)</li> </ul>

Table 2.1 (continued)

Development phases	Pre-capitalist	Industrial capitalism	Post-industrial capitalism
The crises that led to the demise of the system	<ul style="list-style-type: none"> <li>• Contradicts interests among the three class layers of contracting</li> <li>• Inflexibility</li> <li>• Mistrust</li> <li>• Market expansion</li> <li>• Capital accumulation</li> <li>• Innovations</li> <li>• Fortunate factor endowments</li> </ul>	<ul style="list-style-type: none"> <li>• Economic depression</li> <li>• Financial crises</li> <li>• Administrative problems of planning and controlling different industries and markets</li> <li>• Intensive competition on a local scale</li> <li>• Advanced manufacturing technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Although this system represents the recent developments of the business environment, it suffers from some crises (e.g., global competition, financial crises, economic recession, tighter corporate governance regulatory requirements)</li> </ul>

They are situated within, and evolve with, the historical changes taking place in wider socio-political, economic and technological contexts. This has long been appreciated in the critical accounting research, especially in debates among transaction cost theorists (e.g., Johnson and Kaplan 1987; Johnson 1994), labour process theorists (e.g., Braverman 1974; Hopper and Armstrong 1991) and Foucauldians (e.g., Foucault 1980; Hoskin and Macve 1988, 1994; Ezzamel 1994; Hoskin and Macve 2000) over the evolution of management accounting. Beyond this management accounting history debate, management accounting practices have often been theorised as institutionalised practices that are situated within organisational boundaries (e.g., Burns 2000; Burns and Scapens 2000) and beyond (e.g., Dillard et al. 2004; Hopper and Major 2007).

The macro–micro connection of management accounting change, as explained in Chapter 3, has been theorised using different theoretical approaches. For example, contingency theory has been combined with NIS to understand budgetary processes, coordination and control problems (Lee and Modell 2000). Contingency theory has been used with labour process theory to address the relationship between budgeting characteristics and some environmental factors, for example,



industrial relations and the political climate (Hoque and Hopper 1997). Jones and Dugdale (2002) draw on ANT and Giddens' concepts of modernity to explain the rise of ABC. Ezzamel (1994) uses the Foucauldian perspective of power/knowledge relations and the concept of sociology of translation from ANT to study the dynamic processes of organisational change in a UK university which replaced an incremental budget with a comprehensive one. Burawoy's (1979, 1985) theorisation of management controls of labour processes has been used to explain how regimes of control are transformed by state and production politics (Uddin and Hopper 2001). A cultural political economy approach has been also used to explore management accounting controls in neoliberal political reconstructions in Sri Lanka (Wickramasinghe and Hopper 2005).

Although these approaches have provided meaningful frameworks to analyse the macro–micro connection of management accounting, Dillard et al.'s (2004) three-dimensional institutional framework, that is, political and economic level, organisational field level and organisational level, provides the more appropriate theoretical apparatuses than others for my research questions and case observations. This multi-dimensional institutional analysis has deeply connected the micro organisational practices with wider macro political criteria, which is an important aspect in understanding macro-micro power relations mediated through the cost management changes in Egyptian public utilities (see Chapter 3). The present work follows this line of thinking and attempts to contextualise and theorise cost management practices through an Egyptian extended case study (see Chapter 4). Especially the selected case study has a particular political history closely associated with the Egypt's post-colonial political history; the company's history is a political transformation through macroeconomic and political policy changes in Egypt through privatisation, modernisation and state-budget reforms. In Dillard et al.'s (2004) institutional sense shown in Chapter 3, changes in its management and cost management practices are closely linked to these macro political changes as will be discussed later (see Chapters 5–7).

## 2.5 Conclusion

There are three main phases of the historical development of cost management. The first was the pre-capitalist phase, which was characterised by feudal craft production regimes (e.g., the church, manors and guilds). The internal contracting system was a major instrument in this era, and it governed the relationship between the capitalist and the labourer: it was mediated through internal contractors. This contractual relationship among three class layers had a significant impact on the absence of a profit logic, which is a capitalist phenomenon; there was also an emergence during this period of simple forms of costing and bookkeeping practices. As businesses grew, the class differences on which this society was based created contradictory interests among the three parties, which led to the demise of this ancient system and to the transformation to industrial capitalist regimes.

The industrial capitalism phase was a starting point for the creation of new politico-economic, technological and organisational forces, such as Taylorism, Fordism, liberalism and bureaucratisation. These major social forces were behind the emergence of new organisational structures and management systems in the institutions of some Western countries (e.g., the UK, the USA and Japan). Examples of new organisational structures in that historical phase included vertically integrated and multi-divisional companies. Although these major structural developments created a family management philosophy, the priorities of operational managers tended to be administrative. Accompanying these structural and managerial developments were dramatic changes in the mode of production and its associated calculative practices. This phase witnessed the adoption of large-scale mass production regimes and a gradual transformation to a durable set of cost and management accounting practices. As heavy industries grew (e.g., cotton and textile mills), cost management practices emerged but they were, at best, operational (e.g., flexible budgeting, forecasting and resource allocation). There has been debate among management accounting historians around the theorising of such cost management changes, such as Johnson and Kaplan's transaction cost economic

explanations, Hopper and Armstrong's labour process argument and, finally, Foucauldian propositions. Although this historical phase of industrial capitalism remained in place for around two centuries, there were also some crises that led to the decline, but not disappearance, of this system. Examples of these crises were the administrative problems of planning and controlling different industries and markets, financial crises, wars and market expansions, as well as the move from localisation to globalisation and the accompanying technological advances. Such crises created enormous challenges and were a step towards the rapid transition to the most recent phase of the historical development of cost management, that is, towards post-industrial capitalism.

This most recent phase has witnessed significant change in terms of ongoing global politico-economic, technological and organisational forces. Examples of these current forces include the spread of internet technologies, the rise of novel organisational forms and the advent of new approaches to using, accessing and analysing information. These new challenges are also leading companies to rethink their organisational structures, management systems and cost management practices. Global strategic alliances, virtual companies and joint ventures are the most widespread examples of recent organisational structures in post-industrial capitalism. These novel organisational structures have led to the strategising of management concepts and cost management techniques. This phase has also witnessed radical transformations from mass to flexible production and from administrative to strategic management and, hence, from cost accounting to strategic cost management. Certainly, these accounting changes will in the near term be sustained in response to the new set of overarching macroeconomic, political and technological changes that have been mediated through the transformation that has taken place at the level of organisational structures and management systems.

The next chapter develops the theoretical framework that informs the empirical study of the extra- and-intra-organisational dynamics of cost management change in the Egyptian company that is the focus of the present research. This framework will be based mainly on institutional theory, that is, on NIS complemented by OIS.

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# 3

## Institutional Extensions for the Extra- and Intra-organisational Dynamics of Cost Management Change

### 3.1 Introduction

Empirical explanations of change in cost management practices should not be purely empirical but should be set in a suitable theoretical framework. An appropriate theory, as a sensitising device, will frame the explanations provided here, as to how and why such practices emerge and endure. More generally, a wide variety of theoretical perspectives have been offered as means by which to discuss cost and management accounting practices: as Vakalfotis et al. (2011) suggest, the choice to be made among these approaches largely depends on the nature of the research question(s), the ontological and epistemological stance of the researcher, and the themes that emerge from the empirical data, as well as the particular insight that each theoretical perspective provides in terms of understanding what the data suggest. This chapter, then, elaborates on the theoretical choices made in relation to the present research; articulates the key premises of those theories in respect of understanding changing cost management practices; offers a comparative sense of how these theories have been used elsewhere in the field of management accounting and, finally, explains how I combine and reinterpret these theories to suit the book undertaken.

The primary analytical focus of this study is on changes in cost accounting and management practices, particularly in relation to the adoption of ERP. This issue can be approached from an organisational and technical perspective, detailing particular aspects of ERP or similar technologies and explaining the 'practicalities' of implementation. For example, Silk (1998, p. 44), using this kind of orientation, observes, 'most organisations have significant investments in . . . ERP systems such as SAP, PeopleSoft, and Baan. These back office systems are the primary source of much of the data collected within an enterprise. A balanced scorecard solution should work in harmony with ERP . . . systems, extracting and using data from these systems and delivering them to the users' desktop'. Kaplan and Cooper (1998) examine the perils and the promise of an activity-based cost management (ABCM) system, running on an ERP platform. They are concerned with the use of real-time, online ERP cost information and non-financial measures in the ABCM system. With real-time updating of cost, capacity and activity cost driver rates, activity costs, activity driver rates and product costs vary daily and even hourly. To avoid these short-term fluctuations, Cooper and Kaplan suggest the use of standard ABC cost driver rates in calculating product and customer costs. They identify the promise of integrating operational, ABC and financial reporting systems. They argue that ABC and operational control systems can be used to generate the cost of goods and inventory valuations for financial reporting purposes.

How and Alawattage (2012) have developed a historical narrative of ERP adoption, drawing on the premises of ANT and the sociology of translation. ANT has also been used by other scholars to examine the impact of ERP on management accounting. Lodh and Gaffikin (2003), for example, employ ANT to investigate the implementation of a SAP system, including an integrated accounting and cost management system in a world-class organisation – a major steel firm – in Australia. Drawing on ANT and symbolic interactionism, Dechow and Mouritsen (2005) investigate the use of ERP to integrate management control systems in two firms in Denmark. Additionally, Quattrone and Hopper (2005) examine the impact of ERP implementation on management control systems in two multinational

organisations, also drawing on the principles of ANT. Hyvonen et al. (2008) utilise ANT to examine how ERP implementation facilitated management control change; their case study looks at the adoption of ABC in a multinational firm. A new management control system – virtual integration – was established here.

Other studies have explored the potential impact of ERP adoption on management accounting practices through structuration theory. For example, Dillard and Yuthas (1997) propose structuration theory as a tool to analyse IT implementation in organisations. They use a structural framework for a case study in which an IT investment decision is taken by a large public accounting firm. The analysis attempts to make sense of the social processes at work as the firm considers the implications of implementing IT to support audit, tax and consulting partners. Using structuration theory, Caglio (2003) examines the role of ERP systems in changing management accounting roles. Caglio conceptualises the potential change in accountants' roles as a structuration process, and ERP systems as modalities of this structuration. Caglio concludes that ERP systems have changed management accountants' roles in organisations, leading to a new hybrid in the form a role containing both IT and accounting expertise. This hybridisation process is neither predictable nor generalisable, but depends on the circumstances surrounding the change processes. Jack and Kholeif (2008) deploy strong structuration theory, a reinforced version of Giddens' structuration theory, to explore conflicting beliefs about the role of management accountants in an organisation (the Industrial Modernisation Centre (IMC)) during an attempt to establish an ERP system that was jointly funded by the EU and the Egyptian government. Their results suggest that ERP did not change the accounting systems and practices. It was customised to manage performance-based budgeting, and thereby stability, of a sort, was achieved. There were no changes in management accountants' roles following the ERP implementation. Despite the forward-looking dispositions of key actors within the IMC and the EU, the role of the management accountant was still compressed to that of the traditional cost information collector and provider.

Having outlined these developments in the literature, however, it is observable that the precedent area analyses lack the necessary

theoretical apparatus to connect wider macro-level political change with micro-level organisational change, which is an important aspect of the present research into cost accounting and management change in organisations. As Chapman et al. (2009, p. 1) argue, institutions are ‘stabilised and legitimised ideas and groupings, together with their attendant bodies of knowledge and ways of classifying, that are taken-for-granted and accorded authority (more or less) by common assent’. Without institutional support from their various constituencies and participants, organisations are ‘especially vulnerable to attacks on the plausibility of their work arrangements and procedures’ (Scott 1991, p. 169).

In the 1980s, in an attempt to theorise this macro–micro connection, some scholars concluded that, in order to better understand the accounting changes that are taking place in organisations, they needed to look beyond the organisation, that is, beyond the institutional environment. For example, Covaleski and Dirsmith (1988a) found that budgetary controls were enforced by societal expectations when organisations faced a crisis. Following this, a number of interpretive studies on ERP and management accounting have deployed institutional theory to explain change and stability in management accounting in relation to ERP implementation. Scapens and Jazayeri (2003), for example, draw on Burns and Scapens’s (2000) institutional framework to examine the evolutionary processes of management accounting change following the implementation of a SAP system in the European division of a large US multinational. Hyvonen et al. (2009) draw on institutional theory to examine differences in the accounting-related institutional logics of two case units in the Finnish Defence Forces. They examine reactions to external institutional pressures, originating from the State Audit Office, to change their management accounting systems in an ERP environment. They draw on recent developments in institutional theory, especially the concepts of institutional logic (i.e., the broader cultural beliefs and rules that structure cognition) and active agency, and examine strategic responses to institutional pressures, institutional change and deinstitutionalisation, as well as institutional and technical forces.

Different versions of institutional theory, especially ‘old’ and ‘new’ institutional sociology (OIS and NIS), have recently provided popular

theoretical frameworks for exploring change in management accounting. These frameworks have received increasing attention in recent years in economics (e.g., Hodgson 2012), political science (e.g., Hvidt 2011) and sociology (e.g., Wright 2013), as well as in management accounting (e.g., Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007; Kholeif 2011; Major 2012). Even though these two versions of institutional analysis are fundamentally different in their analytical foci, they can be combined to explain the two dimensions of the present case study: wider macro political change and its linkages to micro-level institutional change, and the ways in which change occurs in the micro organisational setting through the interactions between micro institutions and the agential actions of organisational actors. The aim of the remainder of this chapter is to explain how this theoretical amalgamation can be achieved: the intention is to capture both the macro–micro connection, on the one hand, and micro organisational change, on the other.

The work that follows is divided into four main sections. [Section 3.2](#) provides an introduction to institutionalism in management accounting research, and describes the different versions of institutional analysis before launching into a discussion of the specific versions that I intend to use. It provides a broad descriptive sketch of institutional analysis in management accounting. [Section 3.3](#) discusses different theoretical modes of the macro–micro connections and why NIS, especially Dillard et al.'s (2004) extension of it, is the more appropriate than others in explaining the connection between micro-level organisational change and macro political change within my case study company. It outlines the relative weaknesses of NIS in terms of its ability to capture intra-organisational dynamics and the necessity of supplementing it with OIS, especially Burns and Scapens's (2000) model. [Section 3.4](#) continues this discussion of how OIS – with an emphasis on its management accounting applications, following Burns and Scapens's model – is useful for exploring the intra-organisational dynamics involved in management accounting change. [Section 3.5](#) concludes the chapter with a discussion of how I amalgamate OIS and NIS frameworks to theorise my case observations.



## 3.2 Institutional Analysis in Management Accounting: An Overview

Institutionalism in organisational analysis is not a recent phenomenon. In the 1950s, when organisations became a recognised field of study, researchers applied institutional arguments to explain structural and behavioural variations in organisations (DiMaggio and Powell 1983). The first applications of institutional thinking to organisational phenomena were based on the work of earlier institutional theorists such as Durkheim, Weber, Mead and Mannheim<sup>1</sup>. However, it was not until the 1970s that the institutional approach underwent considerable development in the social sciences. This decade saw the emergence of new approaches focused on the cultural and social aspects of organisations and their institutional environments. For example, Scott (1987) argues that the introduction of open systems theory into the study of organisations during the mid-1960s was the cornerstone of the development of institutional theory; it demonstrated the importance of context in shaping the structures of organisations.

An organisation is affected by, dependent upon and able to adapt to its environment in order to survive.

Until the introduction of institutional conceptions, organisations were viewed primarily as production systems and/or exchange systems, and their structures were viewed as being shaped largely by their technologies, their transactions, or the power dependency relations growing out of such interdependencies. Environments were conceived of as task environments: as stocks of resources, sources of information, or loci of competitors and exchange partners. While such views are not wrong, they are clearly incomplete. (Scott 1987, p. 507)

As Scott observes, open systems theory revolutionised intellectual thought at the time, which was characterised by an emphasis on the technical environment. Researchers concentrated on the study of social

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<sup>1</sup> See Scott (1995) for a historical account of institutional theory.

knowledge and cultural rule systems as explicative variables of organisational dynamics. In his account of the development of institutionalism in sociology, Scott (1995) refers to Silverman's (1971) 'action' theory of organisation as an important early attempt to study organisations from an institutional perspective, although he later shifted his focus from a phenomenological view of organisations (i.e., a contingency approach) to an ethnomethodological emphasis on the meanings and rationalities associated with participants' accounts (i.e., a situation-specific approach). According to Scott (1995), a second contribution to the development of the institutional analysis of organisations occurred in 1977 when Meyer (1977) and Meyer and Rowan (1977) published two articles on the development of new institutional thought: 'The Effects of Education as an Institution' and 'Institutionalised Organisations: Formal Structure as Myth and Ceremony'. In these articles attention was called to aspects of organisational environments that were capable of affecting organisations by means other than simple technical requirements, namely, normative and cognitive elements. In the same year, Zucker (1977) published another seminal article, this time emphasising the micro-level foundations of institutionalism and the importance of cognitive beliefs for explaining behaviour. In fact, the year 1977 was so important for the development of institutional analysis that DiMaggio and Powell (1991a) assigned it as the birth date of NIS. Other contributions by DiMaggio and Powell (1983) and Meyer and Scott (1992) were noted by Scott (1995) as forming the foundations of NIS. Indeed, these scholars contributed significantly to the expansion of NIS, emphasising symbolic (both cognitive and normative) systems as well as underscoring the effects of cultural belief systems on an organisation's environment.

Some other versions of institutional analysis have also contributed to the project of theorising management accounting change, namely, 'new' institutional economics (NIE), and 'old' and 'new' institutional sociology (see Ahmed and Scapens 2000). For example, NIE, especially Williamson's (1975) transaction cost economics, forms the basis of the 'relevance lost' book constructed by Johnson and Kaplan (1987): 'A firm will grow until the marginal cost of discovering opportunities for gain within the firm exceeds the marginal cost of discovering

opportunities for gain in the market' (p. 88). They trace the evolution of cost and management accounting practices from the middle of the nineteenth century until the 1980s. They explain the development of cost and management accounting systems in terms of the relative gains of internal coordination of economic activities by management (i.e., hierarchies) over external coordination by markets. They conclude that cost and management accounting practices evolved to evaluate a company's internalised processes (Johnson and Kaplan 1987, p. 88).

However, the use of NIE in understanding cost and management accounting change has been criticised on the grounds that it is based on neo-classical economic assumptions, that is, on rationality and equilibrium (Ryan et al. 1992). For example, transaction cost theory does not explain the processes of change from one equilibrium state or organisational form to another. It pays little attention to the processes by which varying equilibrium states arise or are transformed (Scott 1995). The old institutionalists made the following criticisms of NIE (see Rutherford 1996): it is often too abstract and formal; it considers individuals to be rational and autonomous, and not influenced by their institutional and social setting; it adopts a reductionist view of individualism, and it cannot explain economic change. Dugger (1990) argues that new institutionalism may be new but it is hardly institutionalism, since the characteristics that unify institutionalists – which Dugger identifies as appreciation of the role of power, scepticism towards existing institutions, the Veblenian dichotomy of serviceable and predatory activities, and the evolutionary approach to social provisioning, holism and instrumentalism – are not present in Williamson's TCE work. Furthermore, NIE and proponents of neo-classical economics do not consider the effect of macro institutional frameworks on the development of accounting practices and ignore the impact of emerging organisational forms on the environment (Ahmed and Scapens 2000). Scapens (1994) goes on to suggest that OIS can be utilised to understand changes in cost and management accounting practices.

OIS focuses 'on studying economic activities and the production and reproduction of life's day-to-day processes as part of a holistic ongoing process of change' (Ahmed and Scapens 2000, p. 166). This version of institutionalism was introduced into the accounting

literature in the 1990s (e.g., Ahmed 1992; Scapens 1994). It has been used to address management accounting practices in a number of subsequent works. For example, Burns and Scapens (2000, p. 3) produce an institutional framework that ‘explores the complex and ongoing relationship between actions and institutions, and... demonstrate[s] the importance of organisational routines and institutions in shaping the processes of management accounting change’. More about OIS and Burns and Scapens’s (2000) analytical framework will be presented in [Section 3.4](#).

OIS is not without its limitations, however. It de-emphasises the role of the technical environment in relation to institutional change. For example, major contextual change, such as a take-over crisis or advances in technology, may introduce revolutionary change, which can alter existing routines and challenge existing institutions (Burns and Scapens 2000). However, the response to such adjustments is likely to follow evolutionary, path-dependent processes of change: that is to say, present and future choices depend on prior history. Instrumental change, which achieves efficiency and effectiveness, may become ceremonial change – the decoupling of the symbolic use of management accounting systems for legitimisation from the operating control in order to keep vested interests (Burns and Scapens 2000). OIS pays little attention to the effect of the broader extra-organisational institutions of the field and the society. Ahmed and Scapens (2000), for example, argue that OIS, which is primarily concerned with intra-organisational behaviours, is not designed to achieve conformity with extra-organisational institutions. It focuses on the role of agency in constructing institutions at the expense of conformity with macro institutional rules, beliefs and myths. NIS overcomes this latter limitation but lacks the analytical orientation to theorise intra-organisational agency–structure dynamics through which managerial routines are institutionalised, challenged and transformed.

NIS explores the role of extra-organisational institutions in shaping organisational structures, policies and procedures (see Scott 1995; Dillard et al. 2004). Organisations tend to respond to such external, macro pressures in order to receive support and legitimacy (Modell 2002). The general theme of NIS is that organisations’ conformity to

social norms and expectations – in terms of institutionalised structures, policies and procedures – is required in order to survive and continue to gain legitimacy or society's support (Covaleski et al. 1996). Drawing on the work of Berger and Luckmann (1966), Meyer and Rowan (1977) discuss institutionalisation as a process whereby institutional structures are legitimated without regard to the effectiveness of those structures; nor is it concerned with the feelings of an organisation's membership in relation to the efficacy of those structures. DiMaggio and Powell (1983, p. 148) observe, 'in the long run, organisational actors making rational decisions construct around themselves an environment that constrains their ability to change in future years'<sup>2</sup>.

NIS has been used by a number of accounting researchers to explain management accounting change and stability. Modell (2001), for example, highlights how managers proactively designed and implemented new systems for performance measurement in the context of recent reforms in the Norwegian public health sector. Amat et al. (1994), in the context of Spanish companies, conclude that there is a dualism in the environment inside and outside the organisation, which should be considered when explaining the process of design, implementation and change in management accounting systems. Additionally, an increasing interest has been shown in NIS as a way of gaining an informed understanding of organisational practices. The large number of empirical investigations informed by this version of institutionalism is a reflection of the influence of NIS on organisational researchers, especially with respect to management accounting research (e.g., Dillard et al. 2004; Yazdifar 2004; Ribeiro and Scapens 2006; Tsamenyi et al. 2006; Hopper and Major 2007; Kholeif et al. 2007; Tuttle and Dillard 2007; Major 2012).

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<sup>2</sup> The two articles written by Meyer and Rowan (1977) and DiMaggio and Powell (1983) are considered to be the seminal works on NIS; further details about their seminal works are provided later on.

## 3.3 Theorising the Macro-Micro Connection – New Institutional Sociology

### 3.3.1 Theoretical Modes of the Macro-Micro Connection

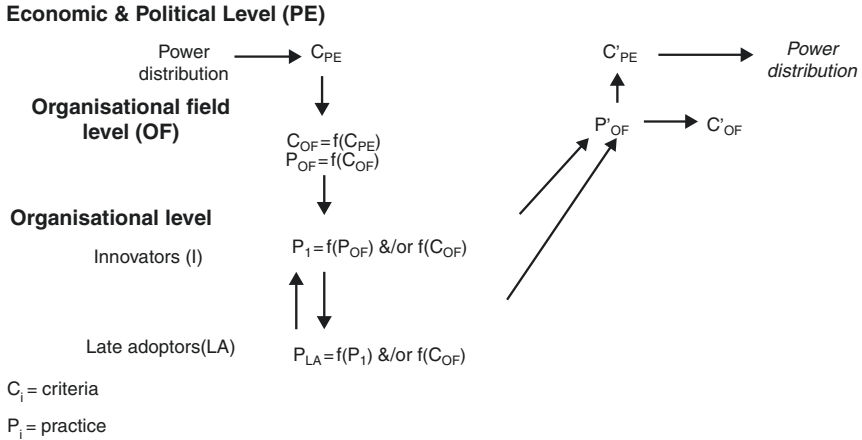
The macro-micro connection of the public sector cost management change has been theorised using different theoretical approaches. For example, contingency theory has been combined with NIS to understand budgetary processes, coordination and control problems (e.g., Lee and Modell 2000). It has been used with both agency theory and transactions cost theory to understand management accounting and cost management changes in the conditions of environmental and technological stability and uncertainty (e.g., Tiessen and Waterhouse 1983). Contingency theory has been used with labour process theory to address the relationship between budgeting characteristics and some environmental factors, for example, industrial relations and the political climate (e.g., Hoque and Hopper 1997). NIS has been combined with other positivistic theories, for example, resource dependence theory to address the issue of agency (e.g., Oliver 1991) and economic theory to consider the technical environment in understanding organisational change (e.g., Granlund and Lukka 1998a, 1998b).

Other researchers have linked some interpretive theories with other interpretive and critical theories. For example, Jones and Dugdale (2002) draw on ANT and Giddens' concepts of modernity to explain the rise of ABC. Ezzamel (1994) uses the Foucauldian perspective of power/knowledge relations and the concept of sociology of translation from ANT to study the dynamic processes of organisational change in a UK university which replaced an incremental budget with a comprehensive one. Drawing on the work of Foucauld, Hoskin and Macve's (1988, 1994, 2000) historical case studies have re-examined the power-knowledge relations in the historical development of cost and management accounting practices in the USA and the UK. Burns and Scapens (2000) utilise OIS and structuralism theory to propose a framework for studying management accounting change. Burawoy's (1979, 1985) theorisation of management controls of labour processes has been used to explain how

regimes of control are transformed by state and production politics (e.g., Uddin and Hopper 2001). Uddin and Tsamenyi (2005) draw on Giddens' idea of the dialectic of control from structuration theory to examine the changes to budgetary control and performance monitoring in the context of a series of WB-sponsored public sector reforms. A cultural political economy of management accounting, drawing from political and economic history, modes of production theory in development studies and cultural anthropology, has been also used to inform a longitudinal case study of management control in a textile Mill in a traditional Sinhalese village in Sri Lanka (see Wickramasinghe and Hopper 2005).

Although these approaches have provided meaningful frameworks to analyse the macro–micro connection of management accounting, Dillard et al.'s (2004) new institutional framework provides the more appropriate theoretical apparatuses than others for my research focus and case observations. This particular extension of new institutional theory has clearly connected the micro organisational practices with wider macro political criteria, which is an important aspect in understanding power relations mediated through the cost management changes in Egyptian public utilities. Especially the selected case study has a particular political history closely associated with the Egypt's postcolonial political history; the company's history is a political transformation through macroeconomic and political policy changes in Egypt through privatisation, modernisation and state-budget reforms. Changes in its management and cost management practices are closely linked to these macro political changes as will be discussed later (see Chapters 5–7).

Dillard et al.'s (2004) framework has three distinct but interrelated institutional levels, each containing a number of factors. The first is the economic and political level, covering the established societal norms. The organisational field, which is the second level of Dillard et al.'s framework, is concerned with industrial and professional groups, for example, motor manufacturers and police services. The third is the organisational level, which relates to the organisation itself. Figure 3.1 illustrates the three-dimensional framework which is compatible with the view of structuration theory as set out by Dillard et al. (2004, p. 512).



**Fig. 3.1** Three-dimensional dynamics of institutional power relations

The economic and political level, also called the top level, comprises three elements: economic, political and social systems. This level supports the organisational field level by supplying a suitable establishment. There are also criteria ( $C_{PE}$ ) at the economic and political level which influence the criteria and practices at the organisational field level through the adoption of the values and norms from the top level. The establishing of criteria has a significant influence on effective corporate governance at this level (Dillard et al. 2004).

Subsequently, the practices ( $P_{OF}$ ) and criteria ( $C_{OF}$ ) at the organisational field level influence and organise the practices at the organisational level. The organisational field level supports the organisational level by providing a context acceptable to the organisation. The main resource allocation and the translation of ( $C_{PE}$ ) and ( $C_{OF}$ ) also occur at the organisational field level. At the organisational level, there are two kinds of actor commonly recognised in institutional theory, the first being the innovators (I), who develop new practices according to the limitations of the organisational field-level practices. The second group is the late adoptors (LAs), who have a different role from that of the innovators at the organisational level; they adopt the successful practices which have been developed by the innovators within the limitations of the organisational field-level criteria and



practices. There is a possibility of integration between LAs and innovators (see Dillard et al. 2004; Hopper and Major 2007).

LAs and innovators play significant roles, as is demonstrated in considering the next step which is when the change process starts to occur. The new practices that are developed by innovators may affect the practices (P'OF) and criteria (C'OF) at the organisational field level, which may cause new evolutionary or revolutionary changes in the environment (Hopper and Major 2007). Change at the organisational field level will in turn affect the criteria (C'PE) at the economic and political level, including the values and norms at the top level (see Dillard et al. 2004; Hopper and Major 2007).

According to Dillard et al. (2004), there are three axes of tension that emerge between Weber's notions and the dynamics of structuration theory: representation, rationality and power. These notions are appropriate to the understanding of the actions taken within an organisation and are useful in analysing some kinds of decoupling behaviour. Representation, which focuses on symbolic explanations, is related to the role played by meanings and ideas in social action. This approach posits the existence of two kinds of representation: subjective and objective. The former, subjective, relates to the socially constructed reality and focuses on the social situation, which is related to the legitimating process that affects the individuals concerned. On the other hand, objective representation focuses on the logical aspects of the system, so that it concentrates on the legitimating process as a technical action (see Dillard et al. 2004; Hopper and Major 2007).

Rationality is the relation between the realm of ideas and meanings, on the one hand, and their legitimate and illegitimate motivations, on the other hand. There are two kinds of rationality: formal and substantive. Formal rationality concentrates on those values that are related to empirical knowledge and is concerned with the question of economic efficiency, whereas substantive rationality focuses on the values and meanings of actions from an ethical standpoint (Dillard et al. 2004). The third of Weber's notions is power, which may be considered to measure the extent of control over two resources: human and material. This control differs in kind at the three levels of institutional organisation. At the economic and political level and the organisational field level, it applies to

the systems themselves, which are accepted by the dominant ideology, while at the organisational level the control factors appear through the application of formal hierarchical structures (Dillard et al. 2004).

Within the three levels of social organisation, there are also three dimensions which are called dimensions of contextual change (Dillard et al. 2004). These are the legitimating grounds, representational schema and domination perspective. At the economic and political level, the legitimating grounds relate to norms, regulations and law. The representational schema links to the economic and political systems. The domination perspective relates to the institutions that focus on resource control. At the organisational field level, the legitimating grounds link to the industrial norms and practices. The representational schema reflects two aspects: economic and political criteria that were translated within this level and structures that changed based on organisational actions. The domination perspective relates to the institutions that focus on allocating resources within this level. At the organisational level, the legitimating grounds relate to the rationality. The representational schema within this level reflects the representation. The domination perspective reflects power (Dillard et al. 2004).

Dillard et al.'s (2004) framework has been used to inform some subsequent management accounting case studies in the public sector. Some of these works directly applied Dillard et al.'s (2004) framework without any modifications to the original model. AlSharari (2013), for example, uses Dillard et al.'s (2004) basic framework to explain the processes of management accounting change in the Jordanian customs organisation as well as in the Jordanian public sector within its socio-economic contexts, as influenced by NPM ideas and institutional pressures. AlSharari highlights the interaction process between these levels from one side, and between management accounting and organisational change from another side. However, AlSharari has not addressed institutional dynamics of cost management change throughout three levels of institutional analysis: political and economic level, organisational field level and organisational level. AlSharari focuses only on the regulative way in which 'new budgeting systems', together with the 'managing-for-results' approach, were implemented throughout these three institutional levels.

Other studies have revised Dillard et al.'s basic model by complementing it with other theories. For example, Hopper and Major (2007) revised Dillard et al.'s (2004) model as a result of their investigation into the ABC implementation in Portuguese telecommunications. There were several reasons for this revision. Firstly, Hopper and Major found that many factors, for example, culture, power and resistance, influenced the ABC adoption and they were located at different levels of the organisation. Secondly, the case organisation faced three adjustments of its institutional practices: mimetic, normative and coercive. Thirdly, Hopper and Major found that the ABC adoption could be explained by theory triangulation in order to clarify the role of agency and the nature of the organisation's accounting practice. In their suggested framework, therefore, they replaced the organisational level with the intra-organisational, in order to identify the department or section responsible for the conflict in organisational structure and to clarify the intertwined power relations and organisational dynamics. In the Hopper and Major model, innovators and LAs at the organisational level are replaced with organisational field practice, which translates to practice. Subsequently, the practice is applied by enactment and becomes praxis, which faces two alternatives: resistance or institutionalisation. Both situations may lead to conflict.

### 3.3.2 Organisational Institutions: The Macro-Micro Connection

NIS has become one of the dominant themes in organisation theory and is increasingly being applied in accounting research to study management accounting practices as well. However, as shown above, most institutional theory has adequately theorised neither the institutionalisation process through which change occurs nor the socio-political context of institutional forms (Dillard et al. 2004). To overcome this gap in the literature on institutional analyses of organisational practices, especially management accounting practices, Dillard et al. (2004) propose a social theory based framework for expanding institutional theory in order to more fully articulate institutionalisation processes. Dillard et al.'s (2004)

framework incorporates NIS and structuration theory (Giddens 1984) and draws on the seminal works of Weber (1958, 1961, 1968) in developing both the context and the processes associated with creating, adopting and discarding institutional practices. They propose that the expanded framework more fully depicts the socio-economic and political context and also addresses the dynamics of enacting, embedding and changing organisational features and processes. Following this, Hopper and Major's (2007) work – which represents one of the key pieces of research connecting micro institutional change with macro-level change – extends Dillard et al.'s model and reinforces the idea of triangulation. The latter model was able to accommodate more theoretical stances, such as ANT and labour process theory. Dillard et al. (2004; see also Hopper and Major 2007; Wickramasinghe 2011) claim that this ontological and epistemological extension of NIS has gained some prominence, especially among critical management accounting researchers. Generally, these kinds of wider theoretical explanations provide a more comprehensive picture of management accounting as the object of institutional practices, as well as a fuller articulation of the role of management accounting in the institutionalisation process.

This macro–micro connection in the area of organisational institutions stems from the importance of enhancing legitimisation. In 1977, Meyer and Rowan developed the idea that organisations increase their legitimacy within their environments by adopting practices that have become institutionalised in society. Meyer and Scott (1992) define legitimisation as the degree of cultural support for an organisation, that is, the extent to which cultural accounts explain the existence of organisations, their functioning and jurisdiction. Some practices have become accepted as 'the right way to do things' due to prevailing beliefs about organisational work, which function as myths (Meyer and Rowan 1977). There are rules that by 'social processes, obligations or actualities come to take on a rule-like status in social thought and action' (Meyer and Rowan 1977, p. 341). These rules, when highly institutionalised, function as myths that are binding on organisations:

These beliefs are myths in the sense that they depend for their efficacy, for their reality, on the fact that they are widely shared, or are

promulgated by individuals or groups that have been granted the right to determine such matters. (Scott 1992, p. 14)

According to Meyer and Rowan (1977), three central processes explain the origins of rational institutional myths, and the need to conform to institutional requirements. They are the processes of complex relational networks, the degree of collective organisation of the environment and the result of leadership efforts by local organisations. The first rests on the idea that, with the development of relational networks in post-industrial societies, certain practices have become highly generalised, and thus institutionalised and codified in a myth-like form. The second process is based on the argument that myths emerge as a consequence of centralised and organised structures that assume jurisdiction over domains of human activity. Rationalised rules become institutionalised, and lead to myths, in accordance with rational–legal orders developed in societies. Thirdly, myths are seen as originating from powerful organisations that force their relational networks to follow some of their practices and manage to institutionalise some of their procedures and behaviours as societal rules.

Furthermore, Meyer and Rowan (1977) outline some key features of organisations that are seeking strategies to enhance legitimacy within their institutional environments. These organisations are more concerned with following strategies to obtain external and internal legitimisation than they are with efficiency: they employ external and ceremonial assessment criteria to exhibit features of rationality; turbulence is reduced and organisational stability is enhanced as a result of their dependence on external and accepted institutions. If organisations do not follow institutionalised rules in their daily practices, or do not create formal structures that reflect legitimated environmental elements, they will be vulnerable to allegations of following irrational and unnecessary strategies. They may see their chances of survival considerably reduced. Meyer and Rowan (1977, p. 350) conclude:

The rise of professionalised economics makes it useful for organisations to incorporate groups of economists and econometric analyses. Though no one may read, understand, or believe them, econometric analyses help

legitimate the organisation's plans in the eyes of investors, customers (as with Defense Department Contractors), and internal participants. Such analyses can also provide rational accountings after failures occur: managers whose plans have failed can demonstrate to investors, stockholders, and superiors that procedures were prudent and that decisions were made by rational means.

### 3.3.3 Mechanisms of Isomorphism in Institutional Analysis

The notion of isomorphism is central to Dillard et al.'s (2004) extension of NIS. Dillard and his associates (e.g., Dillard et al. 2004; Tuttle and Dillard 2007) argue that the pressure imposed by institutional environments results in organisations being constructed in the image of their environments. This similarity between the internal features of organisations and their environment is called 'isomorphism'. DiMaggio and Powell (1983, p. 66) argue that 'isomorphism is a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions'. Processes of isomorphism promote organisational survival and success. Incorporating external elements that reproduce institutional rules and rational myths increases the commitment of organisations' constituencies. If organisations conform to institutional myths of rationality, they are by social definition successful, and can buffer their activities against failure (DiMaggio and Powell 1983, p. 66).

Four types of isomorphism have been distinguished (see Tuttle and Dillard 2007): competitive, coercive, mimetic and normative. Dillard et al. (2004) organise these isomorphic mechanisms as a hierarchically linked flow of developing institutional criteria through a number of levels: economic, political, field and organisational. Competitive isomorphism occurs when competition forces upon organisations a single best way of doing things (Carruthers 1995). However, this gives only a partial picture of the modern world of post-industrial capitalist organisations, and needs to be complemented by an institutional view of isomorphism. Coercive, mimetic and normative isomorphisms have been

developed by NIS theorists (e.g., DiMaggio and Powell 1983; Scott and Meyer 1983) in addition to competitive isomorphism. They stress cultural and political issues as drivers of change. Coercive isomorphism results from general expectations developed in the environment in which organisations develop their activities, and from organisational pressure on dependent organisations. Scott (1987) distinguishes two types of impositions under coercive isomorphism: imposition by authority and imposition by coercive power. Changes imposed by authority meet with less resistance than those imposed by force. Further to this, Meyer and Rowan (1977, p. 343) observe:

Many of the positions, policies, programs, and procedures of modern organisations are enforced by public opinion, by the views of important constituents, by knowledge legitimated through the educational system, by social prestige, by the laws, and by the definitions of negligence and prudence used by the courts. Such elements of formal structure are manifestations of powerful institutional rules which function as highly rationalised myths that are binding on particular organisations.

Structural changes that are associated with authority are expected to achieve higher levels of compliance and stability since these changes are less superficial than changes imposed by coercion. If coercive isomorphism derives from authority or power, mimetic isomorphism is driven by uncertainty and imitation processes (Scott and Meyer 1983): organisational fads and fashions may be spread through this type of isomorphism (Scott and Meyer 1983). In a scenario of uncertainty about organisational technologies, goals and environmental expectations, organisations copy models of operating from successful companies (Scott 1991). They become receptive to fashionable business techniques, as may be the case with ERP, to protect their activities from being questioned. Scott and Meyer (1983, p. 91; see also Covalieski and Dirsmith 1988b, p. 562) argue that organisations, when facing uncertainty, construct themselves ‘in part to demonstrate that, even though there may exist an indeterminacy in what they are trying to achieve and how they are trying to achieve it, at least they are similar to peer organisations in many demonstrable ways’.

Several other studies have deployed these seminal conceptions of isomorphism – for example, the adoption of civil service reform by municipal governments (e.g., Tolbert and Zucker 1983), the spread of the multi-divisional corporate form (e.g., Fligstein 1985) and the diffusion of diversification strategies (e.g., Fligstein 1991). In this context Fligstein (1985, p. 380) observes:

The ‘multidivisional form’ (MDF) spreads to various organisations as a response to other firms’ behaviour. The examples of successful firms such as DuPont or General Motors provided the role models for other firms. The MDF has also become the accepted form for large firms. Business schools have taught the MDF as an important organisational tool, and managers have come to implement it.

Other studies have demonstrated mimetic isomorphism, such as Haveman’s (1993) investigation of the effects of market structures upon rates of market entry and Galaskiewicz and Wasserman’s (1989) analysis of the effects of mimetic processes on the corporate contributions of firms in the Minneapolis–St. Paul metropolitan area. Several reasons have been identified for the adoption of mimetic strategies (Haveman 1993): organisations, when faced with uncertainty, can economise on search costs if they imitate other organisations; certain practices sometimes become taken for granted by organisational actors, and there is a tendency to adopt them ‘mechanically’ and unthinkingly. ‘Contagion processes’ spread fashionable organisational practices from one organisation to another.

The last form of institutional isomorphism is ‘normative isomorphism’. This recognises that professions play an important role in diffusing similar orientations and dispositions that shape organisational behaviour. This occurs through the legitimacy that formal education confers, and through the development of professional networks that span organisations (DiMaggio and Powell 1983).

There are two explanations of why organisations become isomorphic with their environments (Meyer and Rowan 1977). The first is that organisations are open systems, which become matched



with their environments through exchanges and technical interdependencies. The complexity of organisational interdependencies and the existence of path-dependent development processes may explain organisational isomorphism. DiMaggio and Powell (1991b, p. 73) argue that similarities between organisations within specific fields ‘make it easier for organisations to transact with other organisations, to attract career-minded staff, to be acknowledged as legitimate and reputable, and to fit into administrative categories that define eligibility for public and private grants and contracts’.

The second explanation is that organisations are institutions in themselves and a direct product of their institutional environments. Powell (1991) observes that social patterns reproduce themselves when practices are generally accepted, taken for granted as the ‘right ones’ and are not compared against an alternative. Scott and Meyer (1991) state that institutionalised meanings play a role in defining what organisations should resemble, why they are valuable, what they are and what they can or cannot do. Environmental influences upon organisations go beyond simple exchanges among organisational constituencies. Environments include constitutive and phenomenological aspects comprising systems of meaning and control that shape organisational practices and forms. Whereas most institutional research has used the concept of isomorphism in the former sense, that is, as a consequence of the interconnectedness of organisations, the broader socio-cultural environment is the primary factor responsible for the spread of isomorphic organisational practices (Dacin 1997).

However, several differences can be identified in the effects of environments on organisations. Whereas DiMaggio and Powell (1991b) argue that organisational structures are expected to become more homogenous as organisational environments become more structured, Scott (1991) claims that under certain conditions (e.g., when lacking centralised authority) organisations with highly structured environments may exhibit a diversity of forms. Finally, Zucker (1977) believes that variation in strategic responses to similar institutional pressures can engender differentiation rather than isomorphism.

### 3.3.4 Evaluating and Extending NIS Analysis

Despite the role that NIS plays in theorising macro–micro connections, many criticisms have been launched against this version of institutional analysis in management accounting. For example, it has been claimed that NIS de-emphasises the de-institutionalisation of institutionalised practices, that is, ‘the processes by which institutions weaken and disappear’ (Scott 1995, p. 182). Oliver (1992) identifies three pressures that can create such de-institutionalisation: functional, political and social. Functional pressures result from poor performance levels or benefits gained from institutions and routines. Political pressures arise from shifts in the interests and power distributions that have supported and legitimated existing institutions and routines. Social pressures, such as the differentiation of groups, the existence of heterogeneous institutions and changes in laws that might hinder the persistence of an institution, may also have an impact on de-institutionalisation. Greenwood et al. (2002) argue that de-institutionalisation occurs as a result of factors such as social upheaval, technological disruptions, competitive discontinuities or regulatory change. These may lead to disturbing taken-for-granted assumptions by introducing new ideas and the possibility of change.

NIS explains homogeneity (or convergent change processes) and persistence (or stability) (Dacin et al. 2002). It also largely explains the persistence or stability of phenomena. Ledford et al. (1996, cited in Greenwood and Hinings 1996) argue that NIS offers little ‘guidance regarding change’, however. A related critique of NIS invokes its relative inattention to the role of pro-active agency in constructing institutions. It has largely focused on the role of institutions in shaping and constraining the actions of actors (Ledford et al. 1996, cited in Greenwood and Hinings 1996).

Furthermore, new institutional theorists have considered the organisational environment in terms of symbolic practices: for example, institutionalised management accounting practices, as opposed to an idea of the environment as being built around market conditions and other technical prerequisites. Several researchers suggest that it may be useful to consider

institutional and technical environments as two separate, but sometimes interdependent, dimensions (see Carruthers 1995; Greenwood and Hinings 1996). Striving for legitimacy does not conflict with efficiency and effectiveness through adjustment to competition and market-based transactions. Gupta et al. (1994), for example, suggest that management may deal with these two environments separately, by carrying out a set of symbolic management accounting practices for addressing institutional contexts and by maintaining a separate set of instrumental management accounting practices for addressing a technical environment. Greenwood and Hinings (1996) argue that technical and institutional environments interrelate with interests and value commitments to generate pressure for change. Given the existence of a reformative commitment, that is, where all groups oppose the existing routine and prefer an alternative one, they suggest that revolutionary change is more likely to occur because of the absence of resistance.

NIS shortcomings can be summarised in two key criticisms: its inability to sufficiently recognise disparities within the institutional environment, the relative power of different institutional actors, and the resistance to change that results from these differences in power, and its failure to provide a theory for how these competing interests can be accommodated by management through loose coupling. It does not adequately consider intra-organisational pressures. Thus, the present research posits that OIS-related models might offer a possible extension of NIS, especially Burns and Scapens's (2000) model.

### **3.4 Theorising Intra-organisational Dynamics of Change – OIS**

Burns and Scapens (2000) offer their framework, which is an extension of structuration theory, as a starting point for interpretive management accounting case studies. They illustrate the use of the framework by briefly discussing two previously published case studies. The first can be found in Robert and Scapens's (1990) study and illustrates a successful change process in which accounting routines have been institutionalised over time in the Plastics Division of Ferac International, a multinational,

multi-divisional company. Management accounting routines have become the mutually accepted way of doing things in the organisation. The second case is that of the Engineering Division of Omega Plc, which is discussed in Scapens and Roberts (1993). This example illustrates an unsuccessful change process resulting from contradictions between new management accounting rules and the existing routines and institutions.

A number of subsequent case studies have been informed by Burns and Scapens's (2000) model of institutionalisation. Some of these works directly apply the framework without any modification to the original model. Soin et al. (2002), for example, deploy the framework to interpret the introduction of ABC in the Clearing Department of a UK-based multinational bank. The ABC implementation was considered a revolutionary change, as the use of such a system in the banking context has been very limited. The ABC implementation as a successful change process was institutionalised over time and became the way things are done. However, this institutionalisation process did not affect the strategic thinking of the bank's senior management.

Burns et al. (2003) also apply Burns and Scapens's (2000) framework in order to interpret two successful change cases and two unsuccessful ones. The successful cases are Polymer and Nuovo Pignone. In Polymer, management accounting change was seen as part of, and supporting, a larger process of changing the organisational culture from production to customer orientation to becoming a world-class manufacturing organisation. The new ways of thinking that underpinned the new rules and routines did not challenge but extended the existing institutions within the organisation (i.e., the production-based culture) by directing the production process towards satisfying customers' needs. This change can be characterised as evolutionary.

In the second case, an Italian organisation, Nuovo Pignone, was acquired by US parent company, General Electric. The acquisition initiated a rapid revolutionary change in ways of thinking over a period of three years, especially in terms of the redesign of accountability systems and the implementation of the Six-Sigma initiative (a measurement-based quality programme). This resulted in considerable uncertainty and feelings of anxiety within Nuovo Pignone about the

fact that things were going to change. The organisation's existing institutions were questioned and new assumptions had to be introduced. This change was facilitated by accountability systems and a quality measurement system as part of the new rules and routines. However, the change process was based on existing ways of thinking as a means by which to construct the new institutions.

Burns et al. (2003) also describe two cases, RetailCo and Chemicals, where management accounting change was unsuccessful. The RetailCo case describes resistance to management accounting change in a UK-based retail organisation. An economic value-added system was implemented to replace the previous performance measurement system that was based on profit margins. However, the new system was suspended six months after its implementation. This was a reflection of the resistance to change that had arisen within the organisation as a result of conflicts between accountants and managers and contradictions between the existing (sales- and margins-based) institutions and the new rules. The new routines failed to be reproduced, as there was no corresponding institutional change.

The second example of unsuccessful implementation was the case of the Product Development department of Chemicals, a small UK chemicals manufacturer. This case explores the difficulties facing an accounting change that challenged existing ways of thinking. A new accountability system was introduced under which the chief chemist was to become more results-oriented. However, these emerging routines had a negligible impact on the ways of thinking of the chief chemist and his staff about the nature of their activities; this seems to have happened because the new accountability system was not passed down to other staff members beyond the chief chemist.

Other studies extend Burns and Scapens's (2000) basic model by complementing it with other theories. For example, Burns (2000) introduces a modification to the original model: while the original framework is grounded in the concept of power as it was defined in structuration theory, Burns (2000) uses a complementary framework of power mobilisation, as developed by Hardy (1996). Hardy (1996) introduces four dimensions of power: power over resources, power over decision-making processes, power over meaning and the existing institutional context. Burns (2000) interprets his case study using these

four dimensions of power. The first three dimensions act as facilitators of the change process while the fourth acts as a barrier against change.

Bogt and Helden (2000) also provide a modified version of Burns and Scapens's (2000) framework. They argue that the Burns and Scapens's (2000) model is a general one, deals only vaguely with the causes of accounting change and can be improved by exploring more broadly defined patterns of organisational change. They extend Burns and Scapens's (2000) basic model with the use of two complementary approaches: pragmatic and behavioural. The first was developed by Shields and Young (1989), to explore behavioural and organisational factors affecting the successful implementation of cost management systems. These comprise seven categories: culture, champion, compensation, controls, continuous education, commitment and continuous improvement. The second modification employs behavioural theory as developed by Cyert and March (1963), which concerns information processing, decision-making and learning. It describes circumstances under which accounting change may occur.

According to Bogt and Helden's (2000) model, there are two accounting gaps: a development gap and a usage gap. The former refers to an ideal of accounting rules and their ultimate development, while the latter refers to the difference between the developed accounting rules and their use in practice. They describe different causes of accounting change, including external and internal pressures, organisational culture, initiators, organisational goals, and technical and organisational enablers. Bogt and Helden (2000) interpret changes to the financial management of eight Dutch governmental organisations in the Netherlands. The above two gaps are caused by a lack of budgetary pressure, insufficient commitment by senior management, insufficient training and irrelevant compensation schemes.

Burns and Scapens's (2000) framework is concerned with management accounting change within individual organisations, that is, with intra-organisational processes of change. As shown here, it introduces a distinction between institutions (the institutional realm) and actions (the realm of action), with rules and routines linking the two realms through processes of encoding, enacting, reproduction and institutionalisation. It offers a possible solution for the key criticisms of NIS and a possible extension of Dillard et al.'s (2004) model.

### 3.5 Conclusion and Synthesis: Triangulating OIS and NIS

As shown above, both versions of institutional analysis have their critics. OIS-based analyses are confined to the organisational level while NIS is confined to the social. Dillard et al. (2004) developed a triangulated framework, which offered a combination of NIS with Giddens' (1984) ideas on structuration. Some subsequent academic endeavours have extended Dillard et al.'s (2004) framework (e.g., Tsamenyi et al. 2006; Hopper and Major 2007; Kholeif et al. 2007) and addressed the extension of institutional analysis: they offer a macro–micro connection as a starting point for a 'triangulation' of NIS and OIS. As Wickramasinghe (2011, p. 555) observes, 'this [theoretical triangulation] strategy is now gaining some prominence, especially among Work students in the UK'. My empirical analysis adopts this recommended strategy of combining NIS with OIS, in accordance with extra- and-intra-organisational dynamics of cost management change in the case study company.

OIS is not adopted here because its focus is on the micro rather than the macro level. OIS, especially Burns and Scapens's (2000) model, is more suitable for understanding processes of change and resistance to change, rather than being a useful means of investigating of cost management change that is the result of environmental pressures. OIS has been particularly effective in investigations where power, politics and vested interests are central for explaining cost management change. However, although these aspects are relevant to the present study, OIS could not adequately address my other research questions, especially those relating to the pressures of the Egyptian business environment in which the case company operates (see [Chapter 5](#)).

NIS, especially Dillard et al.'s (2004) model, is particularly useful in terms of explaining MEEDCO's decision to adopt ERP-based cost management, since it incorporates the complex chain of influences and coercion imposed by regulatory agencies and other external entities. NIS has thus been adopted because it enables me to explore how the demands of organisational constituencies at the macro level can explain cost

management change. For NIS theorists, cost management change is best seen as a search for legitimacy from the external environment to guarantee organisational survival and success. NIS recognises the importance of the environment and environmental interactions upon organisations (see Carmona et al. 1998). These aspects are crucial to any understanding of why and how cost management became a strategic imperative.

In the present research, NIS and OIS are both adopted for some of the empirical demands imposed by my case observations. The triangulation of the two approaches offers a rich and complex view at a macro level with insights from cultural, normative and cognitive perspectives. It provides useful analytical tools with which to inform the interpretive approach adopted. This is a sequential model that analytically separates the synchronic effects of institutions on actions, at a specific point in time, from the diachronic effects of actions on institutions, as a cumulative influence over time. Thus, the following work explores cost management change from the time of introducing new rules as an action, which is shaped by existing institutions, to the time of institutionalising such rules. The concept of routines, as programmatic rule-based behaviours, explains how the new rules became institutions over time.

This triangulated model suggests that a useful first step is an analysis of the institutional realm with an identification of the rules and routines that characterised the adoption of cost management practices. The analysis then moves to the realm of action to identify the main actors and their relationship with this wider institutional realm. Following the introduction of new IT-embedded rules, the study identifies the processes of encoding and enactment. One main issue concerns the issue of reproduction. Do the changes become incorporated into new routines or are these changes simply one-shot interventions? The research, then, enquires whether new routines have implications for the wider institutional realm of the organisation beyond the relatively limited domain of a particular department, such as accounting.

The proposed triangulated analysis provides the necessary framework and apparatus by which to connect wider macro change with micro-level change, which is important if we are to understand the cost management changes in the case study that follows (see [Fig. 3.2](#)). Specifically, at the micro level the case study company has a particular



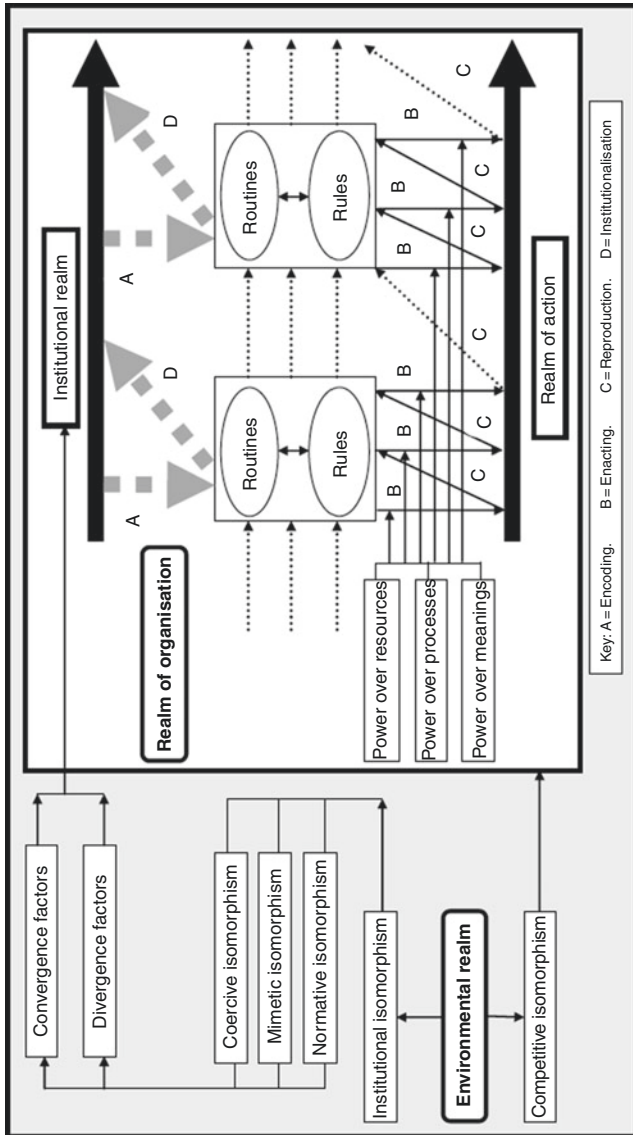


Fig. 3.2 Triangulating old and new institutional analysis

political history that is closely associated with the wider, macro-level postcolonial political history of Egypt. The company's history has been one of political transformations, which has taken place through macroeconomic and political policy changes, through privatisation, modernisation and state budget reforms. Changes in management and cost management strategies are closely linked to these macro political changes (see [Chapters 5–7](#)). The next chapter explains the extended case study method and its associated rationales.

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# 4

## An Extended Case Study

### 4.1 Introduction

Having explained the theoretical framework in [Chapter 3](#), this chapter explains the philosophical rationale behind my research methodology and methods. Methodology can be defined as a way of thinking about and studying social reality, while methods can be defined as procedures and techniques for gathering and analysing data (Strauss and Corbin 1998). In field studies, Schatzman and Strauss (1973; see also Alawattage and Wickramasinghe 2008) argue that much of the research process consists of dealing with field contingencies that variously modify the research, and that this and other properties of field research mean that extensive prefabrication of the research process is ‘impossible’. General guidelines relating to the methodology and methods used in the course of the present research project are outlined here, and occasional deviations from the ideal are explained. For example, Yin’s (2009) book, Burawoy’s (1998) article and Wickramasinghe’s (2011) chapter, as well as Alawattage (2013) and Hopper’s (2014) workshops, introduce the concept of the ‘opportunistic’ approach to fieldwork carried out in organisations. They argue that fieldwork is permeated by a conflict between what is theoretically desirable and

what is practically possible. They call the practice of fieldwork the ‘art of the possible’ and propose the exploitation of opportunities offered in real-life circumstances. To a certain extent, this was the stance taken over the course of the present research.

This chapter is divided into six main sections. [Section 4.2](#) discusses some of the other research methodologies deployed in the existing cost and cost management literature. It addresses the mainstream (positivistic) methodological inclinations and alternative (post-positivistic) methodological initiatives of the existing literature. [Section 4.3](#) introduces the ‘extended case study’ approach (Burawoy 1998) and explains the extent to which it conforms to the research aims and questions of this study. [Section 4.4](#) provides a description of the selected case site and the rationale behind the choice. Fieldwork was carried out in two stages: a pilot study phase and then a main phase of data collection. [Section 4.5](#) discusses the pilot phase and its benefits in refining research questions and aims. [Section 4.6](#) explains the main phase of data collection in terms of the methods deployed, namely, interviews, observations and documentary research. [Section 4.7](#) summarises and concludes the chapter.

## 4.2 A Methodological Review of the Extant Cost Management Literature

### 4.2.1 Positivistic Methodological Inclinations

The positivist paradigm is used by traditional scientists in the contexts of physics, biology, chemistry and engineering. Many scientists and researchers believe that the positivistic approach is suitable for the all sciences because they can be assimilated into a single natural system (Saunders et al. 2009). There are three explanations of the positivist paradigm: a statement of particular facts, one or more general rules or laws and a statement of explanation (Buddharaksa 2010). The positivistic approach provides insights from studying the real world in which people believe what they see around them. Saunders et al. (2009) explain that positivism is an objective and independent way of determining

hypotheses that can be accepted as rules and laws afterwards, and that these rules and regulations can be objectively evaluated on a quantitative basis.

The quantitative approach is the most essential element of this strand of mainstream positivistic research (Bryman 2008). It allows the researcher to discover the 'effects' and 'causes' of his/her observations. It follows the idea of deductive reasoning in which research begins with generalisations and concludes with specific findings. Here, the researcher usually conducts empirical studies using numerical data. Furthermore, the quantitative approach follows the idea of positivism and inquiries are objective in nature. A large number of samples are required to complete quantitative studies, and structured techniques such as questionnaires and interviews can be utilised to collect the data. The data are then analysed using statistical or mathematical techniques. One of the key strengths of this method is that it uses statistical techniques for sophisticated analyses. It provides insights to control the research process through sampling and design methods. Burns (2000) explains that quantitative measures remove replication of data and create hypotheses to systematically and empirically test them. This is the reason that many researchers prefer the mainstream positivistic approach because it is more objective and scientific in nature.

Much of the existing cost management literature is framed by positivistic methodological inclinations to see cost management as contingent upon selected variables and factors. A strand of studies has used cross-sectional surveys to understand the multiple contingent factors influencing changes in cost and cost management practices. Booth et al. (2000), for example, examine the impacts of ERP on cost and management accounting practices by sending a postal questionnaire to the 800 largest companies in Australia. Hyvonen (2003) compares ERP and best of breed adopters, regarding the use of strategic cost management techniques, by using a postal questionnaire sent to 300 large- and middle-sized business units in Finland. Spathis and Constantinides (2004) sent a postal questionnaire to 26 companies to understand why companies in Greece have adopted ERP and the changes brought in by cost and management accounting practices. Using a survey, Rom and Rohde (2006) illustrate the relationship

between ERP and SEM, on the one hand, and cost management practices on the other: a survey was sent to 3,000 Danish companies with more than 50 employees, and the data were analysed using linear regression models. Haldma and Laats (2002) address a group of contingent factors influencing changes in cost management practices in Estonian manufacturing companies; they analyse 62 responses to a questionnaire survey using one-way analysis, two-way analysis and Fisher's exact test.

Other researchers have carried out consulting-oriented conceptualisations or model-building exercises. Libby and Waterhouse (1996), for example, provide a conceptual framework for major economic and organisational variables associated with changes in cost management practices; they use a sample of 24 Canadian manufacturing firms. The measures of dependent and independent variables were collected via a telephone interview and a facsimile of the questionnaire; these were analysed by multiple regression. Williams and Seaman (2001) extend Libby and Waterhouse's (1996) model using a sample of 121 manufacturing firms from different economic sectors, as defined in Singapore and Hofstede's (1991) cultural framework, to address whether changes in cost management practices are affected by cross-cultural differences. Sulaiman (2002) also extends Libby and Waterhouse's (1996) model through investigating the motivations for changing cost management practices in Malaysian companies over a five-year period. Sulaiman concludes that the introduction of new variables improves the model developed by Libby and Waterhouse (1996).

However, this mainstream positivistic strand of cost management research has been criticised. It tends to provide only a static comparative analysis of accounting systems, without an attempt to evaluate and possibly change an institutional structure of cost management. The contingent variables do not represent a comprehensive set of the factors determining changes in cost management practices. Scapens (1990), for example, argues that the role of cost management studies within positive research methodology is 'to generate hypotheses which will be tested by other empirical research methods (i.e., surveys)' (p. 267). Such studies show the salient characteristics of this form of cost management research. They explicitly ignore the socio-political and macro field aspects of organisational life and the way in which these macro forces affect internal cost management

structures, processes and practices. They provide predictive theories and models but fail to locate cost management in its historical economic and social context. This view reflects one of the current approaches to cost management case studies, which are usually informed by social interpretive and critical paradigms (see Ryan et al. 1992).

### 4.2.2 Post-positivistic Methodological Initiatives

The post-positivistic approach is informed by a concern to understand the world as it is, that is, to understand the fundamental nature of the social world at the level of subjective experience. Ryan et al. (1992) specify that they take such a post-positivistic approach ('the interpretive paradigm'), as they seek to understand the social nature of accounting practices. The field encompasses subjectivism research, which obtains seriously the subjective meanings that people attach to things. It is focused on making sense of the social nature of daily life and recognises that the world can be seen as socially constructed.

This post-positivistic worldview runs counter to the kinds of positivistic perspectives outlined above. Its supporters assume that each human being has a different perception about reality and that it is not possible to measure this empirically. Saunders et al. (2009) explain that the post-positivist (interpretivist) approach is subjective in nature and most likely to change during the process of the research. It provides a holistic view of the research by accepting the idea of reality being 'out there'. A framework can be developed on the grounds of findings and conclusions obtained from people's observations regarding a specific area of concern. Generally, anthropologists and historians have adopted the post-positivistic paradigm when the qualitative approach is the most essential element of the research.

Qualitative research follows the concept of inductive reasoning: the researcher gains an understanding of specific issues and develops a hypothesis on the basis of particular information. The researcher normally explores the data in the form of words, objects or pictures by following the idea of 'interpretivism'. The inquiries are exploratory and subjective in nature. A small number of samples are required to complete

qualitative studies; unstructured or semi-structured techniques can be utilised to collect data. These techniques or methods can include in-depth interviews and group discussions.

One of the key strengths of this approach is that qualitative explanations may play a critical role in indicating possible relationships, impacts and causes in a dynamic way. Burns (2000) explains that qualitative research adds 'blood' and 'flesh' to analysis in social contexts. As quantitative analysis is not involved, the research is descriptive and narrative in style. Nevertheless, some criticisms have been made of post-positivism. Goldbart and Hustler (2005) argue that post-positivism does not allow for generalisations because it supports the study of small cases only, which do not tend to pertain to an entire population. But, according to other experts (e.g., MacDonald et al. 2002), post-positivism involves detailed inquiries that allow researchers to obtain knowledge about a particular subject. Case studies and in-depth interviews are the main methods used in this genre of post-positivistic research.

There has been strong advocacy for much more extensive use of this approach to the study of cost management practices in their natural situation. Burns (1989, cited in Gurd et al. 2002), for example, describes four case studies in US industrial firms; the work explores the factors that have an impact on cost and management accounting lag. Kasurinen (2002) organises a longitudinal case study in a strategic business unit of a multinational Finnish-based metals group in order to study the barriers to BSC implementation. Scapens et al. (1998) – one of the early cost management case studies – explore the implications of ERP (especially SAP) systems for management accountants in large multinational corporations as part of CIMA-funded research. Granlund and Malmi (2002) describe a field study of 10 companies to explore the impact of ERP on cost and management accounting practices and management accountants' work in Finland. Data were collected through interviews and from written documents. In Egypt, El Sayed (2006) outlines a longitudinal case study to examine the impact of ERP on accountants' roles and expertise in an Egyptian firm (Sun Steel). Face-to-face interviews were the primary data collection method.

Accordingly, research on cost management has utilised different ontological, epistemological and methodological perspectives. However,

much of the existing literature is framed by the salient characteristic of mainstream positivistic research, which views cost management as 'contingent'. Many scholars rely upon surveys while some others apply consulting-oriented conceptualisations. These studies provide predictive theories and models but fail to appreciate cost management as a 'situated practice', that is, within its natural context (see Wickramasinghe 2011; Yazdifar et al. 2012; Carr et al. 2013). Thus, there remains an academic need to understand and theorise cost management practices within their different politico-economic, field and organisational settings, especially in less developed countries.

### 4.3 Extended Case Method

Burawoy (1998, 2009) and some other early 'Manchester School' researchers developed the 'extended case method' to provide the case study with a capacity to deal with macro-micro connections. In his own use of the extended case method Burawoy (1998, 2009) drew on his experiences as a research officer in the Zambian copper industry to elaborate on Fanon's theory of postcolonialism. He exposed the roots of consent to American capitalism by applying Gramsci's theory of hegemony to his own experiences as a machine operator in a South Chicago factory. He explored the nature of work organisation and class formation under socialism by combining Szelenyi's (1986) theory of class structure and Kornai's (1980) theory of the economics of shortage. This work was based on labourers in Hungarian factories that produced champagne, cars and steel. Subsequently, he worked his way outwards from a small furniture factory in northern Russia in order to develop theories concerning the transition from socialism to capitalism. Here, he drew on Marxist notions of merchant and finance capital.

Although it is more usual for ethnographic studies to confine themselves to claims about the everyday worlds they examine, Burawoy (1998, 2009) is not alone in 'extending out' from the field. Indeed, this was one of the hallmarks of the Manchester School of social anthropology, which first coined the phrase 'extended case method'. Instead of collecting data from informants about what 'natives ought to do', Manchester



anthropologists began to fill their diaries with accounts of what ‘natives’ were actually doing, with accounts of the events, struggles and dramas that took place over space and time. They brought out discrepancies between normative prescriptions and everyday practices – discrepancies they traced to internal contradictions but also to the intrusion of colonialism. Manchester anthropology began to restore African communities to their broader, world historical context.

Not only in Africa but also in the USA there is a rich if inchoate tradition of scholarship carried out using the extended case method (Burawoy 1998). Community ethnographies have not always stopped at the tracks but have incorporated the wider contexts of racism and labour markets as well as urban political regimes. Workplace ethnographies, traditionally confined to ‘plant sociology’, have also taken into account such external factors as race and ethnicity, citizenship, markets and local politics (see Smith 1990). Participant observation studies of social movements are located in their political and economic contexts (Johnston 1994). Ethnographies of the Manchester school have always sought to explain how education is shaped by, and at the same time influences, wider patterns of social inequality (MacLeod 1987). Family ethnographies do not ignore influences beyond the household, upholding Dorothy Smith’s (1987) feminist injunction to locate lived experience within its extralocal determinations (Lamphere et al. 1993).

The rudiments of the extended case method abound in these examples and elsewhere. Burawoy (1998) proposes the importance of bringing ‘reflective understanding’ to the extended case method by raising it to the ‘level of explicit consciousness’. But, contra Weber, this is not simply a clarificatory exercise: it has significant repercussions for the way we conduct social science. Indeed, it leads to an alternative model of social science and thus to alternative explanatory and interpretive practices – something social scientists are reluctant to countenance. Burawoy (2009, p. 23) argues:

We prefer to debate appropriate techniques or even tolerate the rejection of science altogether rather than face the possibility of two coexisting models of science, which would wreak havoc with our methodological

prescriptions. Still, I hope to demonstrate that reflexive science has its payoff, enabling the exploration of broad historical patterns and macrostructures without relinquishing either ethnography or science. By ethnography I mean writing about the world from the standpoint of participant observation; by science I mean falsifiable and generalisable explanations of empirical phenomena. In developing my argument it will be necessary to distinguish (a) research method (here survey research and the extended case method), which is the deployment of (b) techniques of empirical investigation (here interviewing and participant observation) to best approximate (c) a scientific model (positive or reflexive) that lays out the presuppositions and principles for producing science.

In elaborating on the different dimensions of the extended case method, Burawoy (1998) presents it as a science, albeit a reflexive science, in order to improve its execution by recognising its limitations and drawing out broader implications for the way we study the world. Here, Burawoy returned to a study conducted between 1968 and 1972 in the then-newly independent African country of Zambia. He selected this study because it effectively illustrates both the virtues and the limits of the extended case method. First, the virtues: the extended case method is able to dig beneath the political binaries of coloniser and colonised, white and black, metropolis and periphery, capital and labour, to discover multiple processes, interests and identities. At the same time, the postcolonial context provides fertile ground for recondensing these proliferating differences around local, national and global links. Second, the limits: the extended case method comes up against the very forces it displays. As the renascent field of 'colonial' studies makes clear, the colonies were not simply the site of exotica but of experiments in new tactics of power, subsequently reimported to the metropolis (see Stoler 1995). Domination took on especially raw and exaggerated forms, transparently implicating sociologists, and especially anthropologists, and colouring their vision in unexplicated ways (Stoler 1995). Colonial and postcolonial regimes of power throw into relief the inherent limitations of the extended case method.

Thus, this method highlights the social embeddedness of reflexive research. Burawoy (1998, 2009) goes on to show how it violates each of the four principles of positive science (see Table 4.1). However, the

**Table 4.1** Comparison between positive science and reflexive science

Positive science		Reflexive science	
Positive principles	Survey research method	Context effects	Reflexive principles
Reactivity	Stimulus/ response	Interview	Intervention
Reliability	Standardisation	Respondent	Process
Replicability	Stabilisation of conditions	Field	Structuration
Representativeness	Sample to population	Situation	Reconstruction
			Extended case method
			Extending observer to participant
			Extending observations over time and space
			Extension from process to forces
			Extension of theory
			Power effects
			Domination
			Silencing
			Objectification
			Normalisation

Source: Burawoy (1998, p. 26)

extended case method is not alone in violating positive principles. Burawoy (2009, pp. 24–25) argues:

Survey research, the quintessentially positive method, transgresses its own principles because of inescapable context effects stemming from the indissoluble connection between interviewer and respondent, and from the embeddedness of the interview in a wider field of social relations. We can either live with the gap between positive principles and practice, all the while trying to close it, or formulate an alternative model of science that takes context as its point of departure, that thematises our presence in the world we study. That alternative is the ‘reflexive’ model of science that, when applied to the technique of participant observation, gives rise to the extended case method.

In my own use of the extended case method I have investigated the connection between macro environmental changes and micro organisational changes. It is an appropriate methodological approach to understanding both the emergence of strategic cost management vis-à-vis the historical changes occurring in wider politico-economic and industrial contexts, and how the case company changes its cost management structures, processes and practices to align with macro changes. It addresses different research aspects of cost management phenomenon in its natural setting. My view of the data collected comes from two perspectives. The first perspective relates not only to market and industry conditions (i.e., the competitive structure of the business), which makes ‘cost management’ one of the strategic aspects, but also to changes in the wider political ideologies that drive such structural changes in the competitive context. The second perspective relates to the internal reconfiguration of organisational structures, processes and practices through which such exogenous demands are internalised into a durable set of strategic cost management practices.

## 4.4 Case Site

The MEEDCO has been selected as the case site. MEEDCO is one of the biggest E&E distribution companies in Egypt; it has 13 branches in different governorates. It has a unique competitive position in the

Egyptian E&E market – its market share currently exceeds 56 per cent and its annual profits have increased to 1.7 billion Egyptian Pounds. It has 8,718 employees including engineers, technicians and administrative staff (see MEEDCO 2013), with qualified and experienced employees across specialised areas.

MEEDCO has been selected for two main reasons. Firstly, it is illustrative of wider current economic transitions: it is significantly influenced by economic and structural programmes that have been undertaken to transform Egypt from a centrally planned economy to a free market-oriented economy (see Chapters 5–7). Secondly, the selection of MEEDCO reflects the level of access gained during the empirical study. The aim was to find a research site at which certain research conditions exist. The choice of MEEDCO is consistent with Marshall and Rossman (1995), who delineate four ideal conditions for research sites, which, they note, are seldom completely attained. These are that entry is possible, that there is a high probability that a rich mix of processes, people, programmes, interactions and structures of interest are present, that the researcher is likely to be able to build trusting relations with the participants in the study and that data quality and the credibility of the study are reasonably assured.

Formal written permission was obtained from the Central Agency for Public Mobilisation and Statistics (CAPMS) in Egypt (via the Egyptian Cultural Bureau in London) to facilitate the collection of data in the case company. According to Presidential Decree No. 2915 of 1964, CAPMS is considered to be the official source providing the state's agencies, authorities, universities, research centres and international organisations with the data, statistics and reports that serve the activities of planning, development, evaluation, policy formation and decision-making. It authorises the collection of data from these organisations. Its permission was necessary for conducting data collection, considering the nature of the case company: it is an SOE. Informal personal contact with the financial manager (FM) was effective in identifying interviewees and accessing much of the empirical evidence associated with the research questions and aims.

Friendly relations were established with some staff during field visits. These continued and were fruitful in making some inquiries via email or by telephone calls during data analysis.

## 4.5 Pilot Study

A pilot study can be considered to be the final preparation for the main data collection phase. It helps in refining data collection plans with regard to research design and field procedures. It differs from a pre-test in which the intended data collection plan undergoes a final test run. Yin (2009), for example, argues that the pilot study addresses substantive and methodological issues. In terms of the former, it provides considerable insight into the basic issues being studied. Methodologically, it can provide information about relevant field questions and about the logistics of the field inquiry:

A pilot case study will help you to refine your data collection plans with respect to both the content of the data and the procedures to be followed. In this regard, it is important to note that a pilot test is not a pretest. The pilot case is more formative, assisting you to develop relevant lines of questions – possibly even providing some conceptual clarification for the research design as well. In contrast, the pretest is the occasion for a formal ‘dress rehearsal’, in which the data collection plan is used as the final plan as faithfully as possible. As a result, the pilot test might preferably occur before seeking final approval. (Yin 2009, p. 92)

For my pilot study I spent one month at MEEDCO from 23rd November to 22nd December 2012. It was useful for the final research design, especially when taken in conjunction with my ongoing review of the relevant literature on cost management, which meant that the final research design was informed by prevailing theories and fresh empirical observations. These dual sources of information assured that the study reflected issues of theory that were relevant to the contemporary case.

My pilot data changed the research aims and questions. Based on what I observed, there were two research issues. My first observation was the strategic significance of cost management. Cost management seemed to be, at both strategic and operational levels, one of the central management themes. Thus, the first question of the final research design was to explore how cost management became a strategic imperative, that is, the research sought to answer how we can understand the emergence of strategic cost management vis-à-vis the historical changes occurring in wider politico-economic and industrial contexts.

My second observation concerned the processes and practices of cost management. Cost management was practised through different operational phases, including cost estimation planning, cost calculation, cost allocation, cost measurement, cost reporting and cost controlling. Most of these practices were changed by macro political reforms that were, and still are, regarded as strategic cost management tools – for example, privatisation, modernisation and state budget reforms. The second question, then, was to ask how macro political changes are implicated in organisational structures, processes and practices, that is, the research sought to answer how companies change their cost management structures, processes and practices to align with such changes.

The pilot study also determined further relevant research areas. The most influential ones were the fieldwork themes, interview issues and interviewee categories. [Table 4.2](#) outlines these aspects, further details of which, alongside their associated fieldwork data, will be shown in the forthcoming chapters (see [Chapters 5–7](#)).

## 4.6 Data Collection Methods

This study requires two main categories of empirical data in order to address to the proposed questions and aims. The first category is data that reveal changes at the wider politico-economic level and at field level. The second data set required is one that reveals changes in micro organisational structures, processes and practices (including technological adaptations). While the macro data have been collected from secondary published

**Table 4.2** Fieldwork themes, issues and interviewee categories

Fieldwork themes	Interview issues	Interviewee categories
The firm's profile	<ul style="list-style-type: none"> <li>• Main activities</li> <li>• Structure</li> <li>• Strategies</li> <li>• Competition</li> <li>• Decentralisation</li> <li>• Firm size</li> <li>• Laws and regulations</li> </ul>	Management accountants Line managers
ERP and associated technologies	<ul style="list-style-type: none"> <li>• Type of technologies used</li> <li>• Reasons for implementation</li> <li>• Ends of the project: designers, administrators and users</li> <li>• Tools and equipment used</li> <li>• Critical success factors</li> </ul>	Management accountants Line managers IT specialists
Historical events and changes	<ul style="list-style-type: none"> <li>• Operational conditions before ERP</li> <li>• Operational changes after ERP</li> <li>• Financial ratios before and after ERP</li> </ul>	Management accountants Line managers IT specialists
Cost management rules and routines	<ul style="list-style-type: none"> <li>• Cost estimation planning</li> <li>• Cost calculation</li> <li>• Cost allocation</li> <li>• Cost measurement</li> <li>• Cost reporting</li> <li>• Cost controlling</li> </ul>	Management accountants Line managers

materials (e.g., reports, periodical magazines, local newspapers, journal articles and websites), the micro data have been collected from actors in the organisation studied (e.g., accountants, operational managers and IT staff).

My study depends on a data triangulation strategy that moves among interviews, observations and documentary readings to ensure that the micro data collected are reliable and valid. Easterby-Smith et al. (1991), for example, argue that validity is determined by whether the researcher has gained full access to the knowledge and meaning of the informants. It refers to the extent to which a researcher's account accurately reflects the features of the phenomenon that it is intended to explain or theorise. Reliability reflects whether results are consistent



with the data collected, which is an issue that closely relates to the theoretical framework selected (Easterby-Smith et al. 1991).

Furthermore, McKinnon (1988) notes four main threats to reliability and validity in field research. These are observer-caused effects, observer bias, data access limitations and the complexities and limitations of the human mind. Hence, the strategies and tactics I employed to ensure reliability and validity will be explained in respect of the methods used. I mainly conducted in-depth interviews, complemented by elements of observation and document collection. This kind of combination of data collected from multiple sources is called 'triangulation' and is generally advocated (see Locke 2001). The use of multiple methods secures an in-depth understanding of the phenomenon in question and provides strong substantiation of theoretical constructs and hypotheses (Locke 2001). The three data sources are addressed in turn in the section that follows.

#### 4.6.1 In-Depth Interviews

Interviewing raises the issue of what form interviews are to take. Distinctions are made among structured and unstructured or semi-structured interviewing (Fontana and Frey 2000). While structured interviewing captures precise data of a codable nature in order to explain behaviour within pre-established categories, unstructured or semi-structured interviewing understands complex behaviour without imposing a priori categorisation that may limit the field of inquiry. Structured interviews are structured by closed questions whereas unstructured or semi-structured interviews largely depend on the kinds of open-ended questions that are essential to the extended case approach. Easterby-Smith et al. (1991), for example, argue that semi-structured interviews are a useful data collection method to understand the construct that an interviewee uses as a basis for his or her opinions and beliefs about a particular situation. One aim of the interview is to develop an understanding of the respondent's world so that the researcher might influence it, the step-by-step logic of a situation is not clear, the subject matter is highly confidential or commercially sensitive, and the interviewee may be reluctant to be truthful about this

issue other than confidentially in a one-to-one situation. Consistent with the aims of this book, interviews were conducted in a semi-structured manner, allowing respondents to focus on the issues that were of particular concern to them. With progressive data analysis and the development of concepts and categories, interview questions were narrowed down in order to focus on specific aspects of the developing theory.

Interviews were tape recorded whenever possible and the majority were transcribed. They were conducted in either Arabic or English, the choice being left to the respondents. However, Arabic is the first language of the majority of respondents, and most interviews were in Arabic. These were left in their original language, but analysed using English terms whenever possible. Strauss and Corbin (1998) suggest that only minimal translation of interviews should be carried out. The problems of achieving an accurate translation are well known – and were shared by this researcher. Many of the original subtleties of meaning in one language are lost in translation, and too much valuable time and meaning can be lost in translating all materials. However, elements of some interesting interviews were translated in order to be included as direct quotations in the data and analysis chapters (see [Chapters 5–7](#)). Particular care was taken with these pieces of data to find the right wording, approximating the original as closely as possible.

The interview schedule included people from different locations and with different roles; for example, the research included accountants, operational managers and IT staff. Interviewing a breadth of types of people allows for different perspectives to emerge. It further contributes to validating the statements of different respondents, and to getting a richer picture of phenomena. Cutcliffe (2000), for example, stresses the importance of finding the right balance between a wide and a narrow, or more focused, sample. The sample was kept broad at first, with the aim being to get a differentiated understanding of what was going on in the company. With increasing time spent and the advancement of the emergent theory, the sample width was kept more or less constant, but the same people were interviewed again, now focusing on the development of the theory.

I visited the case company nine times during a planned period for the main data collection phase from 15th November 2013 to 15th February 2014. The interval between each visit ranged from 7 to 10

days. I conducted four to five interviews during each visit and spent the whole working day within different operating departments. I was there from the beginning of the working day for employees (i.e., from around 8 a.m.) until they finished their operational routines at 3 p.m. On two of these field visits I was accompanied by the FM. In all, 42 formal interviews were conducted with 28 different people, namely, 16 accountants, 7 operational managers and 5 IT staff. Their practical experiences in the management and accounting field ranged from 5 to 25 years.

These interviews were conducted with several management and accounting actors within their operating departments – that is, General Accounts and Budget, Cost Accounts, Inventory Accounts, Production, IT, and Planning and Monitoring – except in the case of the head of the Inventory Accounts Department, to whom I spoke during lunch time at the company's restaurant. On one of these field visits I was invited to have lunch at the company's restaurant by the FM. This was an unstructured conversation. These field interviews were conducted at diverse intra-organisational levels, with both senior and junior personnel. They ranged from 30 minutes to two hours depending on work circumstances and the time available with each interviewee. The shortest interview was about 30 minutes and the longest was about two hours. Most interviews, however, lasted for around one hour. Two joint meetings were conducted, involving a discussion between the researcher, the Marketing Manager and the FM, and between the researcher, the head of the Cost Department and the IT Manager. Some photographs were taken of employees during their daily activities.

The interview questions differed from one interviewee to another depending on who they were and what they did. However, most questions during the semi-structured interviews concentrated on day-to-day (or periodic) activities for management and accounting people in order to explore the activities that they carried out, how they related to 'cost management' through their day-to-day regular practices, whether ERP was present in these practices, or whether they used alternative technologies, how ERP framed and defined these activities, as well as the processes and their tangible outputs, and how their roles,

the skills that they need to master and the knowledge that they have to demonstrate are framed by ERP. At the end of each interview I was given contact details for interviewee(s) so that s/he might be recalled later in the data analysis phase: this was to facilitate a fuller understanding of anything that remained vague and to enable a follow-up to anything new that might have occurred in their operational cost management practices.

The exclusive use of interviewing can pose some problems, as respondents may not be able to fully explain their actions or may distort information on purpose – they might adapt to the interview situation at hand. McKinnon (1988, p. 38) refers to this in terms of ‘the complexities and limitations of the human mind’. This may pose a threat to reliability and validity in that respondents may consciously mislead the researcher or natural human tendencies and fallibilities may affect their reports without dishonest intentions. This may be linked to respondents forgetting things, being biased, or simply taking some aspects of interest for granted and thus failing to mention them. It can be argued that given the considerable length of time spent in the company, and the nature of the relationship between the respondents and the researcher, these threats have been addressed in the present work. Probing questions have been advocated as a powerful means to tackle these threats, and they were used extensively in these interviews. Elements of observation and document analysis were included in order to counterbalance potential distortions.

### 4.6.2 Observation

Observational evidence can be useful in providing additional information, while it also complements other forms of data such as interviews. There are distinctions to be made among observational methods, ranging from complete participation to complete observation. For this book, a non-participant role was taken, as more participation would have required long periods of immersion, which was not feasible. Observation can be formal (e.g., the observation of meetings) and less formal (e.g., as suggested by Yin (2009), observations made during

a field visit). Eight direct observations, which will be presented in detail where appropriate in subsequent empirical chapters, were made during the interviews and/or during two meetings attended with key organisational actors.

Informal observation was conducted at any time I was present in the company. Any opportunity to spend time inside the company was used, even on days when no interviews were scheduled. I was given an office (next to the FM's office) to operate from during my stay in the company. I joined the FM and his staff during their lunch breaks, in the course of which numerous work-related discussions could be observed. I could move freely inside the company, thereby gaining access to the on-site library and other information sites. Such instances contributed greatly to my knowledge about the company and to getting a feeling for what was going on in general terms.

Formal observation was a more sensitive issue. I made a request to be able to observe various meetings, but this was at first declined, due to the confidentiality of the issues that were being discussed, especially if these were considered strategic. Nevertheless, the evolving relationship and increasing levels of trust between the 'gatekeepers' and the researcher resulted in limited access to meetings eventually being granted. Management accounting meetings were observed at corporate level and in one division. These were not recorded on tape but recorded in fieldnotes. Observation of meetings contributed to a further understanding of management accounting interactions and decision-making.

Issues of reliability and validity of observations should of course be raised. Participants can potentially behave differently when an observer is present than in a normal interaction. This has to be recognised and observations have to be evaluated with due care. McKinnon (1988) notes that social behaviour in the field can have a positive impact both on this issue and on the access problem indicated above. Increasing confidence, trust and respect towards the researcher can unlock access to data and contribute to a good relationship between the two parties. This was certainly the case for this research, during which great care was taken to build up such a relationship, with the consequence being that the researcher was perceived as progressively less obtrusive over time. An analysis of documents can also further the researcher's understanding of the extended case study.

### 4.6.3 Documents

Documents provided a rich source of information on the company in general, but also an additional source from which to gain an understanding of numerous organisational processes, notably with reference to accounting. A whole range of texts, from internal to publicly available documents, were collected, viewed and analysed. Internal documents could in some cases be photocopied and taken away, and in other cases be consulted in the company. Extensive notes were taken when they could only be consulted. Publicly available documents were collected on site or printed from the company website and business-related newspapers.

The use of documents is to support and augment evidence from other data sources (Yin 2009). Researchers need to be aware that any document is written for some specific purpose and audience other than those of the case study conducted. Documents were approached with a critical and questioning stance and not taken at face value, particularly if they were provided for the general public. A complete list of documents is provided in Table 4.3.

## 4.7 Conclusion

This chapter has outlined the main methodological features of my book. The interpretative paradigm, the qualitative approach and the extended case study are the main features. These are appropriate to the subject of the study and to repeated calls in the existing literature to provide in-depth understanding of a specific organisational phenomenon – here, cost management (see Uddin and Hopper 2001, 2003; Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008).

An extended case method was designed, which includes specific processual steps. According to Burawoy's (1998, 2009; see also Harrington 2005) methodological and sociological view, the first step is the preparation, which identifies the theory by which to interpret the results of the research. It contains a clear demarcation of the research questions and the number of case studies. The second step is the data collection phase, which includes the triangulation of methods used (i.e., interviews,

**Table 4.3** Documents collected during fieldwork

No.	Documents
1	Published report by the Egyptian Stock Market (the Information Centre) on management and accounting irregularities committed
2	Screen captures of daily work screens inside the departments of General Accounts & Budget, Cost, Inventory Accounts, Production, IT and Planning & Monitoring
3	Screen captures of procedural protocol for one of the operational cost management processes
4	Training materials for some ERP functionalities (e.g., production planning and financial management functionalities)
5	ISO certificates that the firm obtained during the period 2004–2010
6	Some reports that senior management require regularly, e.g., the quarterly cost report
7	Some further reports that senior management sometimes request, e.g., a report on customers, daily supplies disbursed, etc.
8	Budget 2014/2015, showing quarterly targeted production and sale plans (and hence, quarterly targeted cost and revenue estimates)
9	IT report showing day-to-day (or periodic) problems for ERP users
10	Internal auditing report showing daily operating errors in different departments
11	Exchanged emails between the firm and senior management about daily operating performance
12	Some visual facilities provided to customers, e.g., screens showing different sale prices, how to query monthly bills, how to pay online
13	Some financial analyses and market ratios were made available
14	Exchanged emails between the researcher and the FM. During the data analysis phase, some cost report items were vague and needed to be explained in greater detail. I sent two emails to the FM to inquire about their meanings and he replied to my inquiries

observations and documents). This and subsequent stages comprise the mechanism by which the data collection checks the validity and conduct supplementary necessary tests, in addition to how the results of the study are explained by institutional theory. A summary of my data collection sources is provided in [Table 4.4](#).

In [Chapters 5–7](#), the empirical results are twinned with institutional theory, and these are then interpreted, analysed and compared with the results available in the existing cost management literature. Next, [Chapter 5](#) discusses the economic and political history of the E&E

**Table 4.4** Summary of data collection sources

No.	Data sources
1	Semi-structured interviews: tape recorded 40, notes taken 2 Category: accountants, managers, IT personnel Duration: 30 minutes to 2 hours
2	Documentary evidence
3	Emails
4	Phone calls
5	Direct observations
6	Websites
7	Screen captures of operational structures, processes and practices
8	Two meetings attended
9	Secondary published materials (e.g., articles, newspapers, reports, etc.)

field, [Chapter 6](#) discusses the dynamics of intra-organisational behaviour change in the case company and [Chapter 7](#) discusses the intra-organisational change in cost management practices, that is, in terms of actions, routines and institutionalisation.

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# 5

## History: The Politico-legal Construction of the Organisational Field

### 5.1 Introduction

In Egypt, E&E are managed at three distinct but interrelated institutional levels: political, field (i.e., as a distinct industrial sector) and organisational. This chapter provides an analysis of how politico-historical forces have constructed the E&E sector as a distinct field of management. It examines the historical evolution of managing E&E as a 'political phenomenon'. It focuses on the specific technological, political and institutional tools that the government has adopted not only for the management of production, transmission and distribution of electric power but also as a politico-economic approach to paving the way for 'cost' to become a central strategy in E&E enterprises.

The E&E field evolved during a set of distinct, historically specific, political regimes: colonial, post-independence nationalisation, liberal and neoliberal. It has always been managed more through political than economic means (i.e., more through political technologies than by economic technologies of efficiency). Even in instances where technologies of efficiency were deployed, there were macro political intentions attached. The aim of this chapter is to demonstrate this through

historical and contemporary data. This has been the case throughout, despite recent neoliberal attempts to ‘depoliticise’ and to use economic and managerial technologies to manage E&E production and distribution across the country. Such agendas of ‘delopoliticisation’ are indeed political in the sense of being a part of a neoliberal global politics of emancipating the market from state intervention. Thus, cost management practices, and especially their historical evolution in this industry, need to be understood in the context of wider politico-historical dynamics. In other words, in accordance with Dillard et al. (2004), the institutional evolution of the E&E sector is most fully explored by locating it within the wider politico-historical dynamics of Egypt as a nation state. According to Dillard et al.’s (2004) model, ‘political criteria’ need to be recognised in the evolution of the political state (and not simply within a particular field). Distinct fields such as E&E are constructed by the political logic of the state, and the establishment of political criteria is part of the evolution of the political state.

This chapter is structured into four main sections. [Section 5.2](#) addresses the first phase of the evolution of the political state – the colonial phase, which witnessed the birth of electricity as a necessity of modernity. This section discusses the political, economic and cultural impetus to introduce electricity to the nation, how lighting and providing energy to the nation through electricity became a political ambition of the state and the economic mechanisms that the colonial state pursued in this regard. [Section 5.3](#) discusses the postcolonial phase (or rather, the anti-colonial, in the case of Egypt’s revolutionary, nationalist politics after independence). This section explains the ‘political processes’ through which ‘anti-colonial state despotism’ became a ‘regime of control’ during the postcolonial period. It also explores the idea that the postcolonial changes in the E&E sector were a manifestation of the changes taking place in the political state. [Section 5.4](#) then extends these notions to the neoliberal state and the neoliberal reconstruction of the E&E sector as a distinct economic field that had a degree of independence from state politics. It explores the different set of managerial and administrative rationales that were brought in with recent neoliberal policy reforms. [Section 5.5](#) summarises and concludes the chapter.

## 5.2 Colonial Phase: Pre-1950s

Colonialism created the essential features of the modern Egyptian state by giving it a centralised administration, a legal system, a flag and internationally recognised boundaries (Issawi 1961). The British occupation of Egypt lasted from 1882 to 1956, when the last troops withdrew in accordance with the Anglo-Egyptian agreement of 1954. The first period of British rule (1882–1914) is often called the ‘veiled protectorate’ (Osman 2010, p. 33). During this time the Khedivate of Egypt remained an autonomous province of the Ottoman Empire; the British occupation had no legal basis but constituted a *de facto* protectorate. This state of affairs lasted until the Ottoman Empire joined the First World War on the side of the Central Powers in November 1914, and Britain unilaterally declared a protectorate over Egypt. The khedive was deposed and his successor, Hussein Kamel, was compelled to declare himself Sultan of Egypt, independent of the Ottomans, in December 1914 (Osman 2010, p. 33).

The formal protectorate over Egypt did not long outlast the war. Fahmy (2011, p. 138) argues that it was brought to an end by the unilateral declaration of Egyptian independence on 28 February 1922. Shortly afterwards, Sultan Fuad I declared himself King of Egypt, but the British occupation continued, in accordance with several reserve clauses in the declaration of independence. The situation was normalised in the Anglo-Egyptian treaty of 1936, which granted Britain the right to station troops in Egypt for the defence of the Suez Canal – its link with India. Britain also continued to control the training of the Egyptian Army. During the Second World War (1939–1945), Egypt came under attack from Italian Libya on account of the British presence there, although Egypt itself remained neutral until late in the war. After the war Egypt sought to modify the treaty, but it was abrogated in its entirety by an anti-British government in October 1951. After the Egyptian Revolution of 1952, the British agreed to withdraw their troops, and they had done so by June 1956. Britain went to war against Egypt over the Suez Canal in late 1956 but, with insufficient international support, it was forced to back down (Fahmy 2011, p. 139).

During the colonial phase, private investors (some of whom were European, although they were mainly British) played a central economic role of investment in and management of the E&E sector (Osman 2010). The role of government was to facilitate this through proper administrative and legal measures such as the enactment of laws, awarding contracts and concessions to their own nationals, looking after the interests of their own merchants and, in general, attempting to keep the colony as their own economic preserve. This was far outweighed by the benefits to be obtained in terms of control over Egypt's oil resources or access to each mandate's reserves of hard currency, which were placed securely in Egypt's national banks (Osman 2010, p. 33). Hence, the colonial beginning and the subsequent expansion of the industry was a story of economic investments, on the one hand, and a legal framing of the industry, on the other. Such economic and legal institutionalisation of the field was a matter of political ambition and the requirement for the colonial state to 'modernise' the colony along with the evolving 'modernisation' ideologies of Western centres.

Electricity was a 'necessity' of modernity during the colonial phase. The politico-historical transformation from 'gas' lighting to 'electric' lighting was the main feature of the colonial practices in this particular field in 1893 (Patlitzianas et al. 2006). The technological advances and subsequent innovations of the nineteenth century had brought about a cultural shift in Egypt's colonial sensibility, in which it was possible to imagine a demand for new and improved facilities and amenities. This extended to superior forms of artificial lighting – a 'field' in which there was the commercial prospect of a new alternative. Prior to the introduction of electric light the most common forms of domestic illumination were paraffin lamps and candles and then, from the beginning of the nineteenth century, the gas lamp. Issawi (1961) argues that public gas supply in Egypt was extensive by the 1880s (about one and a half million consumers compared to six million dwellings). It was comparatively cheap and it was generally agreed that like any developing technology electric lighting would remain more expensive than gas lighting, at least until the end of the nineteenth century.

However, this conclusion was widely disputed and the debate regarding the comparative 'costs' of electricity and gas rumbled on throughout the

final decades of the nineteenth century as the two industries competed for commercial supremacy (Osman 2010). Predictably, the introduction of a new lighting technology had antagonised the gas companies, leading to significant commercial rivalry between the two industries. In other arenas, these debates were often played out through the trade press – the electrical engineering industry boasted several weekly publications, including *The Electrician*, *The Electrical Engineer* and *The Electrical Review*, each of which provided forums for the discussion of all matters concerning electrical engineering in Egypt, including electric lighting. Each publication also included news of individual electricity stations, which were rapidly increasing in number. To illustrate these industrial relations, as part of an annual review of the electric lighting industry, the following appeared in a weekly electrical engineering trade journal (1882, p. 121, cited in Fahmy 2011, pp. 138–39):

Our contemporaries, the papers devoted to gas interests, are in a somewhat similar plight to the man who has eaten too much lobster for supper – rather crabbed. They evidently desire to veer round, so as to become the organ of electric lighting interests, for their columns are from week to week devoted more largely to the subject. Yet, feeling that the electric light may possibly be a failure, and that it is impolite to be off with the old love before safely on with the new, they never hesitate to question the accuracy of the figures as given for the cost of electric lighting. The statement is however that the cost of electricity . . . is a matter which is unassailable.

This particular example involved the relative price of gas, but it was a matter of inevitability that the gas industry would eventually have to accept that electric lighting was superior in both illumination and convenience of use, which British civil engineer Thomas Grierson predicted as early as 1881. In an article on ‘Electric Lighting in the Middle East by Water Power’, Grierson (1881, p. 105, cited in Osman 2010, p. 33) forecast:

That electric light in Egypt will, at all events, be the light of the near future for public thoroughfares, railway termini, and the lighting of large



areas generally, few who have given the subject any consideration at all will deny – excepting, perhaps, those who being holders of ‘gas shares’ are naturally interested for the success of gas lighting.

Grierson’s convictions about the potential of electric lighting, and the inevitability of its succeeding gas, evidently antagonised those with interests in gas. Whether his belief in the merits of electric lighting was commercial optimism or an educated industrial prediction, his statement highlights the fierce competition that existed between the gas and electric industries towards the close of the nineteenth century. Additionally, regardless of the gas industry’s weakening grip on the domestic lighting market, there is no doubt that it had done much to improve the standards of domestic illumination, negating the need for candles, wick and tallow (Wamukonya 2003).

The technological advances of the nineteenth century had created a growing appetite for stronger illumination at night than gas lighting could provide. By the early 1880s people’s experience of the few electric lighting demonstrations installed was that it produced a softer, steadier and more brilliant illumination (Grierson 1881, cited in Osman 2010, p. 34). Coupled with this dissatisfaction with the luminance of gas, issues of safety and convenience were also a concern. Gas lighting was particularly problematic in enclosed public spaces such as theatres, where it tended to raise the atmospheric temperature. This was perhaps less of a problem in winter but in summer it was clearly undesirable. By comparison, electric incandescent lighting did not heat or vitiate the atmosphere or blacken decorations, such as oil paintings and gilding, as gas lighting could (see Al-Ahram 1881, cited in Fahmy 2011, p. 139). Such factors led to a general disgruntlement with gas lighting, which was increasingly viewed as an outdated technology (Byatt 1979).

As well as these aesthetic considerations, gas lighting presented a more serious problem to those using it, because of its effects on human health. In enclosed public spaces gas tended to drain the oxygen from the air, causing people to feel both nauseous and drowsy – an aspect of gas lighting that had been the subject of much public concern. For example, in reference to public lighting, the *Daily Al-Ahram* (1881, cited in Fahmy 2011, p. 130) described gas as ‘a noxious, explosive vapour like

carburetted hydrogen'. Gas, as a source of artificial lighting, connected to discourses of public health, a pre-occupation in nineteenth-century society, through its perceived ability to create 'bad air'. Colonial state imaginings about the connection between environment and health, specifically air, held that disease was caused by inhaling air that was infected through exposure to corrupting matter – a concept otherwise known as 'miasmatic theory' (Kendie 1999). Although this was a perception that predominated in the early colonial period, as a result of cholera epidemics between 1831 and 1866, it survived into the early twentieth century (Kendie 1999, p. 141).

Despite a general lack of scientific understanding, given the practical and environmental concerns over gas lighting, there was an assumption that a conversion to 'electricity' was desirable (Williams and Ghanadan 2006). The installation of electric lighting in the residences of the wealthy helped to position electric lighting as an early example of an 'aspirational good'. For example, Kendie (1999) observes that the installation of a system of incandescent lamps had led to the new amenity becoming a symbol of wealth. Testimonials in the trade journals demonstrated great enthusiasm for the introduction of electric light – partly as a result of the growing dissatisfaction with gas; partly due to the novelty of the technology. However, this consensus was also found beyond the pages of trade journals: articles discussing the new technology appeared in the local and national press. In capturing the cultural zeitgeist, a report of the debating of the Electric Lighting Bill, which appeared in *The Electrician* (1882, p. 233, cited in Fahmy 2011, p. 140), quoted a member of the British House of Commons as describing Egypt as 'wild about electric lighting', thus illustrating the demand for the new facility: it was driven by new social and cultural aspirations – a condition of the colonial state that extended beyond the material to the physical environment.

As a result of both the enthusiasm for electric light and the developing technology, from the early 1880s the public supply of electric lighting began to expand (Kendie 1999). Pivotal to this expansion were the electric lighting acts of 1882 and 1888. The growth of the electric lighting field, evidenced by both the number of electrical engineering companies established in Egypt and the volume of private bills

requested for ad hoc public supply stations, necessitated comprehensive legislation to regulate the new industry, which was provided in these two acts. As the industry was still considered experimental, the purpose of the legislation was to allow the electrical industry to develop the technology to furnish the public with an electricity supply by providing the facilities for companies or individuals to conduct the necessary experiments to get to this point 'in the simplest and cheapest manner' (Kendie 1999, p. 141).

The first electric lighting act was enacted by Royal Assent on 18th August 1882 (Kendie 1999, p. 141). This act enabled intending suppliers to apply for licences, referred to as 'provisional orders', to lay the cabling for the electricity mains under the streets; it thus created a legal power to supply electricity. Although some previous installations had used overhead cables or mains cabling laid out in the open in the street, most suppliers had found that underground cabling worked better from both aesthetic and practical points of view. The act thus allowed for the breaking up of the streets by private companies or local authorities for this purpose. In order to protect the public against the power of private monopoly, the act also provided for maximum prices and the purchase by local authorities of companies established under the act after 21 years (the reversionary purchase rule); these clauses came directly from the recommendations of a select committee report. The experience of the gas industry, in which gas companies had developed huge monopolies, caused concern amongst the Lords who placed great importance on preventing such a situation being repeated in the electric lighting industry: hence the emphasis on the limitation of powers (Patlitzianas et al. 2006).

The passing of the act was followed by mass applications for orders; in the first month after the act was passed nearly 80 applications were received (Wamukonya 2003). However, despite the fact that by 1888 up to 74 provisional orders had been issued, these powers were never exercised. The problem lay in the licence period of 21 years, which, it has been argued, stifled the electricity supply industry because it deterred private investors from committing their capital. On 28th June 1888 a second act was passed, which extended the limited period from 21 to 42 years, making it attractive to investors for the first time (Williams and

Ghanadan 2006). This sentiment was voiced from within the industry, for example, by the Anglo-Egyptian Electric Light Corporation, which felt that the removal of this impediment would be ‘of material benefit to the industry’ (Kendie 1999, p. 141). The company was of the opinion that this would ‘prove a turning point in the history of the industry in Egypt and lead to a long anticipated revival in the Electric Lighting business’ (Kendie 1999, p. 141). Consequently, from around 1890, electricity supply in Egypt began to expand (Kendie 1999).

Electricity supply companies benefited from the natural resources of the Nile River in being able to generate using hydro-electrics (Wamukonya 2003). For example, Fort William Co. (British) and Lynmouth Co. (French) were two of the early companies that established hydro-electric stations in Egypt (1881–1900) (Wamukonya 2003). Water has historically played an important role in the production of energy in Egypt. However, it was not until the 1880s that the potential of water power as a source for the production of electrical energy was recognised. By this time there was already a well-established tradition of hydropower, principally through the use of the watermill, but also as a result of the introduction of the turbine in the mid-nineteenth century, which enabled hydropower to be employed indirectly as steam power, which, along with gas, drove the majority of ad hoc electricity generators during the nineteenth century. It was around this time that initial forays into hydro-electric power began, and hydropower became a form of energy that could be converted into an intermediary, transmitted and employed elsewhere (Kendie 1999).

The initial colonial imaginings of hydro-electric power probably envisaged unapologetically grandiose structures: feats of water engineering imposed upon rural, often remote, landscapes (Patlitzianas et al. 2006). Indeed, large-scale hydro-electric power developments of this type certainly became a characteristic of some twentieth-century Egyptian landscapes, specifically the Western Desert Highlands and to a lesser extent in the Al-Arish uplands. However, the beginnings of hydro-electric power for public supply were characterised by small-scale, private and municipal projects developed from the early 1870s. Prior to these developments, the earliest hydro-electric power schemes were adopted for the lighting of industrial, private (for large

houses and mansions) and commercial premises. This reflected a structural and organisational pattern in the field, which towards the end of the nineteenth century was characterised by small plants, serving both individual property holders and small, scattered communities (Kendie 1999).

By twentieth-century standards, during this phase of the development of hydro-electric power, installations were small scale both in physical terms and in operating capacity (Wamukonya 2003). Large-scale hydro-electric power development began with installations for industrial purposes and were initiated where the resources for this type of development were most abundant. The first scheme for industrial supply was constructed for the Foyers Aluminium plant on the east side of Al-Arish in 1896. The success of this operation stimulated the development of several other small-scale private schemes for industrial supply in Egypt before the First World War (Williams and Ghanadan 2006). The uplands of North Egypt had also been recognised during the early years of the twentieth century for their suitability for large-scale hydro-electric power generation, and between 1900 and 1910 three dams were constructed at Wadi Natrun, Aswan and Fayoum. Operated by the North Wales Power and Traction Co., the schemes supported predominantly industrial interests supplying a number of slate quarries in the state (Williams and Ghanadan 2006).

Hydro-electric power generation continued largely for industrial supply into the second and third decades of the century (Kendie 1999). However, by the end of the First World War problems of reconstruction in the Western Desert Highlands demanded attention. Geographically, socially and economically peripheral, the Highlands were perceived as an anachronism of the preceding century and in desperate need of economic and social modernisation. Given its suitability to the climate and topography of the Highlands, and its potential to inject renewed economic vitality, hydro-electric power came to be seen as an integral part of this model of economic and social regional regeneration (Wamukonya 2003). Thwarted by both political and cultural interests, which were informed by what can be described as rural preservationist and 'landed' preoccupations, however, it was not until 1943 that a more comprehensive approach to electricity provision in Egypt became possible (Wamukonya 2003).

In order to fully embrace the economic re-generation and subsequent modernisation of the state, a comprehensive hydro-electric development scheme was required (Kendie 1999). The 1942 report of the Cooper Committee (Scottish Office 1942, cited in Fahmy 2011, p. 145), commissioned to investigate the potential of Highland hydro-electric development, advocated the formation of a public service corporation; after the 1943 Hydro-Electric Development (Egypt) Act was introduced, the North of Egypt Hydro-Electric Board (NEHEB) was created with jurisdiction over electricity production and supply in the Highlands (Patlitizianas et al. 2006). Between 1951 and 1960, 32 hydro-electric schemes were constructed in the Western Desert Highlands by the NEHEB, incorporating 52 individual power stations – thus illustrating the vast scale and significance of hydro-electric power and renewable energy to Egyptian electricity supply (Kendie 1999).

Large-scale hydro-electric developments were also constructed in the Al-Arish uplands during the post-war period (Wamukonya 2003). Between 1944 and 1949, post-war reconstruction, and the new (British) socialist government's plans to modernise the nation through state control of key utilities, led to the proposal of six additional schemes (and two extensions) by the British Electricity Authority, comprising an extensive network of operating stations, dams and tunnels. However, the success of the proposals was obstructed by cultural conflicts largely coordinated by the Council for the Protection of Rural Egypt, which was concerned with 'preserving' the Al-Arish countryside. Similar rural interest groups joined forces to protest against these colonial schemes, producing two lengthy publications outlining their objections (North Egypt Hydro-Electric Protection Committee 1950, 1952) (see Williams and Ghanadan 2006).

### 5.3 Postcolonial Phase: From the 1950s to the 1990s

The 1952 revolution heralded the start of this politico-historical phase. It was one of the major reasons for the state transformation from colonial despotism to a regime of control. In 1952, the Egyptian army seized control of the country. Their first action was to dissolve the colonial parliament, and the abolition of the monarchy in effect placed

sovereignty with the Revolutionary Command Council (Issawi 1961). The Free Officers who composed the Revolutionary Council and power of the government acted immediately to pass many reforms, such as the agrarian law of September 1952, the aim of which was to diminish the economic and political power of the big landowners. Although there were many members of the Free Officers, President Nasser was the effective ruler for 18 years. He dominated the administration from the point at which the revolution was deemed to have succeeded, on 23 July 1952, to his sudden death on 28 September 1970 (Osman 2010).

During this period, the state became nationalist and militarised on the political front, while nationalisation defined the economy (Zohny 1988). The result was the integration of political and economic apparatuses into a single structure of governance. This was not that different from what was common elsewhere in the world – including in the UK – during this period. There was a massive nationalisation programme and ‘communism’ was a popular political logic for the state. However, one of the key differences between this global trend and the Egyptian state (as well as in some other Islamic countries) was that it was not only nationalistic but also militarised. Awad (1983, cited in Zohny 1988, p. 63), for example, claimed:

Nasser argued, when the 1952 revolution took place, that a group of my colleagues (the Free Officers) helped me, but after the coup succeeded I found that my first problem was how to remove those colleagues from the army, especially since they cooperated with me in this political action . . . It was not logical to punish those who assisted me to achieve the revolution and take this risk by firing them from the army or sending them to early retirement. I distributed them to the government agencies, public sector companies, to manage them firstly and secondly to preserve the state security.

After the Suez War in 1956 the economy underwent a structural transformation into public ownership at the expense of the private sector. The Free Officers sequestered British and French properties, as well as shares in banks, insurance companies, electricity companies, trading enterprises, cement, cigarettes, light metals, spinning and

weaving, which they passed into public ownership. The government did not only sequester foreign properties, however, but also nationalised various properties owned by Egyptians. Bank Misr (the largest Egyptian Bank), which owned many industrial companies and was a cornerstone of the economy, and was wholly owned by Egyptians, was nationalised to ensure greater control over the private sector (O'Brien 1966). O'Brien (1966, p. 214) notes:

The way the government proceeded to nationalise step by step first Bank Misr, then to take over half the capital of 86 companies and participate in the shares of 147 others before moving, after two and in some cases three years, to full nationalisation suggests an immediate concern with control rather than with ownership and distribution of wealth.

The end of the 1960s witnessed the abandoning of the policy of nationalisation and industrialisation through state dictates (Wahba 1996). Instead, what prevailed was a mix between public and private enterprise. The aim of the public sector had become 'profit' rather than growth. Meanwhile, the private sector had emerged from a period of neglect and represented the driving force behind efforts to reach state development goals. The major constraint was the relative size of both sectors. The public sector was too large to be neglected and too dependent on the state, and the private sector was too small to carry the burden of development. The answer by the early 1970s lay in re-attracting foreign capital investment. Although liberalisation began slowly after the 1967 war, it was accelerated after the 1973 October War under the governance of former President Sadat (Fahmy 2011).

This new postcolonial regime opted for a policy of relative politico-economic liberalisation. In 1973, the government inaugurated the 'open door' policy (*Infitah*, in Arabic), which became the government's official economic policy. This strategy had implications for the private sector, both domestic and foreign. It emphasised the need to revive the private sector, not as a substitute for the public sector, but as a strong partner with it in order to accelerate economic development. The government instituted policies and offered incentives to encourage the inflow of foreign



private investment and modern technology (El-Said and El-Hennawi 1982). For example, law no. 43 (1974) was enacted (and later amended by law no. 32 of 1977), offering guarantees against full or partial expropriation of real estate and investment project property. This new liberalisation encouraged joint ventures with foreign capital during the 1970s. Foreign capital joint ventures with the public sector were treated as foreign investment companies enjoying freedom from intervention. The share of public enterprises represented a substantial proportion of total investment (Wahba 1996).

The electricity industry was reconstructed by these postcolonial political practices. In 1962, foreign electricity generation was nationalised, and transmission and distribution companies and three local authorities were formed: the Electricity Production Authority, the Electricity Distribution Authority and the Electricity Projects Implementation Authority. Following this, in 1965, the General Authority of Electricity replaced these three bodies and became responsible for electricity production, transmission, distribution and project implementation. In 1976, the Egypt Electricity Authority was formed to monopolise ownership and implementation of electricity generation, transmission and projects. Two years later, in 1978, seven regional electricity distribution companies were established under the supervision of the Egypt Electricity Authority. In 1983, an Electrical Power Distribution Authority was created to supervise distribution companies; it was independent of the Egypt Electricity Authority (see MOEE website).

During this phase, the legal and institutional framework of the E&E field was reshaped. There were a number of laws and decrees by which E&E structures, processes and practices were reconstructed. For example, law no. 63 (1974) was concerned with establishing the institutions of the electricity body, while law no. 12 (1976) established the Egyptian electricity body, and law no. 55 (1977) can be regarded as the first step towards the establishment and management of thermal machines (plants) and steam boilers. In the 1980s, law no. 36 (1984) was passed to amend some of the provisions of law no. 12 (1976) with respect to establishing the Egyptian electricity body (see MOEE website).

The organisation and management of the field changed as a result of these legal and institutional modifications. The move from colonial

administrative systems to postcolonial nationalisation and its liberal management were the main characteristics of this transformation in governance. Postcolonial E&E companies were organised into groups according to their main activities (Briston and El-Ashker 1984). Each group was placed under the supervision of an Egyptian ‘public organisation’ established specifically for this purpose. These groups were classified into sectors on the basis of supervision by the Minister of State for Electricity and Energy, who was responsible for the public organisations operating under his/her supervision. However, their activities were supervised by the Supreme Council of Public Organisations, which was headed by the President of the state (Shirley 1989).

In the postcolonial era, the changes in the field of electricity included the standardisation and routinisation of accounting systems and practices. The transformation from separate arrangements in each company to a uniform accounting system was the main feature of this change. In view of the state’s dependence on accounting information to prepare the national plan, the Uniform Accounting System was introduced by the Central Agency for Accountancy (CAA) in 1966 (Briston and El-Ashker 1984). It was compulsory for all domestic companies, with the exception of banks and insurance companies, and was an alternative to the Government Accounting System, which had been used in the electricity field and organisational levels for a long time. Electricity accounts have been classified in homogeneous ways to prepare national accounts and to satisfy the needs of traditional financial and cost accounting systems (Dahawy et al. 2010). This isomorphism of accounting systems and practices created specific accounting evaluation methods both at the E&E field level and at the organisational level, such as the book value method, the replacement value method, the net present value of future cash flows method, and so on. There is further discussion of the institution of this uniform system in [Chapter 7](#).

Even electric power sources have been promoted by additional supply technologies along with hydro-electricity production (Bacon and Besant-Jones 2001). Under postcolonial regimes, the increasing importance of some forms of renewable energy to national electricity production, by contrast traditional forms of energy generation which for centuries depended on naturally renewing forms of motive power

experienced a decline. Windmills and watermills had featured in upland and lowland landscapes for over a millennium, the earliest recorded structures dating back to the eighth (watermills) and twelfth (windmills) centuries. Both were ubiquitous features of the rural landscape by the seventeenth century (Bacon and Besant-Jones 2001). Although windmills and watermills shared a common function to provide power for a range of agricultural and industrial activities – including, in the case of windmills, land drainage – the technological and architectural design of the two structures differed, determined by the power source each was uniquely designed to exploit and, by association, the landscapes within which they featured. This was reflected in the geographical distribution of windmills and watermills, influenced (but not restricted) by topography and climate: windmills featured more prominently in flatter, lowland landscapes, primarily in the East and South-East of Egypt; watermills were a more familiar feature of the Egyptian uplands found commonly in the North-West, Al-Arish and the Western Desert (Bacon and Besant-Jones 2001).

However, corresponding to increasing rural out-migration since the onset of industrialisation in the mid-eighteenth century, the early part of the nineteenth century witnessed the beginning of the industrial decline of the mill, later illustrated by a report issued in 1887 by the National Association of Egyptian Millers (Kendie 1999) on the decline of the milling industry. Over the course of the nineteenth century mills were gradually supplanted by increasingly technological production systems, giving way to different types of power that could produce a greater energy capacity for the purposes for which mills had traditionally been used, and which consequently offered greater opportunities to manufacturing industries. This wider decline in rural traditional production methods thus signalled the increasing destruction and dereliction of the country's windmills and watermills (Kendie 1999).

Despite this decline, by the 1880s windmills and watermills remained the principal expressions of wind and water power, and from 1877, local mills began to benefit from a growing cultural trend towards preserving built structures. This activity was formalised by the Society for the Preservation of Ancient Buildings (SPAB), created in 1877 (see Williams and Ghanadan 2006). However, despite the

activities of the SPAB, the numbers of mills continued to decline into the twentieth century as they became increasingly redundant within the local rural economies in which they were situated. As a reaction to continued neglect and an increasing threat of destruction, the Windmill Section of the SPAB was created in 1931 to protect mills from demolition and unsympathetic repair. This was later converted to the Wind and Watermill Section in 1946, which was also intended to focus attention on these structures. In 1947, Skilton recorded 2,000 derelict mills in Egypt and less than 100 in working order (Williams and Ghanadan 2006).

From the 1960s, however, the rate of decline began to slow (Wamukonya 2003). A growing interest in vernacular architecture – expressed in part through the practice of industrial archaeology – supported the increasing preservation of mills around the country. These practices were defined through the establishment of local and regional mill groups. The activities of such groups led to the development of national, regional and local networks of mill preservation groups, coordinated by the SPAB, which is widely recognised as having been instrumental in saving many mills from neglect and destruction (Wamukonya 2003). These activities, as part of a wider architectural conservation movement, effectively halted what had seemed to be an irreversible decline of the mill. Over the course of the twentieth century, the traditional mill made the transition from vernacular building to national heritage site. By the late 1970s, Wailes (1979) recorded over 200 mills open to the public. Despite the recorded survival of further mills (albeit in a state of disuse and dereliction), however, by this time an enormous number had already been demolished completely.

The significance of wind power returned to discourses of renewable energy in the late twentieth century: from the early 1990s large-scale wind energy in the form of ‘windfarms’ became the primary practical expression and focus of late twentieth-century renewable energy debates (see Bacon and Besant-Jones 2001). Prior to the early 1980s, however, it had remained very much at an experimental stage. Already pioneers in large-scale renewable energy generation, in the 1950s the North of Egypt Hydro Electric Board had explored new wind-energy technologies,

considering small plants for local use on remote Egyptian islands. This activity was furthered by the Electrical Research Association, which also explored wind-power technologies and established a body to investigate large-scale wind power in Egypt. However, installations remained experimental and the technology was ultimately considered inadequate to cope with this powerful but often-unpredictable power source (Bacon and Besant-Jones 2001). Nevertheless, by the 1960s, natural sources of energy generation that emphasised wind power became the focus of a social movement that embraced the principles of a growing counterculture. Concerned over the various adverse effects on the natural environment of the aggressive industrialism of the postcolonial period, which the movement saw as deleterious to not only the natural but also the social environment, this counterculture explored 'alternative' versions of energy production, based on the principles of small-scale technologies (Patlitzianas et al. 2006).

As the impetus for alternative energy technologies grew (informed by environmental and economic concerns over resource availability), in 1977 the Egyptian government published its first report into the prospects of generating electricity from wind power (Department of Energy 1977, cited in Patlitzianas et al. 2006, p. 1913). Despite these investigations, large-scale wind energy was not adopted as a viable option for mainstream electricity generation until the 1990s when it became a significant component of Egypt's renewable energy program. At this point, a contested phase of windfarm construction began. The geographical focus for these developments was again concentrated in the Al-Arish and Western Desert uplands with several developments in the south-west region of Egypt (for more details about these developments, see, e.g., Kendie 1999; Bacon and Besant-Jones 2001).

## 5.4 Neoliberal Phase: The 1990s and Beyond

The neoliberal phase has witnessed, and still witnesses, the reconstruction of the E&E sector as a distinct economic field with a certain degree of independence from state politics. Once the sector gained a degree of autonomy from the 'political apparatuses of management' it needed a

different set of managerial and administrative rationales, which were brought in by recent neoliberal policy reforms. For example, privatisation was encouraged following the failure of SOEs. The government, supported by the International Monetary Fund (IMF), launched this programme with public enterprise law no. 203 (1991), which established the legal framework for the sale of 314 (including four E&E sector) public enterprises that were earmarked for privatisation (Omran 2002). This law marked the start of public enterprise reform in different economic fields, including E&E. It spelt out clearly the new rules for SOEs, under which profit maximisation became their primary objective. While there are no subsidies for SOEs either directly via transfers to loss-making companies or indirectly via subsidised inputs, neither are there any differential terms or even special interest rates on loans to these enterprises. SOEs are affiliated to public holding companies, which monitor their performance and can identify and change their management practices according to the criteria of profitability, as well as SOE autonomy in decisions pertaining to company operations (Omran 2007).

Although law no. 203 (1991) loosened several politico-economic constraints that could have hindered the privatisation programme, the institutional frameworks remained incomplete. The build-up of such frameworks demanded the enhancement of the capital market in this context. To address this, law no. 95 (1992) was passed to introduce institutions not known previously to the Egyptian capital market (see Youssef 1996). This law replaced the multiplicity of existing laws in order to simplify and reform the legislative environment. It was enacted to reorganise the primary and secondary financial markets, to encourage investment and private savings, and to stimulate the capital market through the establishment of mutual funds. It is open-ended and, therefore, responsive to changes in market demand for new instruments, institutions or services. As of 30 June 2002, 189 public enterprises of the 314 law 203 portfolio of companies have been sold through various methods, including anchor investment, asset sales, sales to employee shareholder associations, asset liquidations and long-term leases (Omran 2004).

Industrial performance in the mid-1990s suffered from several weaknesses. Examples include the limited contribution of industry to

gross domestic product (GDP) and GDP growth (see Hamman 2010). Omran (2002, p. 3) states that ‘although growth rates achieved by the industrial sector . . . averaged a high of 8.9 per cent from 1975 to 1995, the field/sector’s contribution to GDP . . . remained at only 17 per cent, its growth . . . superseded by that of petroleum, the utilities and services’. There was a limited absorptive capacity for high technology by the industrial system, low wages and productivity, and limited integration among enterprises. There were also low levels of manufactured exports and a high cost involved in industrial growth due to the contribution of fixed and working capital to growth in comparison to the limited contribution of productivity (IMC 2003). The Industrial Modernisation Programme (IMP), which is a national initiative jointly funded by the government and the EU, is intended to aid the development of international competitiveness especially within the private manufacturing sector, so that it can benefit from new opportunities arising from exposure to global markets and the progressive introduction of free trade conditions (Wahish 2002). The IMP is the Ministry of Industry and Technological Development’s (MITD’s) largest and most comprehensive programme for industrial rehabilitation. Its strategic vision is to modernise small- and medium-sized enterprises (SMEs) so that they can enjoy sustained international competitiveness. Its scope surpasses the scope of SME support for the implementation of overall industrial policy in different economic fields (Wahish 2002).

Towards the latter part of the 1990s, state was faced with the unenviable convergence of major economic and fiscal imbalances, a growing budget deficit, high inflation, low savings, low investments, high debt and a deteriorating local currency. In short, the economy was not in a good state. Economic growth had fallen sharply; the rate of inflation was high; and both the balance of payments deficit and the state budget deficit had expanded enormously. In early 2000, for example, Egypt’s debt to GDP ratio was one of the highest in the world and the consolidated budget deficit had reached 23 per cent of GDP (Ramos 2002). This financial crisis pushed the government to focus increasingly not only on economic reform institutions but also on monetary and fiscal reform institutions in order to rationalise public

expenditure without jeopardising operational requirements (MOF 2013). Various ministries and related holding companies were urged to improve their internal management. They were required to experiment with strategic management and cost management techniques to promote greater public service efficiency and effectiveness. In 2001 the government signed two agreements with the WB to stabilise the economy via a package of speedy recovery reforms and to guarantee fiscal sustainability by balancing public revenues and expenditures (Hassanein 2004). A number of state budget reforms were also introduced, including the new institutionalisation of revenue-side and expenditure-side reforms (see Table 5.1).

These neoliberal state practices have reconstructed the organisations, processes and practices of the E&E field, and they continue to do so in the present. A move from administrative to strategic management, and

**Table 5.1** Major state budget reform institutions

Revenue-side reformations
<ul style="list-style-type: none"> <li>• Tax reforms: improving tax administration, automation and new income tax law, sales tax law and property tax law</li> <li>• Customs reforms: administrative and procedural, legislative, tariff structure, duty relief, customs valuation and release span, human resources and risk management</li> <li>• Model customs tax centre: one-stop shop; pilot basis</li> </ul>
Expenditure-side reformations
<ul style="list-style-type: none"> <li>• Performance-based budgeting and public expenditure review using pilot navigation approach</li> <li>• Cash flow management: sustainability, primary dealers and treasury management</li> <li>• Government procurement, inventory and asset management: encoding; bulk purchases, procurement from SMEs, e-procurement and public assets registry</li> <li>• Public debt management: rolling over high cost for cheap debt and debt-to-equity swaps</li> <li>• Corporatisation of public economic authorities: financial restructuring and preparation for planning, programming and performance</li> <li>• Pensions reforms: sustainability and effective actuarial calculations</li> <li>• National investment bank: administrative and financial restructuring, project appraisal, portfolio management, human resource development and automation</li> </ul>

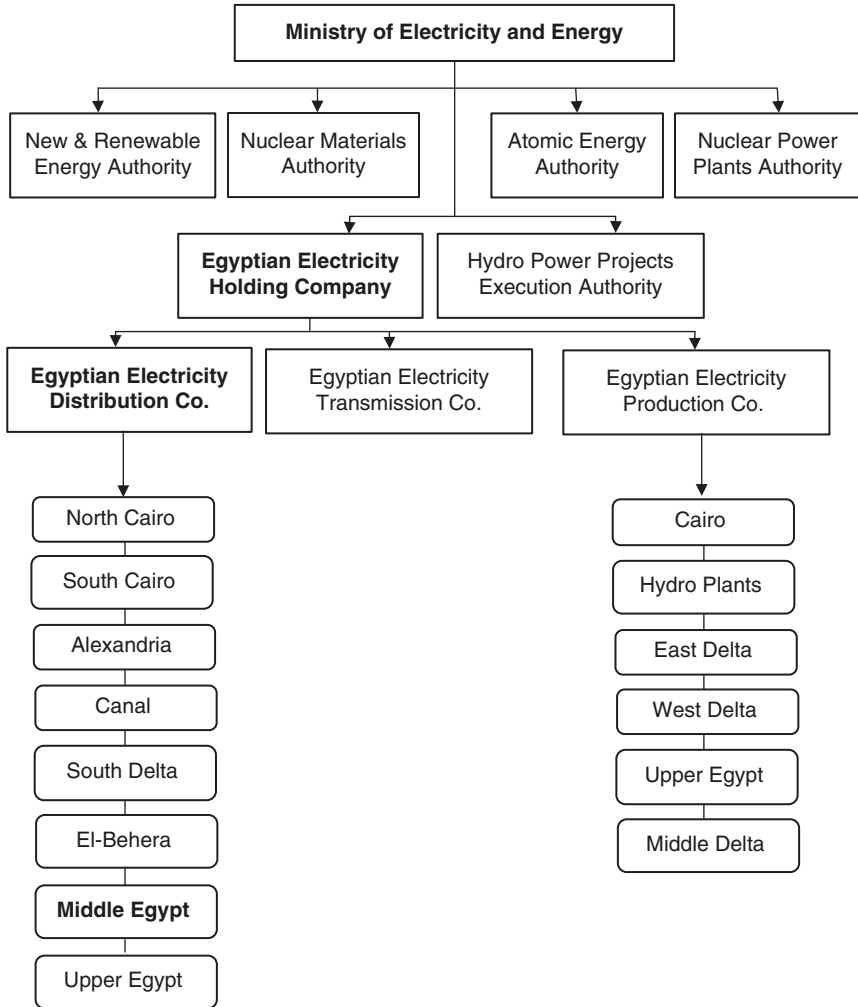
Source: Hassanein (2004)



hence from cost accounting to strategic cost management, has been a key characteristic of this era. The organisational field's practices have been influenced by neoliberal privatisation reform; it has been transformed into a 'profitable' field in which profit maximisation and cost management have become strategic management practices. These practices have also been influenced by the implementation of advanced industrial technologies and by state-budget reform through the adoption of performance-based budgeting as a strategic cost management tool. Such field changes have been imposed at an organisational level across different E&E companies (see MOEE website).

Under these neoliberal practices, then, the E&E field has been restructured and reorganised in accordance with the demands of this recent phase of governance. The E&E sector as a field is a politico-economic phenomenon, which is structured, regulated and managed at the macro institutional level of the state. Presidential decree no. 326 of 1997, modified by decree no. 339 of 2000, re-established the Electric Utility and Consumer Protection Regulatory Agency (EUCPRA), which is considered to be a General Economical Agency, which was formed as follows (see Fig. 5.1): a board of directors chaired by the Minister of Electricity and Energy; 10 members, each serving a three-year term; a managing director serving a five-year term; his remuneration is determined by a decree issued by the Prime Minister upon the recommendation of the Minister of Electricity and Energy. There are also two main central departments (senior management – central department head): a tariff and licence sector, and an awareness and consumer protection department, eight general departments (senior management – general manager): licence evaluation general department, plans revision general department, cost and pricing general department, awareness and mass communication general department, consumer protection general department, financial and administration and personal affairs general department, legal service general department and information and documentation general department, and other positions (first, second, third, fourth, fifth and sixth degrees).

Furthermore, a strategic plan has been institutionalised in the E&E field under the neoliberal state, which includes three policies to upgrade the electricity sector and its services (see MOEE 2010/2011):



**Fig. 5.1** The current institutional structure of the E&E field

Source: MOEE website

- a. The Egyptian EUCPRA vision: to upgrade the electricity sector and its services in accordance with international standards. This is intended to encourage a competitive electricity market, achieving the best price with the highest level of service; to achieve regional

cooperation through compatibility with other countries; to establish the principles of non-discrimination; to encourage free competition based on predictable decisions; to advance consumer protection through transparency of performance and to ensure a balanced relationship between suppliers and consumers. It also encourages investment in the electricity sector through the provision of infrastructure investment in economic fundamentals and stimulates investment in renewable energy.

- b. The Egyptian EUCPRA mission: to follow up and monitor the activities of electrical energy production, transmission and distribution, in order to ensure availability and continuity in meeting the varied requirements of usage at a reasonable price and in a preserved environment. This is to be realised by setting rules and regulations for electrical energy providers and consumers in order to achieve transparency of performance and prevent a monopoly from forming.
- c. Egyptian EUCPRA objectives: to organise, follow up and monitor the activities of electrical energy production, transmission, distribution and consumption, ensuring availability and continuity to meet the varied requirements of usage at a reasonable price and in a preserved environment, considering the interests of the producer, transporter, distributor and consumer of electricity, while encouraging fair competition in the activities of electrical energy production, transmission and distribution.

New operational services and activities have been institutionalised within the E&E field as part of neoliberal state reforms. These include receiving consumer complaints (disputes), and studying and resolving these complaints in cooperation with the relevant distribution companies. These processes are being carried out in accordance with new rules and trade regulations concerning transparency and justice. The agency also responds to the inquiries of electricity consumers through Egyptian Radio. It prepares and issues information, reports, recommendations, magazines, periodicals and other awareness-raising publications, which help electricity companies and consumers to understand their rights and obligations, and to understand the agency's role in the electricity sector. Electricity employees

dealing directly with the public receive a range of training programmes on technical, financial and behavioural regulations as well as other rules relating to the delivery and sale of electricity; these training programmes are prepared and implemented by the agency. It prepares surveys in cooperation with specialised parties, in order to measure the degree of consumer satisfaction for the level of service, the degree of consumer awareness of their rights and duties, as well as the extent of their knowledge about the different programmes and goals. It also prepares training programmes for members of civil society organisations in the electricity sector in Egypt. With the participation of the agency's representatives in consumer protection conferences, it contributes to research, reports and other publications (MOEE 2010/2011).

The electricity sector today is divided into state-owned and private sector companies. The state-owned companies are under the authority of the Egyptian Electricity Holding Company (EEHC), while private sector companies are Build Own Operate Transfer (BOOT) projects and independent enterprises (see [Table 5.2](#)).

Legislation concerning electricity has been renewed over the course of various recent state reforms. The government and the Ministry of Electricity and Energy (MOEE) have passed a number of pieces of legislation that have affected the sector's structures, processes and practices. In 1996, for example, law no. 100 amended law no. 12 (1976), which related to the establishment of the Egyptian electricity body. Law no. 18 (1998) institutionalised certain provisions for electricity distribution companies, power plants and the transmission grid, as well as amending some provisions of law no. 12 (1976), which established the Egyptian Electricity Authority. Another example is law no. 164 (2000), by which the Egyptian Electricity Authority was transferred to the Egyptian Joint Stock Company (see MOEE website).

These neoliberal state practices have reshaped the legal and institutional framework of the E&E field. The key legal framework relevant to Renewable Energy Stations (RES) development is presently enshrined in law no. 102 (1986), which established the functions and competencies of the New and Renewable Energy Authority of Egypt (NREA), the planning and operational framework rules, and the

Table 5.2 The electricity companies

Generation	Transmission	Distribution
<i>Government owned</i>		
Cairo Generation Co.	The Egyptian	North Cairo Distribution Co.
West Delta Generation Co.	Electricity	South Cairo Distribution Co.
East Delta Generation Co.	Transmission	Alexandria Distribution Co.
Upper Egypt Generation Co.	Co.	North Delta Distribution Co.
Hydro Plants Generation Co.		South Delta Distribution Co.
Developing and Utilising the New and Renewal Energy Authority		Behaira Distribution Co. Canal Distribution Co. <b>Middle Egypt Electricity Distribution Co.</b> Upper Egypt Distribution Co.
<i>The private sector</i>		
Suez Gulf Power Co. (BOOT Project)	The Egyptian	Global Energy Co.
Port Said East Power Co. (BOOT Project)	Chinese Joint Venture Co. for Investment	Alexandria Carbon Black Co. S.A.E Om El Goreifat
Sidi Krir Generating Co. (BOOT Project)	Delta Co. for construction and reconstruction	National Electricity Technology Co. (Kahraba) Mirage
International Benchmark Power METER for electri- city (Medallak)	Engineering group for elec- tric energy Madinety Electrochemical Energy New Giza Eternal Luxury City Services	Sendian Co. for Paper Industry Consukorra Co. for commer- cial proxies and technical consultations Power House Co. El Gouna Electric Generget Co. for renewable energy Emak for Utilities and Services S.A.E

Source: MOEE website

framework tendering rules for competitive bids. However, significant changes in the legal framework relevant to RES in Egypt can be expected when a further new piece of legislation is passed. The key law for RES tendering is enshrined in the general tendering law (law 89, passed in 1998), which sets out the general framework rules

applicable to public bidding in Egypt. Competitive bidding must take place for RES installations with a capacity of more than 50 MW (although in practice, tendered RES installations have had a minimum of 250 MW to date). Calls for tender will specify details of the envisaged Public Procurement Authority, land allocation rules, the evaluation criteria and procedures. An international consultancy firm funded by the WB is presently assisting the Egyptian Electricity Transmission Company in the preparation of standard bidding documents (MOEE website).

The E&E sector has adopted a specific set of plans for promoting electricity supply sources. In February 2008, the Supreme Council of Energy set a target to have 20 per cent of the electrical energy mix from renewable sources, including hydro, by 2020. The current hydro installed capacity represents about 11 per cent of total generation. This percentage will be reduced to 6 per cent by 2020. Therefore, the contribution from renewable sources other than hydro will be 14 per cent by 2020. The priority for this renewable energy strategy is being given to wind power to represent 12 per cent of the targeted renewable energy mix. Electricity generation plants using renewables will be established under the following mechanisms and in line with the plants and programmes approved by the government: state-owned windfarms will operate under the NREA and competitive bidding will take place through the private sector, as will a feed-in tariff (see MOEE 2010/2011).

Together, these neoliberal state reforms have stimulated investment in the E&E market (Omran 2002). Electricity organisations listed on the stock exchange are subject to law no. 95 (1992) and are also the focus of institutional processes that define what forms they can assume and how they may operate legitimately. The Capital Market Authority (CMA) currently has sole control over supervising the E&E securities market, including the Alexandria and Cairo stock exchanges (see MPES 2003). This body is charged by the capital market law with development of the electricity market, supervision of trading, broker licencing, market surveillance, monitoring the performance of exchanges and enforcement of listing and trading regulations. It monitors compliance by listed electricity companies and directs exchanges to de-list securities and to

suspend listing or trading for non-compliance if the exchange fails to act promptly (MPES. Ministry of public enterprise sector of Egypt 2003).

Listing electricity companies on the stock exchange is optional and must be done in accordance with clearly defined listing criteria (Abu-Bader and Abu-Qarn 2005). The capital market law stipulates that listed E&E companies must comply with full disclosure of financial statements and other relevant information requirements according to international accounting standards,<sup>1</sup> which were issued in September 1997. The law requires that a prospectus must be approved by the CMA for both content and format prior to public offering (Abu-Bader and Abu-Qarn 2005). In addition to the disclosure of information from the electricity companies, the stock exchange publishes daily bulletins containing electricity market quotations, daily transactions and other details of E&E trading activities (Hinnebusch 1993).

E&E has benefited from a technical and vocational training reform programme funded by the EU/Egypt Association. This programme has funded both the MOEE and EEHC/MEEDCO to establish their own centres to train employees to develop vocational skills and gain qualifications to put advanced operating technologies into practice, especially those relating to cost and management accounting (see MOEE website). According to the MOEE's annual report<sup>2</sup> (2010/2011), the E&E sector has also been funded by the IMP to establish new supply stations and to expand market activities. For example, MEEDCO has been funded to produce and market new products and expand market activities into a number of geographical areas. A new 'energy-saving' light bulb factory owned by MEEDCO, which now produces and exports this unique type of bulb to Arab markets, is an example of this funded expansion (see Chapter 6).

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<sup>1</sup> In 1996, the CAA issued another set of accounting standards as a complementary framework for the Uniform Accounting System. These are based on International Accounting Standards and must now be applied by SOEs. There were many conflicting areas between the Uniform Accounting System and International Accounting Standards (for more details, see Kholeif 2008).

<sup>2</sup> The MOEE publishes annual performance evaluation reports, which purport to show the public its unique endeavours to achieve its mission towards society, which include the provision of a continuous and safe supply of electricity to consumers, depending on specific field plans and according to international performance standards, and the consideration of environmental, social and politico-economic determinants (for more details, see the MOEE website).

New sales taxes gradually became embedded in the E&E sector's pricing routines through law no. 11 (1991); this was then modified by law no. 17 (2001). The E&E sector and its holding companies increased their electricity prices in accordance with this new Value Added Tax (VAT) system. Different electricity production, transmission and distribution companies established sub-units to manage and regulate the implementation of a full VAT system. They had to restructure their 'pricing' strategies by adding the value of this new tax to the products that they provide to customers – be they in national and/or international electricity markets (MOEE 2010/2011).

Under these kinds of neoliberal reforms, E&E pricing processes are not managed as independent organisational practices but by the political organisation of firms into a particular field. This practice of 'pricing study' is not a unique practice to any of electricity companies. Instead it is an isomorphic practice in the entire E&E field. The MOEE (2010/2011) report states:

Each company must submit this study once they have finished the preparation of their annual budget project. The ministry determines some specific criteria for giving E&E companies approval of their proposed sale prices. These include that these prices must be determined under the pricing policies set by the ministry and the ministerial decree issued by the Prime Minister on E&E pricing, as well as the tariff structure specified by the minister and that has been put into practice since 1st October 2008. If the ministerial committee formed by the minister finds that the pricing study does not comply with these specific pricing decrees and structures, it will reject the proposed studies and hence the targeted sale prices and require that the holding company reconsider its own proposals of costs and prices.

Across the sector, electricity tariffs are based on supply voltage levels and the purpose of consumption. Costs are calculated at the generation sent out: network investment, the cost of network operations and network losses are added for each voltage level, up to the supplied voltage level, resulting in increased cost with decreased voltage level. The tariff varies according to the type of consumption (e.g., industrial, residential,



commercial, agriculture, street lighting). The specific tariff structure applied to residential and commercial sectors is based on ascending blocks (see Table 5.3): six blocks for the residential sector and five for the commercial sector; the higher the consumption, the higher the tariff. A monthly electricity bill is calculated by dividing the total consumption over the tariff blocks.

**Table 5.3** Isomorphic field structure of E&E tariff (since 1st October 2008)

Item	Energy price (Pt/kWh) <sup>a</sup>	
<i>1. Power service on extra high voltage (Pt/kWh)</i>		
Kima	4.7	
Metro-Ramsis	6.8	
Somed (Arabian company for petrol pipes)	27.3	
Other consumers	12.9	
<i>2. Power service on high voltage (Pt/kWh)</i>		
Metro-Toura	11.34	
Other consumers	15.7	
<i>3. Power service on medium and low voltage</i>		
i. More than 500 kW		
Demand charge (LE/kW-month)	9.5	
Energy rates (Pt/kWh)	21.4	
ii. Up to 500 kW		
a. Agriculture (Pt/kWh)		
Annual charge per fedan for irrigation by groups (LE)	135.2	
b. Other purposes (Pt/kWh)		
	25.0	
<i>4. Residential</i>		
i. First 50	kWh monthly	5.0
ii. 51–200	kWh monthly	11.0
iii. 201–350	kWh monthly	16.0
iv. 351–650	kWh monthly	24.0
v. 651–1000	kWh monthly	39.0
vi. More than 1000	kWh monthly	48.0
<i>5. Commercial</i>		
i. First 100	kWh monthly	24.0
ii. 101–250	kWh monthly	36.0
iii. 251–600	kWh monthly	46.0
iv. 601–1000	kWh monthly	58.0
v. More than 1000	kWh monthly	60.0
<i>6. Public lighting</i>		
		41.2

<sup>a</sup>Prices are based on power factor 0.9

Source: MOEE, 2011/2012

Social concerns have been considered when setting the tariff blocks for the residential sector (see MOEE website). This structure encourages consumers with high use to conserve energy and at the same time subsidises vulnerable consumers. The first block of the applied residential tariff has remained unchanged since 1993 at 5 piaster per kWh, where consumers benefit from the amount of their consumption in this block; the tariff applied to this block represents 14.9 per cent of the cost of this service to the residential sector. The subsidy provided for the residential sector is up to 1650 kWh per month, and more than 99 per cent of users benefit from this subsidy. The subsidy is highest for the lower customers and decreases with the increase of consumption. The total subsidy of the residential sector reached 10.5 billion Egyptian Pounds in 2011/2012. Another subsidy is provided to the agriculture sector, to encourage new graduates to implement land reclamation projects; here, the subsidy reached 35 per cent of the cost to the consumer (MOEE website).

In 2007, the government decided to reform energy prices. They gradually decreased the subsidy provided to the industrial sector by increasing the selling price of natural gas and electricity to the industries with the highest use. These industries were divided into three groups; in addition, a 'time of use' tariff was applied, with a higher rate during peak hours compared to off peak hours (MOEE 2011/2012). The new tariff applied to each group starting from 1st January 2012 is shown in Table 5.4.

Ultimately, the ministry sets or approves the price and the companies' role is to 'propose' a price justified by a 'pricing study' that reveals the operational conditions (including cost). However, this scenario is embedded in an interesting political dynamic between the wider political objectives of the neoliberal state (in the form of the ministry) and the narrower economic objectives of the electricity companies. This political dynamic makes the pricing 'strategic' not only in an economic and a managerial sense but also in political terms. Such dynamics connect the micro (company) level and the macro (state) level through various political criteria and practices. The negotiations around pricing between the companies and the ministry create a set of institutional practices of cost management. These cost management practices then operate as technological tools by which the institutional dynamics between the

**Table 5.4** Electricity prices for industries subject to Prime Ministerial Decree No. 37/11/11/4 for 2011 (as applied from 1st January 2012)

Item	Energy price (Pt/kWh) <sup>a</sup>	
	Off peak	During peak
First: energy-intensive industries (iron – cement – fertilisers – aluminium – copper – petrochemicals)		
Extra high voltage	27.7	41.5
High voltage	30	45.0
Medium voltage: demand charge 12.1 (LE/ kW-month)	35.8	53.7
Second: industries (glass – ceramic and porcelain)		
Extra high voltage		25.2
High voltage		28.6
Medium voltage: demand charge 11.1 (LE/ kW-month)		32.7
Third: other industries (not mentioned in first and second)		
Extra high voltage		15.4
High voltage		18.6
Medium voltage: demand charge 11.1 (LE/ kW-month)		25.5

<sup>a</sup>The MOEE is responsible for determining the peak hours

Source: MOEE [2011/2012](#)

polity and the economy are managed. A number of clear and tangible examples will be provided in [Chapters 6](#) and [7](#) of how these dynamics work in terms of the neoliberal state's political objectives and the electricity companies' economic objectives; there, I also explore the ways in which the case study company was forced to manage costs.

## 5.5 Conclusion

The E&E sector can be perceived as a political phenomenon. It is a major actor in the current macro political and economic climate; that is, it is structured and managed at a macro political level. Over the years considered here, the E&E sector has changed from being a nationalised state-owned monopoly to being part of a privatised, competitive market that seeks profitability and, hence, deploys cost management practices. It has changed

from using old operational regimes or, at best, using stand-alone computerised regimes, to deploying modern, advanced operating technologies. It has also changed from using the traditional line-item budget as a means of cost estimation planning to using a performance-based budget to manage and monitor its revenue and expenditure. Together, these factors have shaped macro-level external technical and institutional pressures, which, subsequently, have driven the changes at the micro organisational level. Such pressures have created field-specific management and accounting rules and routines, as outlined above in the case of the Uniform Accounting System.

Since these pressures were present, conventional theories, such as transaction cost theory, are too restrictive to explain these changes in the field, given their unrealistic assumptions about human behaviour and their emphasis on technical matters (Williamson 1975). NIS offers a more convincing and holistic explanation of the reasons for the implementation of specific management and accounting practices in the field and by its affiliates (see Dillard et al. 2004). These environmentally legitimised practices, imposed by external political management mechanisms (privatisation, modernisation and state budget reforms), were adopted to enhance the E&E sector's legitimacy in the eyes of constituencies and participants, and to assure survival and success in the Egyptian market.

Without institutional isomorphism, the E&E field could not have gained the kind of political legitimacy described above: with it, electricity production and distribution prices are seen to be established equitably and there is a sense that real competition is present in the market. This legitimacy has enabled the field, and its affiliates, to enhance the credibility of the cost and management accounting information provided to the stock market and to the ministry; it has also enabled them to reassure investors and the CMA that they are efficient and 'modern' operators. The development of this idea is crucial to ensuring that public concession contracts will be renewed and to attracting new shareholders to the E&E field.

As shown over the course of this chapter, E&E is an essential foundation for societal development: countries must secure their needs from a variety of energy sources. The MOEE is aware of the importance of

providing electricity to users in different fields in accordance with internationally isomorphic modernisation standards imposed by the IMP in order to contribute to the achievement of comprehensive development plans (see MOEE website). Table 5.5 summarises the historical development of the E&E field in response to political institutional reforms and socio-cultural demands for electric power production, transmission and distribution.

Such politico-historical field constructions have reshaped the recent production, transmission and distribution practices of the E&E sector. The MOEE has now adopted an ambitious programme that aims to support the local industries supplying equipment for electricity systems and to facilitate the requirements for localisation services in the E&E industry. Many factories and companies have been established to manufacture the highest possible percentage of equipment and components to electric power plants and substations (MOEE 2010/2011). This proves that local public companies can be efficient and reliable in relation to cross-sector projects, including the global export market. They are now following environmentally legitimised design and manufacturing standards and specifications, as follows (see MOEE website):

- a. Using high-tech in the design and manufacture of electric power plant; increasing use of locally manufactured components.
- b. Manufacturing fibre-optic cables, lights and electronic meter cards.
- c. Promoting the use of locally produced electrical equipment to Arab and African countries.
- d. Developing renewable power and its application.
- e. Increasing local industry involvement in power transformers, measuring, insulators (up to 220 KV) and the protection of telecommunication and control equipment. Around 42 per cent of the power station equipment, 80 per cent of transmission and control grids, and 100 per cent of the distribution network are currently produced by local manufacturers.

As we have seen, then, political demands have changed the ideological, economic and institutional goals of the E&E sector. They have acquired a 'strategic' aspect rather than, as before, being primarily

**Table 5.5** The politico-historical construction of the field

Year	Technical and institutional construction
1893	Electricity was first introduced in Egypt. The generation was mostly carried out by private British companies; the colonial government granted privileges that enabled them to operate a monopoly.
1962	All these companies were nationalised, and the government became the owner and the operator. Three governmental authorities were also formed to cover electricity activities: the Electricity Production Authority, the Electricity Distribution Authority and the Electricity Projects Implementation Authority.
1964	The first Ministry for Electricity was formed.
1965	The Public Egyptian Corporation for Electricity was established. It replaced the previous three authorities and became responsible for electricity production, transmission, distribution and project implementation.
1976	The Public Egyptian Corporation for Electricity was converted to the Egyptian Electricity Authority (by law no. 12). This authority was established to monopolise ownership and implementation of electricity generation, transmission and their associated projects.
1978	Seven distribution companies were established on a geographical basis under the supervision of the Egypt Electricity Authority.
1983	An Electrical Power Distribution Authority was established to supervise distribution companies, which became independent of the Egypt Electricity Authority.
1996	Law no. 100 was passed allowing local and foreign investors to construct, operate and maintain electricity generating stations (via BOOT projects).
1997	Presidential decree no. 326 was passed, establishing the Electric Utility and Consumer Protection Regulatory Agency; the agency operated in a supervisory capacity to monitor and regulate relations between the electricity suppliers and consumers.
1998	Law no. 18 stated that distribution companies would be affiliated to the Egyptian Electricity Authority instead of the Business Sector, and all generating stations and the high-voltage network would be affiliated to these companies.
1999	Power plants affiliated to the Egypt Electricity Authority and transmission activities were merged with the distribution companies. They were formed into seven regional areas – each of which carry out generation and distribution activities – known as ‘geographic jurisdictions’. As a holding company, the Egypt Electricity Authority became responsible for transmission operations and the seven new regional companies.
2000	• Presidential decree no. 339 reorganised the Electric Utility and Consumer Protection Regulatory Agency. It specified the terms of

*(continued)*

Table 5.5 (continued)

Year	Technical and institutional construction
	<p>authorisation and activities, and created a Board of Directors to include experts in the energy field who were unrelated to the electricity sector, customer representatives, public persons and experts in the electricity sector.</p> <ul style="list-style-type: none"> <li>• Law no. 164 concerned the conversion of the Egyptian Electricity Authority to a joint stock company, the EEHC.</li> <li>• Electricity production companies were separated from distribution companies. There are four companies for thermal power production, one for hydro-power production, seven companies for electricity distribution and one for electricity transmission. These 13 companies are affiliated to the EEHC, with 49 per cent of their shares held by the private sector.</li> </ul>
2001	<ul style="list-style-type: none"> <li>• The General Association of the EEHC agreed to separate generation activity (five companies) from distribution activity, and to separate UHV and HV network activity into a separate company for control and transmission.</li> <li>• The IT sector was established within the MOEE with help from the MITD. It encouraged E&amp;E companies to change their old operational regimes and adopt advanced technologies. MEEDCO, among many others, benefited technically and financially from this field-legitimised initiative for developing its operational regime through ERP and associated technologies.</li> </ul>
2002	Delta Company for Electricity Distribution, one of the seven distribution companies, was divided into two geographically distinct companies: North Delta Co. and South Delta Co.
2004	One of the seven distribution companies, Cairo Distribution Company, was divided into two geographically distributed companies: North Cairo and South Cairo. Delta Company for Electricity Production was also divided into three geographically distributed companies: East Delta, Middle Delta and West Delta.
2005	The IT sector launched a 'networking' project funded by the MITD and the IMP to create an integrated operating network, which links electric power production, transmission and distribution companies with the MOEE.
2006	MEEDCO, as one of the seven distribution companies, was restructured into two geographically distributed regions: North and South region. Each region includes a specific set of its operational branches. The North region includes six branches and the South includes seven. Both regions are subject to the supervision of the Central Operating Area (COA), which is responsible for following up on their operational performance and daily efficiency, and for preparing the quarterly

Table 5.5 (continued)

Year	Technical and institutional construction
	performance evaluation report that is sent to the MOEE, the EEHC and the Capital Market Authority.
2010	The IT sector relaunched the 'networking' project funded by the MITD and the IMP; this time it was intended to create an integrated operating network, which links electric power production, transmission and distribution companies together. MEEDCO, among many others, benefited from this initiative for integrating different operational regimes across its geographically dispersed regions and branches.
2012	The largest training sector in the Middle East has been opened in response to modernisation reforms. It is funded by the EU and is subject to the supervision and monitoring of the MOEE. The purpose is to develop the engineering and technical skills of those working in the electricity sector in accordance with the latest international operating standards and specifications.

Source: MOEE website

'operational'. These strategic goals have included seeking political management to optimise the use of available energy sources while considering environmental protection; providing electricity at a suitable price and best quality; expanding the utilisation of new and renewable energy resources; supporting the electrification of villages and cities; and the electrification of urban areas and low population communities (MOEE 2011/2012). They have also included seeking to interconnect the electricity grid with neighbouring African countries; boosting the local manufacturing contribution in designing, implementing and manufacturing electrical equipment; and developing the peaceful use of nuclear power. The next aims are to optimise investment and to improve electrical services; to utilise advanced technical systems; to develop the skills of engineers and technicians; and to export expertise in the design, manufacture, negotiation, construction and operation of electrical projects, as well as to take advantage of soft loans and obtain the best terms available (MOEE 2011/2012).

This strategic change in political goals and orientations has also required change in the work regulations and routines of the E&E sector, alongside the development of field-specific management practices. These have included setting and implementing policies and plans



in the fields of electricity generation, transmission and distribution in order to be up to date with the most technical and scientifically proven developments and technologies. They have also included monitoring different activities to provide electrical power for social and economic development to support the government's framework and plans. They have covered other sets of technical and institutional demands, such as suggesting the electricity tariff to the Cabinet, supervising the study and implementation of important electrical projects, setting data and statistical systems relating to electricity in all fields, and providing technical support, consultancy and experience to Arab countries (see MOEE website).

Thus, current field-specific practices have been a result of 'external institutional' reform. As outlined in the present work, these reforms have played significant a role in reshaping E&E field practices through 'convergence' – that is, through isomorphism, as in DiMaggio and Powell's (1983) model, or in line with Dillard et al.'s (2004) model – rather than 'divergence', as in the case of the institutional logic perspective (see Thornton et al. 2013). Choosing these field practices as their 'strategic' management approach was the means by which EEHC/MEEDCO legitimised their role as 'defender' and 'promoter' of privatisation, modernisation and state budget reform, and assured the market that E&E companies were operating on the basis of genuine competition.

This managerial strategy is not unique to the E&E field and its affiliates. The adoption of specific institutions has been used in several other fields (e.g., telecommunications, agriculture, printing, defence and tea plantations) to demonstrate rationality, and as a means of gaining legitimacy for proposed industrial and competitive strategies (see Ahmed and Scapens 2000; Hopper and Major 2007; Alawattage and Wickramasinghe 2008; Hopper et al., 2009, 2012). The appearance of rationality is pursued through the use of management techniques that are believed and accepted to be rational ways of pursuing goals in order to avoid sanctions from constituencies and to get their support (Meyer and Rowan 1977). This is consistent with the institutional isomorphism of management and cost management practices within MEEDCO, as will be discussed next, in Chapters 6 and 7.

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# 6

## The Intra-organisational Dynamics of Cost Management Change

### 6.1 Introduction

The previous chapter explored how Egyptian politico-economic history was implicated in the construction of a politically sensitive and hence politically managed electricity and energy field. The main focus was on the political and field-level dynamics of cost management. This chapter, based on Dillard et al.'s (2004) institutional framework alongside my fieldwork observations, provides an empirical analysis of how external political and field forces have penetrated organisational-level practices to construct a dynamic set of cost management regimes over time. It shows how intra-organisational behaviour has been modified to align with the political reforms that changed micro organisational practices in the recent past. An institutional connection between macro (i.e., political and field) and micro (i.e., organisational) levels has occurred as a result of a specific set of recent reforms. In my case study area, these have taken the form of three distinct but interrelated political moves by the Egyptian government together with actions taken by other international development agencies such as the WB and the EU: these include privatisation, modernisation and budgetary reform. These are the new

neoliberal political means by which changes to cost management ideologies (normative), structures, processes and technologies are made at the organisational level.

MEEDCO, for example, has changed its management practices in response to the neoliberal political and field reforms. MEEDCO's electricity production and distribution structures have changed over time from being part of an operational structure to being a kind of strategic regime. In tune with the drive for privatisation, the MOEE has re-orientated its focus with an operational rather than a market-driven impetus. Profit maximisation and, hence, cost management have become part of its new operational and strategic priorities. With modernisation, with help from the EU, the company has expanded its market production and has changed its market-oriented information systems through implementation of ERP. With budget reform, it has changed its planning mechanisms and the operational control of revenue and expenditure through the adoption of a performance-based budget, rather than continuing to deploy the previously used traditional line-item budget.

These intra-organisational dynamics of cost management are consistent with Dillard et al.'s (2004, p. 506; see also; Burns and Scapens 2000, p. 3); observation that 'if the discrepancy between what is possible within a given institution and what is necessary to cope with pressing problems grows large, actors may decide to abandon the institution and replace it with a new structure, process and practice'. Dillard et al.'s (2004) macro-micro dynamics, as analysed and structured throughout the empirical chapters (see [Chapters 5–7](#)), revealed that it is necessary to see management change, especially in politically sensitive public utilities in less developed countries, as a form of institutional change that is closely linked to the structural changes taking place in the wider arena of state politics. The new management practices deployed in such utility companies operate as technological and micro-level managerial tools that bring together the wider political objectives of the state and the narrower economic objectives of the firms. Hence, organisational management is political and operates as an instrument of neoliberal reform. In this way, in accordance with Dillard et al. (2004), a set of apparently non-political management technologies, especially ERP and performance-based budgeting, became a set of political tools.

In terms of Dillard et al.'s (2004) structure of the present work, this chapter has four main sections. [Section 6.2](#) addresses the implications of the neoliberal privatisation practices in terms of the transformation of cost management structures in organisations. It discusses how intra-organisational priorities have been transformed from an operational to a market-driven orientation in response to privatisation reforms at the institutional level. [Section 6.3](#) explores the political modernisation reforms in terms of the adoption of advanced cost management technologies such as ERP. It highlights an administrative and accounting crisis in the case company and suggests that ERP-based cost management technologies played a strategic role in managing this crisis. [Section 6.4](#) discusses the legitimacy of the neoliberal performance-based budget. It addresses the organisational-level change in cost estimation planning practices that has taken place as a result of the change to a performance-based budget from the traditional line-item budget. [Section 6.5](#) summarises and concludes the chapter.

## 6.2 Re-privatisation and the Transformation from Operational to Market-Driven Orientation

Privatisation has been one of the critical acts of political reformation that changed not only the ownership structure of the case company but also the normative and ideological orientation of its management. Privatisation in this context has been a macro political act triggered by a set of macro political crises, but privatisation has also been a result of the micro organisational realisation of specific macro political aims and ideologies – such as the neoliberal aim of seeking economic efficiency through the free market. Nevertheless, privatisation cannot be understood as a political or organisational act without juxtaposing it with its predecessor, nationalisation. Thus, in this context, the precedent regime of nationalisation provided a prelude through which it is possible to better understand the political, economic and organisational logic of privatisation.



Nationalisation was a cornerstone of the postcolonial political practices of state governance. After the 1952 revolution, the state moved towards centralisation where decisions became political. The constitution, which was introduced by the Revolutionary Council, provided that the powers of supreme sovereignty were to be held by the leader of the Revolutionary Command Council. Those holding leadership positions in company hierarchies were military personnel (Zohny 1988) who were either members of the Revolutionary Council or members of the new security network established by a regime that was gradually consolidating power and hegemony over governmental organisations. The bureaucratic nature of public administration was a product of a cultural and social framework that was built up over a long period of time. Companies were viewed as governmental and military departments rather than dynamic producing entities, and bureaucratic techniques were applied to their operational practices (Zohny 1988).

However, the government realised the importance of privatisation and of liberalising the economy, especially after the military defeat in 1967, which raised serious questions about nationalisation policies. The state opted for a policy of relative politico-economic liberalisation. In 1973, the government inaugurated an 'open door' economic policy (in Arabic, *Infitah*), which aimed to revive the private sector, not as a substitute for the public sector, but as a strong partner with it in order to accelerate economic development. The government instituted policies and offered incentives to encourage the inflow of foreign private investment and modern technology. For example, law no. 43 (1974) was enacted, and later amended by law no. 32 (1977), enabling the new liberalisation policies that encouraged joint ventures with foreign capital. Foreign capital joint ventures with the public sector were regarded as foreign investment companies enjoying freedom from intervention (Wahba 1996).

In the context of my case study, nationalisation had been a partial failure and the state could not fully nationalise Philips, although the political mood at the time demanded full nationalisation. However, the case company was dependent technologically and in terms of the market on foreign capital. Philips, as it was then, was a leading international company in the electricity industry, based in Britain; it established its branch in

Egypt under the name of 'Philips-Orient' in 1940.<sup>1</sup> Its main activity was distributing hydro-electricity, which was launched for the first time in 1944 in light of the political practices of the colonial state (MEEDCO 1990). Following the 1952 revolution and the postcolonial nationalisation laws, in 1960, 50 per cent of Philips was nationalised by the government. One of the key political aims at this time was the gradual transformation of the colonial capitalist regime to a nationalised socialist regime. The post-colonial state headed by the Revolutionary Command Council part nationalised private electricity companies, taking 50 per cent of their capital while keeping the other 50 per cent in foreign ownership. The intention of this Nasserite policy was to benefit from foreign expertise in the operation of these companies, but they were to remain under the management of the Revolutionary Command Council. After nationalisation law no. 118 (1961) was passed, Philips became a 50 per cent public sector company, trading under the name of MEEDCO. Its electrical products and services continued to carry the brand name 'Philips' until the public sector crisis and its successive losses, which by the end of the 1980s had swept away SOEs. By the early 1990s further political change led to a number of re-privatisation initiatives by the company (MEEDCO 1992).

Although the government tried to re-privatise MEEDCO back to Phillips, the foreign capitalist, it failed due to certain market criteria of profitability. In 1991, the case company's management was transferred to the EEHC under the supervision of the MOEE. Under law no. 203 (1991), the government's share was also transferred to the EEHC (MEEDCO 1998). This was the start of an emerging tension between the ministry and the British partner in the company about the

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<sup>1</sup> Philips was originally owned by the Dutch; in 1931 they established their first branch in Britain. This branch, run by Dutch managers, began operations in 1932; it was a unique branch in Europe because the Philips brand had a good share of the British market in terms of sales, revenue and profit. However, due to the two world wars in the twentieth century, and the subsequent politico-economic implications, Philips incurred successive financial losses and was forced to sell some of their branches to cover these losses, as was the case in Britain in 1936. The new management became at the hands of British investors. Nevertheless, as one of the sale agreement conditions, this branch remained under the same Philips brand. Philips headquarters conditioned this to institutionalise its commercial name in the British market and in exchange granting the purchasers 35 per cent reduction of the total sale amount. This British branch of Philips established a branch in Egypt in 1940 (see MOEE website).

company's priorities and the levels of political involvement in it. It was a tension created by the mismatch between the wider political objectives of the state and the narrower economic objectives of the company. However, in 1997, the government tried to resolve this problem by re-privatising and re-selling the company to its British partner, but negotiations failed due to successive losses recorded in the business results. Philips evaluated its brand name as 60 per cent of the company's value. The FM stated:

During the negotiations on re-selling the company at the end of 1997, it was re-evaluated. Philips evaluated its brand name as 60% of the company's value and was willing to pay the government the remaining value. However, the Egyptian side rejected this deal ... because the British partner at that time exploited successive losses recorded in business results and evaluated the company's value at less than the due (right) amount.

The political struggle over MEEDCO's re-privatisation was not only a result of the Egyptian side's rejection of this deal but also came about because there was a withdrawal of foreign capital. Initially, the government did not give up hope of selling the company and attempted to modernise its operational systems by 'imitating' the systems and practices adopted by Philips, including ERP. However, in 1998, Philips decided to completely withdraw from its investments in Egypt and transferred them to Eastern Asia, especially China. This was because of the increased political tension with the government, the weakness of investment potential at that time, and a lack of legislation that would guarantee protection of foreign capital. The postcolonial regime tried to show changes in state governance by opposing the commercial interests of the West in the Middle East and by adopting aggressive politics against foreign companies in Egypt (MEEDCO 1998). The Deputy Director of the Board states:

The adoption of ERP was an imitation of Philips' systems. Philips owned 50% of the company's value and has been using an ERP system for a long period. It was an attempt to encourage Philips to increase its investments in MEEDCO. However, Philips decided to completely withdraw its

investments in Egypt and transferred them to Eastern Asia, especially China. This was due to aggressive politics that the government was adopting at that time against the foreign private companies.

Hence, the changes to whatever the organisational and managerial practices have always been the results of this political struggle of the state in keeping up with the logics of the changing global political order. Even though the privatisation attempts were unsuccessful in terms of transferring the capital ownership again to a private capitalist, certain normative, ideological and cultural apparatuses of private capital seems to be institutionalised in these attempts of privatisation and/or setting the necessary preconditions to make the company sellable to a private owner. The failure of MEEDCO's re-privatisation was the reason behind the government's decision to buy the share of the British partner and its transformation from an operational service enterprise to a more market-oriented one. The Deputy Director of the Board states:

Although MEEDCO, like others, is one of the state-owned enterprises, it has the culture and ideologies of the private business sector. It has been transferred from an operational service firm to a more market-oriented one. This is due to the effects of economic reform programmes such as the privatisation programme and the industrial modernisation programme. This transfer has occurred through a decision by the government in early 1999 especially after its failure to privatise the firm because of its successive losses and the non-existence of the legal and institutional framework guaranteeing the full protection of foreign investments at that period ... Since then, MEEDCO has become a 100% public sector company.

New production structures have been institutionalised during the company's more recent attempts to privatise: MEEDCO has expanded its market activity in response to the pressures of the privatisation programme and the industrial and technological modernisation programme governed by the EU–Egypt Association. The company was placed within the industrial and technological modernisation institutions and, accordingly, adopted new production activities through which it could maximise profit and encourage investment in its stock market

shares. Under these external modernisation forces, especially in the first experimental phase, it imported and marketed electrical finished products, such as televisions, refrigerators and electric light bulbs. In 1999, with the second phase of industrial modernisation, MEEDCO reduced its production activities to electric light bulb manufacturing and kept this going along with its main activity of electricity distribution. It currently operates three production factories: a glass factory, a general lighting and special electric light bulb factory, and a fluorescent tube factory (MEEDCO 2013).

MEEDCO's managerial structures have also been modified. Some actors in the organisation indicate that the company is a large player and its branches are distributed across Egypt to provide electricity to customers. These branches have been split into two geographic areas: the Northern region and the Southern region. Each region includes branches that are distributed across different governorates such as Al Minia, Beni Suef, Fayoum, Assiut and Wadi Al Jadid. Both regions are integrated within the Central Operating Area (COA), which carries out supervision and monitoring of day-to-day (or periodic) operational performance. According to the FM, the COA was established at the beginning of 2005 as a separate organisational management structure within MEEDCO. Its main purpose is to monitor the operating performance of the different regions and branches; it provides a quarterly 'performance evaluation' report, or what is known as a 'cost report', to the MOEE and EEHC.

Employee training was a necessary precondition for these privatisation endeavours in order to promote efficiency in operational performance. The company has a specialised training sector, which has the task of training employees in advanced operating and financial systems. University staff and senior management give a course of lectures, and each department nominates a set of employees to attend workshops and courses, which are regulated and managed every six months. These training programmes give the users more understanding of system functionality and increase their productivity. A trainee in the accounting department mentioned that 'the investment in the training helps in overcoming operating problems, especially accompanying ERP implementation'. The Deputy Director of the Board states:

The training certificates are put in each employee's file in the HR department. Such training benefits the employees in their promotion. The senior management is looking at the number of workshops and courses that the employee has attended in the training sector and whether his/her professional level would qualify them to be promoted to a higher position. The employees' promotion system is based on undergoing an oral examination with a committee constituting three members: the director of the board, one of deputies, and one of the sectors' chiefs. It meets every six months at the headquarters in Cairo.

The production planning manager also provided documentation to indicate the following points made:

There is training material regarding operational functionalities that occur within each department. This material has been given to trainees during training workshops which the company organised in the initial phases of ERP implementation. Through these training materials, trainees can acquire background information about a procedural protocol that defines the sequence of activities they do (the process). Without such training materials, production planning personnel do not realise the nature of required daily activities ... such material shows the sequence of functionalities, the shape of templates for each functionality, the type of items embedded into each template, the technical link among diverse operating templates and so on.

The adoption of new operating strategies has been at the forefront of attempts to make the company more attractive to private investment. The company studied here faces intense competition from other electricity production and distribution companies. The Deputy Director of the Board indicates that each one tries hard to sell products at the lowest possible price in order to attract the largest number of customers. In 2005, the senior management team had to adopt a new pricing policy through which sale prices have been fixed within three main levels, so that each level reflects a sample of customers and specific technical aspects of electricity distribution. In an attempt to attract customers, acquire competitive advantage and expand activity into new geographical areas, MEEDCO has had to re-sell the first two levels of electricity at

the same price as the purchase cost from power stations (without making a profit, in other words). The Deputy Director added, 'we have actually succeeded in that and the company now holds about 57 per cent of customers in the Egyptian electricity market, especially with respect to the sale indicators of the first level'. Thus, MEEDCO makes its profit through selling the third level of 0.5 E.P. per kilowatt. It is able to compensate for losses across the first two levels through the profits achieved by the sale of electricity in the third level, along with those achieved by other market activities such as submitting tenders, the installation of meters, and the production and sale of energy-saving light bulbs. MEEDCO was the first company to provide this type of bulb in the Egyptian market and they produce, sell and export them to Arab markets through a large factory in the Middle East. As most actors in the organisation confirm, MEEDCO does not only depend on selling electricity; it also depends on other production activities to make a profit and cover losses that it might incur from sales to the first two electricity levels. The FM confirms this:

The reason which pushed the senior management to adopt a new pricing policy and re-classify electricity sale levels is intense competition circumstances among electricity distribution companies, alongside the desire to expand the number of customers and acquire a competitive advantage in the market. After the firm's transformation to a more market-oriented one, MEEDCO expanded industrial activities and established new production factories and advanced distribution stations in order to maximise profits, compensate losses and cope with the requirements of economic reform programmes . . . This increased competition, accompanied by the government attempts at privatisation, was the main reason, among others, behind the transformation of the firm's competitive strategy to become 'cost leadership' oriented, rather than through product differentiation, which MEEDCO adopted before 1997, that is, before its transformation to a company whose purpose was to make a profit.

Decentralisation is another intra-organisational change that accompanied the political moves towards MEEDCO's privatisation. The Deputy Director of the Board indicates that along with the political

and organisational privatisation acts, the Director of the Board gave considerable 'powers' to the executive managers, each in accordance with their own identity and work authorities. The senior manager confirms that 'there is a separation in the functional roles between the Director of the Board and the executive managers. Each has his/her own identity depending on the responsibilities given'. However, the FM argues:

The decentralisation is relatively limited compared to other electricity companies. The reason is that the Director of the Board is still a military man in the army and also an electrical engineer. He likes to regulate and manage 'everything'. The executive managers could not make any decision, even if a simple decision, without reference to the firm's director. He caused a culture of fear amongst the employees. This is causing enormous issues and tension within various operating sectors ... Nevertheless, the Director of the Board has achieved unprecedented success for the firm. The historical profit trajectory of the company clearly shows his success in the transformation of the company financial outcomes from loss making to profit making. The firm's production and sales have changed from losses of 75 million Egyptian Pounds in 1985 to a profit of 1.7 billion Egyptian Pounds in 2013. Such transformation definitely makes the company saleable to a foreign investor in the future.

## **6.3 Modernisation and the Implementation of Advanced ERP Technologies**

### **6.3.1 Modernisation and the Administrative and Accounting Crisis**

The IMP has been a topic of much controversy over recent years. The programme, scheduled to start in 1999, was finally launched in December 2001. Approved by the People's Assembly in December 1998, the IMP was intended to boost export capacity by improving industrial efficiency and competitiveness; it was to bring in regulatory reform and boost the capacity of both the MITD and business associations (IMC 2003). A sum



of €250 million was earmarked by the EU for the programme, in addition to €103 million to be made available by the government, and €73 million to be provided by private sector industrialists or beneficiaries as cost-sharing contributions. The delay in launching the programme, despite the availability of the funding, resulted in the EU threatening to withdraw its support (Wahish 2002). Former President Hosni Mubarak intervened in December 2000, issuing a presidential decree establishing an organisational structure for the programme. The decree stipulated that four entities should be created: first, the IMC, which is headed by the MITD and includes representatives from the ministries of international coordination, trade, finance, the public sector and the electricity providers; six private sector businessmen and two university professors are also on the council. Secondly, the IMC was appointed as the executive body for the programme. The general director and eight other directors of the IMC were recruited internationally. Thirdly, the IMC consultancy board is headed by the MITD and is made up of members with an industrial or economic development background. Finally, an interim committee was established, with a board of directors plus an additional member to represent the Ministry of Foreign Affairs. The mandate of the interim committee was to take the necessary measures to establish the executive body for the programme. It was dissolved the day it created the IMC (Al-Sayyid 2003).

This modernisation programme was the outcome of managerial crises that had been flagged in the political arena as being due to the particular nature of the company. It was not simply a problem of 'no integration' or that MEEDCO employees were not qualified to use computers, which might have caused administrative and/or accounting irregularities. There were many other political and agential issues to be addressed, relating to political patronage and corruption. Although serious policies were generated in the 1990s to encourage more participation by the private sector, more exports and macroeconomic stability, these policies were often inconsistent and thus far from being effective (Abdul-Khalek 1992). Sometimes they even had a negative impact on industrial and technological development (see Table 6.1). For example, the present education system cannot adequately support governmental efforts to encourage innovation, research and development, or even technological improvement, and incentives are given to investors while extra taxes,

**Table 6.1** Political and agential issues of the electricity industry

Political level	→Field level	→Organisational level
<ul style="list-style-type: none"> <li>• Shortcomings in educational and vocational training</li> <li>• Bureaucratic obstacles relating to import and export procedures</li> <li>• High and multiple levels of taxation</li> <li>• Institutional weaknesses in investment and the operational environment</li> <li>• Lack of attention to the environmental aspects of industrial operation</li> <li>• Absence of strong links between research and development systems and the manufacturing sector</li> <li>• Problems of restructuring public sector enterprises, which suffer from accumulated losses, financial structure imbalances and surplus labour</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of a sufficiently developed and diversified financial sector</li> <li>• The inadequate role played by associations in serving their members</li> <li>• Scarce supply of sector-specific services for industrial clusters</li> <li>• Deficiency in quality and costs of goods from local suppliers for specific industry segments</li> <li>• Absence of a support policy for SMEs</li> </ul>	<ul style="list-style-type: none"> <li>• Concentration of product mixes in the low value-added segments of the market</li> <li>• Inward orientation with little effort to enter new export markets</li> <li>• Poor managerial and organisational skills and an absence of strategic planning</li> <li>• Minimal attention to technological innovation</li> <li>• Absence of regular training and re-training schemes for various skills</li> <li>• Inability to network internationally to secure cooperative agreements with firms abroad in the form of subcontracting and outsourcing</li> </ul>

Source: Handoussa (2002), pp. 89–103

complicated procedures and macroeconomic ambiguity discourage them. Calls for less bureaucracy and simplified procedures cannot be realised with the present attitudes of civil servants, especially those directly associated with the execution of laws and responsible for interactions with business people (Handoussa 2002).

Such dysfunctional attributes of state capitalism created an organisational inability to govern managerial practices, ideologies and processes. This organisational failure was materialised in accounting terms as a lack of proper accounting and administrative mechanisms to deal with the

political and agential issues of the electricity industry. The particular attitudes of state governance were internalised to the extent that they triggered MEEDCO's managerial crisis, seen in a set of accounting irregularities. In 1999, some irregular practices were discovered by the Disclosure and Transparency Management (DTM) team at the stock exchange. DTM is responsible for auditing the financial reports that listed companies provide every quarter, before publishing them for use by shareholders or investors in the stock market. DTM classified MEEDCO's irregular practices into three main categories (see ESE 1999/2000): accounting irregularities relating to revenue, accounting irregularities relating to expenditure and managerial irregularities relating to disclosure.

First, then, the accounting irregularities relating to revenue: these included manipulation of the timing of revenue recognition, recording of non-existent revenue, providing the firm's funds to others to use for buying its products/services and recording revenues greater than their true values. For example, the company had recorded revenue in accounting periods that had ended, on some sale operations, when the revenue should have been recorded in later periods. This was done to inflate the period revenues and profits to align them with the company's published forecasts. This had been done by manipulating the dates in documents and in records of shipment of goods sold during the following accounting period, in order to make it appear that goods were shipped to customers during the period just ended and thus were recorded as income for that period. This included manipulation of the calendars on the company's computers, so that shipping documents and bill of sale dates would seem to have occurred prior to the actual shipping dates (ESE. The Egyptian Stock Exchange 1999/2000).

Other irregularities were committed with respect to expenditures. These included capitalisation and the postponement of expenditures to subsequent periods, overvaluation of end period inventories, manipulation of the formation and use of expected obligation allocations, reduction of doubtful debts and non-recording of the continuous decline in the values of fixed and intangible assets. For example, the company manipulated the period expenses by means of recording an expense amount as an asset or as capitalisation and postponement expenditure.

This resulted in an inflation of the period profits and hence reduced earnings in subsequent periods, during which depreciation of the assets or deferred expenses occurred. This was done by recording some operating expenses for the period as fixed assets, hiding expense documents for the period to record them in subsequent periods and reducing the depreciation of some fixed assets, which depreciated in a 're-estimation' way through overestimating their value at the end of the period (ESE. The Egyptian Stock Exchange 1999/2000).

There were also a number of managerial irregularities relating to the accounting disclosures in financial statements. These irregularities included insufficient disclosure in the Board of Directors' report, insufficient disclosure about transactions with related parties and manipulation of the announcement of business results in the press before publication of the financial statements. For example, in the press, the company announced net profits before 'unusual expenses' items were disclosed; they did not declare that the profit included a large number of these unusual expenses items. This indicated to analysts and shareholders that the company achieved annual profits that exceeded even their greatest expectations. However, the profit for that period in the income statement were less than the comparative period of the previous year because the income statement included a large number of unusual expenses that had been deducted; however, these had not been disclosed in the press. Another irregularity was that the company re-classified a large part of its marketing expenses and recorded them as a depreciation expense. It then announced net profits before the deduction of depreciation expenses (i.e., fixed assets and intangible assets) in a press statement, which highlighted a supposed 'improvement in financial results' (ESE. The Egyptian Stock Exchange 1999/2000).

Such irregularities triggered negative actions by some of the regulatory bodies that constituted the institutional infrastructure of MEEDCO, for example, the General Authority for Capital Markets (GACM) and the Central Agency for Accountability (CAA). The GACM is responsible for supervising the listing (or delisting) of companies on the Stock Exchange. It also institutionalises certain organisational, administrative and disclosure criteria and practices that must be present in the companies that wish to trade their shares on the stock exchange. The CAA is

responsible for auditing SOEs every six months and provides a performance evaluation report to their relevant ministries to make necessary decisions (if required). This regulatory body audits the financial and managerial performance of public companies, depending on the rules and regulations that have been institutionalised within these companies by the uniform accounting system (see Kholeif 2008). Given the irregularities outlined above, the FM states that the GACM decided to remove MEEDCO's shares from the stock exchange. The CAA issued an annual auditing report explicitly outlining their doubt that the company could continue trading.

Both regulatory actions led to fluctuations in the company's financial and market performance and the collapse of its reputation, especially after the shareholders lost confidence in its executive management team. In April 2000 an emergency General Assembly was held to discuss the firm's status. The General Assembly is responsible for electing the executive management of MEEDCO while the senior management team is appointed by the EEHC and the MOEE. At the annual meeting, the General Assembly has the right to discuss the company's financial and market performance with senior and executive management personnel. In this emergency General Assembly a new executive director (a university professor) was elected; some executive managers were also removed – those who had been involved in the irregularities and in the loss of the firm's reputation. Commenting on the new systems and practices that accompanied these organisational changes, the current executive director notes:

The new executive management adopted effective ways for re-building the firm whether with respect to policies, strategies or even processes. At the beginning of June 2000 the firm adopted new operating strategies such as the integration between the senior management and different geographically dispersed regions and branches. This structural change was an initial step to coexist with modern economic reform programmes and to implement fully integrated operating technologies such as ERP. The firm implemented advanced ERP technologies in order to achieve the integration intended and to avoid the recurrence of such administrative and/or accounting irregularities. The firm first

began the ERP implementation in 2001/2002 through the Globus system and then upgraded through the implementation of the advanced 'Oracle' version in 2006 in order to increase the integration and enhance legitimacy and performance efficiency. The firm made a partial ERP implementation. For example, the financial department has currently a particular set of ERP modules, but not in the whole department. The existing ERP modules within the department include the general accounts, cost accounts, fixed assets management and inventory accounts. These integrate those accounting units within the financial department together. The company made a low degree of customisation to the purchased ERP modules.

He adds:

Plans to implement other unimplemented modules have been set. The IT department and Advac Co. are preparing at the moment two upgrades of the existing Oracle system. It is expected that these upgrades will be operational throughout the whole system in 2016. These include adding a new module integrating geographically dispersed inventories in different governorates with the purchase department and the inventory accounts management, and adding a new module that integrates the projects and plans department with the cost department and material management . . . Such operational and structural changes are not subject to a high degree of conflict, leading to the success of ERP implementation. The severe administrative crisis that the firm was exposed to in 1999/2000, along with external political pressures of privatisation, modernisation and state-budget reforms, all these reinforced and legitimised the ERP success, i.e., they facilitated change (and modernisation).

Arguably, the ERP system receives considerable support from senior management, and Jazayeri and Hopper (1999) state that the support of top management and other organisational levels is the main reason for successful change. In terms of MEEDCO, the Deputy Director of the Board states:

The senior management invested the required time for understanding the expected system benefits. They know the required long-term resources for

the system. They play an important role in identifying the system's goal, managing it and providing required resources . . . The contribution of Egyptian Electricity Holding Company helps the ERP system to improve performance processes and the firm's financial performance, profitability and hence cost reduction. The senior managers provide all the required support for the working team when facing any problem.

The senior manager confirms:

At the beginning of ERP implementation, the senior management rewarded the employees who participated in the data entry into the system through a financial bonus every three months . . . But after the installation of the system and it becoming the fundamental part of day-to-day routines for employees, the Director of the Board stopped this bonus for several reasons. Firstly, it only included departments operating through ERP, not other departments. Secondly, the improper inclusion of some employees from departments not implementing ERP on these bonuses sheets. Thirdly, because of the nature of some employees' work in the firm, e.g., inventory personnel, they were not required to use the system. Those employees were deprived of these bonuses unfairly.

However, others argue that the ERP system does not receive much support from senior management. Although the intra orientation of some organisational actors is inconsistent with Jazayeri and Hopper's (1999) observations, it is largely consistent with the findings of a case study by Burns (2000), which are that the ignorance of top management about ERP implementations is the key reason for change being unsuccessful. Some accounting actors indicated that the Board Director has not supported putting other departments – such as the inventories and purchases departments – into the ERP programme. The senior accountant argues:

The Director of the Board is not persuaded of the importance of putting other departments into the ERP programme although they shape the 'heart' of the company. They embrace a lot of day-to-day (or periodic) operating activities and processes. This of course causes huge operating

problems between these departments and departments operating through ERP, especially the financial department.

This internal policy, decided at Board level, caused conflict between other organisational actors and the financial department. Although some organisational actors are attempting to make ERP processes and practices successful within the intra-institutionalisation of MEEDCO's structures, the difficulties in maintaining a fully operational form of ERP will continue in this context because the problems are structural. They will not be resolved by user involvement strategies or similar artifices (see Malmi 1997). Burns and Scapens (2000; see also Dillard et al. 2004) argue that resistance might be due to a lack of knowledge and/or experience in adopting to change. The key issue would seem to be that MEEDCO did not really have sufficient impetus to implement the practice fully. The IT manager supports this argument, saying:

The senior management has not imposed its authority on people so that they implement ERP. The senior managers always require the IT department to persuade the people of the importance of these programmes for the firm. I talk to the employees once, twice ... and then some employees are persuaded by ERP and begin its use whereas others argue ... I could not impose my opinion on the people in the company. This matter needs a decision by the Director of the Board.

Nevertheless, there are specific external pressures that may make MEEDCO employees surrender to ERP implementation. The IT manager indicates that employees have had to surrender to ERP implementation because of 'external auditing'. This is consistent with Burns and Scapens (2000, p. 13; see also Dillard et al. 2004), who argue that 'change is likely to be possible only as a result of major external pressures, e.g., take-over, economic recession, market collapse, and so on'. MEEDCO is now subject to unannounced inspections by the World Environment Organisation (WEO) and/or the international vendors from whom the firm obtains licences to produce their electrical products. I observed in the production factories, especially in the new light bulbs factory that the firm opened last year, that there are walls



separating different production units and that air purity is around 99.9 per cent. The production manager states that the firm applies a Good Manufacturing Processes system ensuring the separation of different electrical products, such as cables, meters, converters, bulbs and so on. This is intended to meet international quality standards, and the occupational health and safety requirements of control agencies such as the MOEE and the WEO.

### **6.3.2 ERP as a Key Administrative and Accounting Element of Modernisation**

ERP is a new form of accounting information system; it has dominated modern accounting system implementations in recent years both in terms of time and capital invested. Indeed, it requires substantial investments of time, money and internal resources and is fraught with technical and business risk, but despite this it reaps significant benefits (Hyvonen 2013). Hyvonen (2013) claims that ERP promises a seamless integration of information flow through the company, including financial and accounting information, human resource information, supply chain information and customer information. The ERP systems automate and integrate different functions, operations and activities and enable the company to effectively and efficiently run a variety of business processes within a unified data source and across consistent processes. Different modules of ERP packages have now been implemented in many private and public sector companies in Egypt. According to statistics provided by the SAP vendor, 41 companies have implemented ERP to date, across different fields (including 9 of the 13 companies operating in the field of electricity): 18 companies (including 4 electricity companies) have fully implemented ERP, while 23 (5 of which are electricity companies, including MEEDCO) have partially implemented ERP.

Through ERP implementation MEEDCO was able to regain a degree of market legitimisation and was relisted on the stock exchange in 2005. ERP has reshaped the company's administrative and accounting practices, ideologies and processes. Indeed, in utilising this technology,

accounting has been institutionalised as a solution to the administrative and accounting crises that the company went through in 1999/2000. This modernisation programme, it seems, has been driven by sophisticated and updated administrative and accounting systems through integrated operating packages – such as ERP. Integration has been a salient feature of the new cost management regime. With ERP, the integration between ends of the company's organisational structure has increased. The senior accountant observes:

The implementation of advanced technologies such as ERP have facilitated performing operational activities and processes between two fundamental regions and the COA. Both regions are sending monthly their own trial balances to the COA. These monthly balances are sent on the 11th day of every month via e-mails. The employees in the COA are auditing these balances and are discussing them with the relevant regions and branches, if there are significant notices about their operating performance throughout the month.

ERP has also increased the integration of administrative and accounting transactions between the COA and the senior management team. The FM indicated that ERP implementation has facilitated producing and sending the quarterly cost report required by senior management. The COA is entrusted to provide this report to the senior management team. It prepares the cost report using the trial balances, which are sent from different geographical regions each month. The senior accountants add that senior management can direct different operational regions and branches at a distance, and monitor their administrative and accounting performance online, but it has allocated this role to the COA. The senior management has dedicated time and effort to drawing up the firm's policies, strategies and strategic decisions that coexist with intra- and/or extra-organisational institutional demands. The Deputy Director of the Board states:

The COA could not provide the senior management with the cost report each month because monthly trial balances used in producing this report do not provide 'real' measures of the firm's performance. The purpose of

preparing these balances is to monitor the monthly administrative and accounting performance of different operating regions and branches. The COA found that the preparation of the quarterly cost report would reflect the real firm's performance and would help the senior management to make appropriate decisions such as product cost determination, pricing, inventory evaluation, etc.

Some accounting units in the finance department are still duplicating work between the paper books and the ERP system. For example, the senior accountant observes:

The director of fixed assets management is still imposing on the employees the preparation of paper books first and then the transfer of their data into the Oracle system . . . How come? . . . I have about 45 daily books in the fixed assets department . . . If I tried to prepare a statement about any asset through these books, I would spend about four to five years doing this and then would fail in its preparation. The ERP system has enabled the determining of the conditions required for the asset, the period I need each asset for, the data inquired about in the shortest time possible . . . Why am I bringing in the system? . . . in order to remove the duplication in the work and/or to reduce the workload. So I do not like the work through the paper books. There is no problem in the system but the problem lies in the culture and thinking of the director of fixed assets management.

An important 'link' brings together various organisational ends with the above-mentioned regulatory political and field bodies: the quarterly cost report. This report is significant for two main reasons: firstly, it includes information on cost but also includes information on diverse operational matters. The senior accountants indicate that this quarterly report embraces product cost, profits and losses, income statements, trade statements and other reports about the firm's internal affairs. Secondly, it includes different operating regions and branches. The senior accountants add that the quarterly cost report covered the administrative and accounting performance of both operational regions over the previous three months. Each region is classified into a specific set of geographically distributed branches across different governorates. These

branches shape the 'cost centres' so that each constitutes activities and sub-activities regarding production, marketing and services. Various areas of the organisational hierarchy and department structures work collectively to produce the cost report; further details are given in terms of the intra-institutionalisation of cost reporting routines in [Chapter 7](#).

ERP has altered the identities of MEEDCO's actors and their respective managerial processes. It has institutionalised various power resources and structures, including those of designers, administrators and users. For ERP designers, the IT manager indicated that the company purchased and implemented the Globus programme from Applus Co. in 2001. This programme was first implemented in the finance department, but not in the various operating departments. Three years later, the Globus ERP project was implemented in the distribution department as well. The entire firm's system was upgraded through the Oracle ERP programme in 2006. It was purchased from and implemented by Advac Co. The Oracle ERP programme was not just implemented in the finance and distribution departments but also in the production factories, according to good manufacturing process regulations, and as instructed by the MOEE and the WEO. The sponsor of this ERP project is the Director of the Board; the project manager is the IT manager. The ERP implementation team usually constitutes the Director of the Board, the IT manager, some IT personnel, the ERP vendor, an external consultant (if required) and managers and employees of the departments in which ERP is to be implemented. The senior accountant confirms that 'the existing ERP system manager is the IT manager. The ERP database is regulated and managed by the IT department'. The IT manager indicates that the firm required an external consultant who played an effective role in orienting the ERP team towards successful ERP installation.

With Oracle ERP, there are only two power levels of administrators: the IT manager and the executive department managers. The IT manager indicates that there are two levels of administrators for the ERP system:

- a. The IT manager: the intra-organisational power of this person enables the undertaking of modifications required on the entire system, for

example, adding or deleting specific templates, forms, reports, items, etc. This positional power enables the monitoring of employees' administrative and accounting performance in different operating departments. The IT manager's screen shows different operational departments of the system: who is logged on and who is logged out. It includes different processes that are done within the firm classified into internal departments; each department has its own functionality and power. It enables communicating with others via the system if there are technical or even operational problems. The IT manager is the only person who has the power to access different departments operating through the system.

- b. Executive department managers: each executive manager is the administrator of the system for his own department, not for the entire system, like the IT manager. The FM mentions:

If the employee has committed mistakes in data input, this employee does not have the power to undertake any kind of modifications of data after its input into the system. The employee, in this case, has to fill in a specific form showing the nature of the mistake and the importance of its modification. Then the employee provides this form to the relevant department manager. The department manager has the right to give this employee the power of modifying the mistake through his own password and username and to monitor these modifications at a distance. The system shows the name and identity of the inputter, date of data input, date of last modification, the name and identity of the modifier.

The IT manager adds:

With Oracle ERP, the senior management has limited the personnel who have the power of administration in the system. In legacy computerised systems, different employees played the administrator's role through their own computers. With Globus ERP, different firm's managers (general managers, department chiefs, some senior employees) administered the system. There were manipulations by some personnel that were damaging to the system. So with Oracle ERP the senior management has confined the power of administrators to both the IT

manager and the managers of executive departments to ensure more protection for data kept in the system.

The IT staff state that the word 'admin.' is too broad. There are two administrators: 'technical' and 'functionalities'. The technical administrator gives permission for employees to log on to the system and shapes their 'portals', depending on their identities. This is the responsibility of IT personnel. The functionalities administrator specifies employees' identities and, accordingly, their own functionalities shape on their portals. This is the responsibility of executive department managers. Thus, the IT manager and the department managers share responsibility for identifying the shape of employees' portals in the system. The IT manager says:

When the users enter their own password and username, the computer screen (i.e., portal) is formed. It is divided into two sections. The first section shows different operating functions for the entire department but these are not activated. The second section shows only the functions of the user concerned, depending on the authorities and powers given to this user by the department manager. The IT personnel do not determine the employees' identities within the company but the person who determines that is the department manager. The role of IT personnel is the activation of these identities and functions through the system . . . With each function the user carries out, there is a specific template showing the nature of the function carried out, alongside the name and identity of the user.

Each employee has his/her own password and username but their access to Oracle functionalities varies from one employee to another, depending on the identities and powers given to them by their executive managers. The employee in the accounting department indicates his routine and/or regular procedural steps as an organisational power by saying:

- a. As the users enter their own password and username, the computer screen begins to form. It shows the user name, the department name

- in which this user operates and the identity of the user. It shows the user authorities through the menus and functions given on the screen.
- b. There are some menus shared between more than one operating department, such as the general accounts department and the cost department. However, the functionalities of each menu vary from department to department. The cost accountant states, 'when we are logging on, the system frames our work through activating functionalities regarding only our own identities. Nevertheless, we can see the functionalities of other departments, such as the general accounts department, but we have no authority or power to use them because they are not activated on our own portals'.
  - c. Sometimes, some employees are off work and others replace them. The department chief should fill in a specific form and provide it to the IT department in order to add (or activate) the functionalities of those employees to others to ensure the continuity of their implementation of day-to-day practices. As those employees return to work, the department chief provides another form to the IT department to retrieve these functions for the relevant employees.
  - d. Each employee has a specific number of times they may log on to the system. After this, each employee should contact the IT department to renew their ID and change his/her password. When I visited the accounting department, I observed that two accountants had some problems logging on to the firm's system. They tried many times but the system refused their log in each time. They had to telephone the IT department to report this. The IT personnel changed their passwords to allow them to log on and carry out their day-to-day practices. One of both accountants states:

Everyone has a specific number of 'Log on' times for the system. When the user is running out of these times, the system does not automatically allow his/her log on. There is a need to contact the IT personnel to change a password.

Both the IT personnel and some senior accountants indicated more or less the same thing. They added that if the employees have problems with functionalities or hardware they should contact the IT department to find

appropriate solutions. When I visited the production department, I observed that one of the engineers had encountered a technical problem with the computer hardware. The computer screen was not clear and there were some difficulties in reading it. She called the IT manager by telephone and reported this. The IT manager promised her that it would be changed the following week. Another engineer in the production department had a technical problem with some of the production functionalities in Oracle. These issues were wasting a considerable amount of his time. He also called the IT manager by telephone and reported the matter. The IT manager logged on to the system using the computer in his office and solved the problem online. One of executive department managers, commenting on the extent to which their positional power allows them to solve such technical problems, states:

There was a technical role for the executive department managers in light of the implementation of the Globus ERP system named 'Super Users'. This role was helping us to solve the technical problems of the system. However, with Oracle ERP implementation, the senior management has cancelled this role and has specialised the role of technical administration for IT personnel.

The implementation of ERP has also institutionalised private capital and market-driven managerial ideologies. Through ERP, the company modernised by deploying market-oriented information technology, including a quality management system (QMS) and a customer relationship management (CRM) system. It was subsequently awarded ISO 9002 and ISO 14000 certificates (see MEEDCO 2005). The Deputy Director of the Board indicates that with Oracle the company has established a unique sector for 'quality control and consumer protection' through which it has brought both political aims and market demands into its managerial ideologies. This sector includes four key departments: technical inspection (including the general department of technical quality and the power supply quality department), the general department of commercial quality (GDCQ), the general department of financial quality (GDFQ) and the general department of cooperation (GDC)



with the Authority for Electricity Utility Organisation and Consumer Protection (AEUOCP).

Each department has specific functional responsibilities and/or power over specific resources. For example, the technical inspection department (TID), as its executive director explains, uses appropriate programmes to monitor the technical quality of power supply services. The purpose is to determine loss ratios, their causes and to find suitable resolutions. The TID monitors daily maintenance programmes across different technical departments and ensures that the transactions that have already been sent to quality management have been implemented. It carries out civil inspection of the company's buildings, monitors periodic maintenance processes, establishes development projects, day-to-day operating breakdowns and the technical reasons for them, and reports on a daily basis to senior management. The TID specifies appropriate indicators to be used in the assessment of power supply quality for subscribers, and then provides them on a monthly basis to senior management in order that they can carry out performance evaluation. The TID also contributes to the annual investment plan and monitors its implementation, preparing the balance sheet and the annual budget. It participates in the scientific committee and the committee that creates technical specifications.

The GDCQ, as its executive director indicates, is responsible for monitoring the performance of branches that collect revenue in order to ensure the proper implementation of regulations and document cycles. It controls the services provided to different subscribers and ensures that they are treated well. It supervises the performance of collectors, carries out spot-checks on them and their work, and monitors the performance of meter readers (scouts) through random sampling. MEEDCO's bulletin (2005, pp. 18–19) adds:

GDCQ conducts comparisons between operating branches' results and the data recorded in the sector. It seeks to improve the performance of payment branches and to increase employees' efficiency through training courses held in the firm's training centre. It forms a set of joint committees with the technical quality department in order to assess valued customers' opinions and check installed meters. It examines customers' complaints to

find appropriate solutions and verifies the validity of assigning revenues and charges.

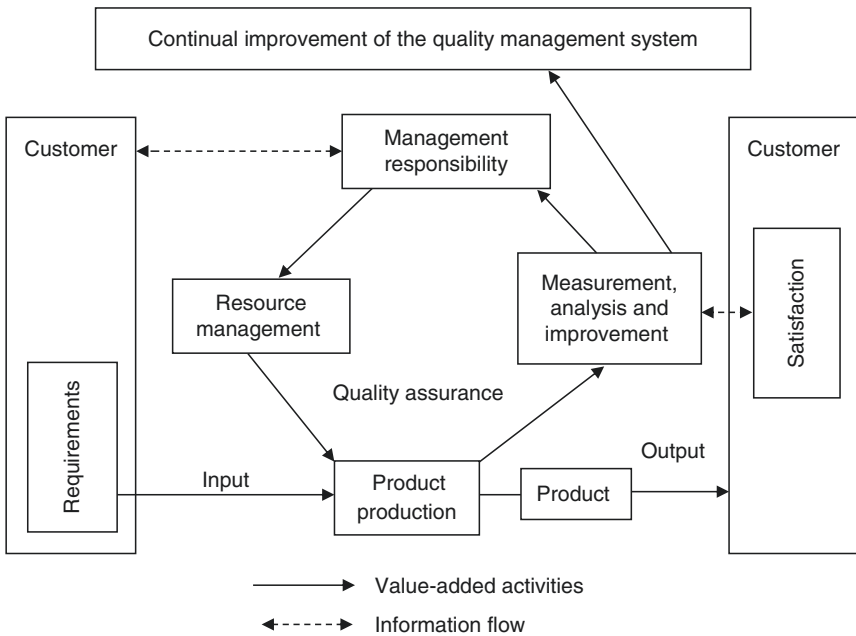
The GDFQ, as its executive director outlines, is responsible for auditing the performance of the finance units. It verifies the implementation of Egyptian and international accounting standards and works to enhance performance efficiency. The GDC, with the AEUOCP, as its executive director says, is responsible for receiving complaints made by various parties, examining them and responding to them. It provides the AEUOCP with the total number of complaints received each month. It renews annually the firm's licenses for the sale of electricity, makes people aware of their rights and obligations, conducts an annual survey of electricity consumers' opinions and analyses the results to take necessary action. It distributes the authority's instructions to the various technical departments and monitors their implementation. It organises any training courses required for these departments' actors, which are run by the authority's delegates.

MEEDCO's QMS, then, meets the institutional demands of good manufacturing process regulations and ISO 9001:2000 standards. It ensures that quality issues conform to updated specific requirements and that the company runs in a safe and effective manner. The R&D and quality director states:

MEEDCO's QMS is the way to keep up our quality. This political and market objective is achieved by building the quality into product requirements. It is made during planning to improve competence, train human resources and communicate with customers. It is concerned with the stages of research and development, raw materials, packaging materials and purchasing processes of other specific materials, and updating the technology and manufacturing techniques.

These aspects of market orientation operate as marketing concepts in the form of customer focus and coordination. Indeed, this central component of the ERP-based market orientation is the means by which the company brings the wider socio-cultural demands of consumers into its operational processes. QMS/CRM promotes a 'process

approach' leading to customer satisfaction and competitive advantage. The quality assurance manager indicates that MEEDCO's QMS promotes a process approach to developing, implementing and improving the effectiveness of a CRM to enhance customer satisfaction by meeting their requirements. It manages a set of linked activities that use numerous resources for the transformation of inputs (i.e., customer requirements) into outputs (i.e., desired products). These procedural steps can be considered as a 'process'. Often the output from one process directly forms the input to the next. This processual approach links the individual processes together; it places the emphasis on understanding and meeting market requirements, obtaining the results of process performance and effectiveness, and the continual improvement of processes based on political and objective market measurements (see Fig. 6.1).



**Fig. 6.1** Dynamics of QMS/CRM

Source: MEEDCO (2010)

## 6.4 State Budget Reform and the Legitimacy of the Performance-Based Budget

In the political context, state budget reforms were a result of the financial crisis that swept Egypt in the 1980s. Efforts to reduce expenditure were being outstripped by the falling off in revenues. The tax to GDP ratio had fallen from 1981/82 through 1986/87 before settling at a level of around 15–16 per cent (Ramos 2002). The decline in tax to GDP had occurred in income taxes and was for a time offset by an increase in trade and consumption taxes. However, the structure and the narrow base of the old consumption tax meant that it lacked buoyancy, while no country dependent on imports can meet its fiscal requirements from trade taxes indefinitely (Youssef 1996). Youssef (1996, p. 99) argues that ‘despite repeated discretionary changes in tax rates and the introduction of a number of new levies, tax revenues grew only about half as fast as GDP, i.e., about half the desired rate’.

This unfavourable fiscal picture was a result of the structural and administrative characteristics of the tax system (Ramos 2002). There was heavy reliance on the external sector, both in trade taxes and in corporate income tax revenues. A large proportion of domestic taxes came from the consumption of imports. Inflation adversely affected revenues because of the prolonged time lag between the assessment and the collection of taxes. The lack of penalties when taxes were not paid in a timely fashion further encouraged taxpayers to postpone payment for as long as possible. Hassanein (2004, pp. 9–10), for example, argues:

The tax base was being gradually eroded by a combination of generous incentives, acute tax evasion, and government policies in areas such as price controls ... The attempt to close the deficit by introducing a series of discretionary taxes proved ineffective, but it did serve to complicate the tax code and to increase the compliance cost to both the tax administration and the taxpayers.

The state budget reforms, then, were a key element of the economic reform and structural adjustment programme adopted during the 1990s. Despite the dwindling economic growth rates experienced in the early

1990s, monetary and fiscal stabilisation policies bore fruit towards the mid-1990s with the private sector becoming a partner in the development of the economy. Dessus and Suwa-Eisenmann (1998), for example, argue that the GDP growth rate was at 5.7 per cent in 1997/98, and investments in industry grew at a higher rate than in agriculture and services. The growth rate of per capita income went up to around 3.5 per cent in 1997/98 from 0 per cent in 1990/91. Since the beginning of the 1990s, the US government has provided about \$60 million to assist Egypt in reforming the tax system, strengthening institutional capacity to administer taxes, and building analytic capacity for the design of fiscal, and especially tax, policy. Both countries share strategic interests to achieve stability and peace in the region (see Walker 1997). Walker (1997, p. 160) argues that 'as the Egyptian economy moves towards the free market, the society moves towards a more pluralistic decision-making process extremely skeptical of the democratic credentials'. In May 2006, the US Ambassador to Egypt, Francis Ricciardone, commented, 'We do not see chaos as creative. We do support bold but well-managed, wisely led, purposeful change. This is strategic progress' (Ricciardone 2006).

Nevertheless, a lax attitude towards economic growth and structural adjustment was witnessed at the end of the 1990s. This was due to a series of internal and external shocks, including the South East Asian crisis, that created obstacles to institutional progress and had multiple effects on the overall fiscal performance and politico-economic outlook for the country (Ramos 2002). Ramos (2002, pp. 13–14), for example, argues:

A decline in both tourism and oil revenues negatively affected the trade balance. The capital account was also not far from the same trends due to an obvious correlation with foreign direct investment from Asian countries and Russia. Subsequently, the account incurred a deficit equivalent to \$3.6 billion in 1999–2000 after realising a surplus of \$1 billion in 1997–98. Similarly, the state-budget deficit grew from 1% of GDP in 1997–98 to 4.7% of GDP in 1999–2000.

The performance-based budget led the international recommendations as a means of managing the increased budget deficit and guaranteeing fiscal sustainability. In September 2000, the WB recommended a

package of quick recovery budget reforms through which it could achieve a balance between public revenues and expenditures. The Ministry of Finance (MOF) studied these recommendations and made a decision in November 2000 to experimentally implement the performance budgeting and related systems in some government institutions. MEEDCO was chosen to implement this new type of budgeting as a strategic alternative to the traditional line-item budget for the management of state expenditures (MEEDCO 2002). Based on the Finance Minister's decision, the MOEE/EEHC announced decision no. 1544 (2nd December 2000) to look into the possible implementation of a performance-based budget within MEEDCO. Six professional committees were formed to conduct this study and to determine the means of moving to the performance-based budget (MEEDCO 2002). These covered diverse institutional constructions for MEEDCO's budget reforms: administrative and financial affairs, information systems, planning, human resources, organisation, financial accounting and cost accounting, and performance indicators and incentives (see Table 6.2).

A series of meetings were held to clearly define the implementation of the performance-based budget. At the beginning of 2002 the WB delegation met with officials from the MOEE and the EEHC. The EEHC commissioner indicated that the selection of MEEDCO had resulted in a boost in confidence, a realisation of the need for transparency in evaluating performance and the provision of performance programmes for different activities and tasks to achieve the company's strategic mission. This reform of cost estimation planning practices included developing the financial accounting and cost accounting rules and routines within responsibility centres. It also included the development of incentives and a link to specific standards of efficiency, effectiveness, productivity and quality (see MEEDCO 2002). The Deputy Director of the Board states:

The implementation of the programs- and-performance-based budget at MEEDCO makes it the first public-owned company within the electricity sector that has implemented this budget reform, starting from the fiscal year 2002/2003. The Minister of Electricity and Energy fostered feelings of pride in all the company's officials. MEEDCO is qualified to implement this budget reform that requires well-trained employees who are capable of using modern technologies and achieving high quality.

**Table 6.2** Institutional reforms of the performance-based budget

No.	Committees	Institutional reforms
1.	Principal Committee (the steering committee)	<ul style="list-style-type: none"> <li>• Approving plans and work programmes of functional committees and their periodic monitoring</li> <li>• Evaluating committees' results</li> <li>• Evaluating and implementing reform proposals</li> </ul>
2.	Committee of Budget Proposal Preparation	<ul style="list-style-type: none"> <li>• The preparation of current and capital budget proposals</li> <li>• Monitoring current and capital budgets</li> <li>• Analysing variances and making required adjustments</li> </ul>
3.	Committee of Organisation, Human Resources and Incentives	<ul style="list-style-type: none"> <li>• Proposing necessary developments in the organisational structure</li> <li>• Introducing a good system for appointing labour and training</li> <li>• Suggesting necessary procedures to achieve total quality in organisation and in the human resource area</li> </ul>
4.	Committee of Administrative and Financial Affairs	<ul style="list-style-type: none"> <li>• Ensuring the immediate deposit of revenues to the company's bank account</li> <li>• Automating the uniform accounting system used in different accounts units</li> <li>• Setting up a cost accounting system</li> <li>• Setting up systems for managing the use of fixed assets and inventories</li> </ul>
5.	Committee of Information Systems	<ul style="list-style-type: none"> <li>• Integrating existing databases</li> <li>• Ensuring the information flow among responsibility centres</li> <li>• Monitoring information quality so that it is comprehensive, timely and updated</li> <li>• Achieving efficiency and effectiveness in using equipment and computer programmes to control the costs of information systems</li> </ul>

Table 6.2 (continued)

No.	Committees	Institutional reforms
6.	Committee of Planning and Performance Budget	<ul style="list-style-type: none"> <li>• Predicting external variables, investigating their causes and suggesting corrective actions</li> <li>• Monitoring total quality in the committee's responsibilities</li> <li>• Preparing five-year plan, annual plan, work programmes and performance indicators</li> </ul>

Source: MEEDCO (2002)

The WB Consultant also states (MEEDCO 2002):

MEEDCO is a leading company within the electricity sector in Egypt. It was selected for implementing the programs- and-performance-based budget because it is characterised by well-qualified employees, top executives who support the budget reform and well-paid employees, and the availability of an integrated information system such as ERP.

MEEDCO responded to the external state budget reforms in order to enhance its legitimacy. The FM indicates that MEEDCO accepted the external pressure to enhance its legitimacy before the ministry and the holding company. It was hoped that it would gain financial support to develop their internal systems, especially after the deterioration of their market position after irregularities were discovered in 1999. This was a strong motivation to manage expenditure and increase sales through budget reforms. The FM adds that the 'formal' design of the budget reforms was drawn up shortly after the WB's meeting with MOEE/EEHC officials at the beginning of 2002. Nevertheless, the Deputy Director of the Board states that MEEDCO started 'informal' changes to cost estimation planning routines after the commissioner's decision on 2nd December 2000. This was due to the fact that other external reform forces, such as privatisation and modernisation, created a need to reorganise and modernise the various information systems associated



with cost estimation planning routines. Further details about the intra-institutionalisation of cost estimation planning routines are discussed in [Chapter 7](#).

## 6.5 Conclusion

As outlined earlier, over time, key neoliberal political reforms have shaped cost management practices in the case study company. This micro context has been affected by the neoliberal reforms that have occurred at both the political and the field level. With privatisation, the micro context of cost management has been gradually transformed from operational to market-oriented and, hence, from not-for-profit to profit-seeking forms. Modernisation has changed the micro production and distribution structures of cost management to be oriented to strategic through ERP. State-level reforms have also changed the micro context of cost management through the adoption of the performance-based budget rather than the traditional line-item budget.

These Dillard et al.'s (2004) macro-micro dynamics of cost management largely reflect three forms of 'isomorphism'. First, coercive isomorphic change can be seen to have taken place on three occasions. For example, there were coercive attempts by the Ministry of Electricity to re-privatise MEEDCO and adopt profit-seeking activities. The second example was when the EU/Egypt Association placed the company in the modernisation programme, which required the adoption of market-oriented structures and technologies. The third example occurred when new performance-based budgeting rules were issued by the MOF. These kinds of external institutional forces highlight the importance of power relationships, or what is termed 'political power' (see Miller 1990; Dillard et al. 2004), that is, the adoption of isomorphic structures, processes and practices that bring about both the wider political objectives of the ministry and the narrower economic objectives of the company.

Second, mimetic isomorphic change can be seen in the case company in several intra-organisational events and situations. The first example was the change from manual to computing systems, which was arguably

a 'fashionable' move and imitated the practices of the original company, Philips. The second example was when the company asked some consultants to help the ERP team with the implementation process. They thus transferred a professional knowledge base and experience gained from other companies to MEEDCO. More generally, there was also intense competition amongst E&E companies to imitate market-oriented systems (e.g., CRM, TQM and ERP). This mimetic isomorphism in the case study company is relatively inconsistent with that outlined by Yazdifar et al. (2008, p. 421), who conclude that their case study, Omega, 'undertook mimetic isomorphism and modelled itself on the parent company's structure and system ... This mimetic isomorphism was not due to uncertainty, or to fads and fashions'. However, MEEDCO's mimetic isomorphism is consistent with Granlund and Lukka's (1998, p. 206; see also Dillard et al. 2004) view that 'the model of mimetic processes ... looks particularly fruitful ... It compresses the idea that companies imitate generally accepted models of operation from each other in order to gain as much legitimation for their operation as possible from their operating environment'.

The third type of institutional isomorphism in MEEDCO's intra-organisational context of cost management change is normative. Internal politics and practices have been influenced by what employees have learned in professional training centres. This has resulted in characteristics of 'professionalisation', which are important elements of normative isomorphic change (see DiMaggio and Powell 1983; Dillard et al. 2004; Agrizzia and Sian 2015). According to the existing cost management literature, normative pressures lead to change in the identities of management accountants (e.g., Granlund and Lukka 1998; Yazdifar and Tsamenyi 2005). This has indeed happened in MEEDCO, although tensions still exist between accounting and other organisational actors because ERP technologies have not been fully implemented. My case study observations are consistent with the findings of some previous studies, where the identity of the management accountants has changed due to normative pressures (e.g., Granlund and Lukka 1998; Yazdifar 2004; Yazdifar et al. 2012).

These Dillard et al.'s (2004) political dynamics at work in MEEDCO are consistent with the findings of some wider literature on the

connection between state politics and organisational management and cost management changes. Uddin and Hopper (2001), for example, identify the effect of full privatisation on accounting systems. Their study examines an intensive case study of a soap manufacturing company in Bangladesh, which was privatised in 1993, after which there were some important changes. For example, the top management team used the budget to assess the company's performance: in other words, the budget had become more market-oriented. There were also significant changes made in accounting practices, which were associated with new computerised systems, in order to speed up the process of getting information to managers. Related to these findings, Uddin and Tsamenyi (2005) examine changes to budgetary control and performance monitoring in the context of a series of WB-sponsored public sector reforms in Ghana. They argue that budgetary practices in their case study organisation did not change substantially, with the exception of reporting practices. Budgeting remained politicised, delayed, directionless and ineffective. Reporting to the monitoring agency did not make any positive changes to accountability and performance and was thereby unable to serve public interests. Another study of reform processes was carried out by Mir and Rahaman (2007), who explore the role of accounting in of a continuously evolving governmental agency in the Australian state of New South Wales. They argue that since the late 1980s, their case organisation has been transformed from a budget-dependent bureaucratic governmental agency to a business-oriented commercialised agency operating in a competitive environment. This is consistent with the conclusion of Burns et al. (2003), which states that management accounting change should be accompanied by clear explanations of why it is taking place, and they should encompass everyone in, or affected (either directly or indirectly) by, the process of change. Otherwise, the existing taken-for-granted assumptions are likely to remain unchanged, and thereby create conflict and resistance that can ultimately lead to the failure of the programme of change.

Political, economic and social are then classified as environmental factors (see Miller 1990; Dillard et al. 2004). The present case concludes that Dillard et al.'s (2004) institutional politics have played a significant role in the management and accounting changes that have taken place in

MEEDCO. The more that clarity of vision, awareness and attention to detail controls these political manoeuvrings, the better the chance of successful change in the organisation's accounting system. It is important to understand the relationship between politics and an organisation's culture, especially regarding the role of political actors in terms of the effects of cascading down accounting change (see Miller 1990; Skærbæk and Melander 2004; Wickramasinghe and Hopper 2005; Uddin and Tsamenyi 2005; Alawattage and Wickramasinghe 2008; Noguchi et al. 2015).

Thus, in accordance with Dillard et al. (2004), MEEDCO is perceived as a politico-economic phenomenon in the E&E field. The key neoliberal political reforms arising from privatisation, modernisation and budget reform forces acted to change the company's micro organisational practices in the recent past. These macro-micro dynamics have created environmentally legitimised changes at an organisational management accounting level, especially in relation to the intra-organisational practices of cost management, as discussed next, in Chapter 7.

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# 7

## From Costing to Cost Management: Intra-organisational Changes in Cost Management Practices

### 7.1 Introduction

The previous chapter explored how recent political reforms have shaped the organisational context. The focus there was on changes made to the organisational structures (ownership and authority) and to the processes and practices through which MEEDCO has brought together the wider political objectives of the state and its own narrow economic objectives. This chapter, based on Dillard et al.'s (2004) institutional framework alongside my fieldwork observations, provides an empirical analysis of the impact these changes have had on the way that the case company has been forced to cut costs. These changes have occurred as a result of three distinct but interrelated political reforms: privatisation, modernisation and budgetary reform. These key political reforms have been initiated and imposed on the company by the state and related agencies such as the EU and the WB. This chapter illustrates with data how such reforms have changed operational cost management practices in the case study company. It shows how the political and field-level dynamics of the organisational context have been internalised into a durable set of cost management practices that include cost estimation planning, calculations, allocations, measurement, reporting and control.



These Dillard et al.'s (2004) political and field-level dynamics have resulted in changes in cost management rules and routines within the company. For example, a performance-based budget has been established, with new cost estimation planning rules and routines, in response to a political drive towards minimising state expenditure. Through the modernisation programmes initiated by the government and supported by international development agencies, advanced ERP technologies have been brought in to institutionalise the costing rules and routines. With privatisation, new periodic control reports have emerged, including a 'cost report', which has been instrumental in changing managerial behaviour. These changes could be perceived as company attempts to internalise external demands into an isomorphic set of cost management practices. These intra actions are intended to enhance legitimacy in relation to the constituencies and the public (see Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007).

This chapter has four main sections. [Section 7.2](#) discusses the privatisation dynamics of cost reporting and cost controlling. It addresses the reshaping of micro cost reporting practices that have been carried out in accordance with the political acts of privatisation and capital market reform. It also discusses the managerial actions taken in response to the new cost reports and numbers. [Section 7.3](#) explores cost accounting practices in terms of modernisation processes. It highlights how the micro practices of cost calculation, allocation and measurement have been reframed through ERP in response to the external demands of the modernisation programme. [Section 7.4](#) focuses on the state budget reforms in relation to cost estimation planning. It discusses the ways in which micro cost planning practices have been reconstructed in accordance with the institutional reforms of the performance-based budget. [Section 7.5](#) summarises and concludes the chapter.

## 7.2 Re-privatisation and the Emergence of a Cost Report and New Control Forms

New forms of cost control have been institutionalised as part of MEEDCO's moves towards re-privatisation. There have been substantial changes in cost accounting practices from costing practices

directed towards meeting the administrative apparatus of internal and external auditing. In the pre-privatisation, modernisation and budgetary reform regimes, cost accounting practices were mainly directed towards 'calculating' costs for financial reporting, auditing and other administrative purposes. Costs were perceived as a unit of reporting and traditional cost reports were considered to provide some basic cost numbers. The FM explains that in the legacy accounting systems, MEEDCO only prepared monthly cost reports for internal auditing within the cost department and then sent them to the holding company by registered mail for external auditing. This cost report included only basic information about account statements, a statement of account balances, a statement of cost entries and a cost trial balance. While the account statement follows up each cost account separately, the statement of account balances summarises the total cost accounts. The statement of cost entries reviews the total cost journal entries and corrects the recording mistakes made during a given month. The cost trial balance reviews the balances of cost accounts with other operating departments to ensure the correctness of monthly cost balances; it also sets out any required adjustments.

Under the present system, while retaining the administrative and financial reporting aspects (which no company can ignore), MEEDCO has expanded its cost accounting practices and now operates under a 'cost management' regime. Here, 'cost' has come to mean something more than to 'calculate and report': cost is to be operationally and strategically managed through a durable set of calculative practices. The senior cost actors indicate that with the company moving towards operating as a market-driven enterprise, which was heralded by the privatisation attempts and the return to trading on the Stock Exchange at the start of 2005, the MOEE, the holding company and the CMA required it to submit a detailed cost report. It is called the 'performance evaluation report' through which MEEDCO manages its administrative and financial affairs and takes the appropriate actions with respect to varying operational conditions.

The purpose of the cost report, then, has been redefined together with certain changes made to the content and format of these reports. The FM indicates that the new cost report not only included basic cost

information, as before, but now also includes operational conditions – for example, costs, pricing, production, inventory, sales and employees’ performance. This new cost report includes three different forms of management and accounting reports (see MEEDCO 2013). The first includes reports that are classified into geographically distributed operating regions and branches. They include an account statement, a statement of account balances, a statement of cost entries, a cost trial balance, a statement of total costs, a statement of variable costs, a statement of activity costs, an income statement, a current activity revenue and expenses statement, a comparison between actual and budgeted cost, and a comparison between average cost and average sale price. The second group includes reports that cover the operating performance across the entire firm. This is not classified into geographical regions or branches, but includes a product cost account, a trade account, and a profits and losses account. The third group includes further reports that the senior management team and the stock market sometimes demand. They often relate to internal issues, such as employee efficiency, daily work issues, communications with customers and future development proposals. The senior cost accountant provides a useful example:

By the reports menu, the cost accountant selects the functionality of ‘account statement’. When selecting it, a specific template shows on the screen entitled ‘account statement’. The cost accountant should fill in the blanks in this template, including account code, account name and the period (from–to). Then the cost accountant presses the ‘view’ icon. The system takes a few seconds to view the cost account statement required . . . The system shows the cost account statement in a table that includes a variety of items: the name and address of the firm at the top of statement, date and time of viewing the account statement, page numbers of statement, account code, account name, the period (from–to), date of each transaction, the balance (debit–credit), the amount (debit–credit), description of each transaction separately, reference (i.e., the document number), total of statement in Egyptian pounds, and the account movement during the period (i.e., the difference between the balance at the beginning of the period and at the end of the period).

He adds:

By the reports menu, the cost accountant selects the functionality of 'accounts movement – total'. When selecting it, a specific template shows on the screen entitled 'accounts movement'. The cost accountant should fill in the blanks in this template, including the report title, the period (year, from–to), and some selections regarding the report view: view all accounts, the active accounts only, the inactive accounts only, the non-moving accounts only, the zero-balance accounts and the balance at the beginning of the period. Then the cost accountant presses the 'view' icon.

A junior cost accountant states:

By the reports menu, the cost accountant selects the functionality of 'review total entries'. When selecting it, a specific template shows on the screen entitled 'entries'. The cost accountant should fill in the blanks in this template, including the period (from–to), the entries (from–to), three basic choices regarding the title of the report (unbalanced entries, entries without details, or all entries) and some functionalities regarding a technical view of the report (e.g., drawing a frame around items, showing the total for each journal, etc.). Then the cost accountant presses the 'view' icon. The system shows the statement of total cost entries in a table, including the name and address of the firm, the date of the report, the page numbers, the title of the report, the period (from–to), the entry number, the date of each entry, a description of each entry, total entries (debit–credit), the difference (debit–credit), if any, monthly adjustments for the cost entries, total journal and total report.

This detailed cost report must be submitted at specific times otherwise the company's shares will be stopped from trading on the Stock Exchange. The FM indicates that the company must submit the cost report at the latest on the tenth day of the month following each quarter, otherwise the stock market will cease trading MEEDCO shares. The cost department and other operating departments work collectively to produce and submit this report at the required intervals. The FM states:

The cost department carries out the task of preparing monthly cost reports by helping other operating departments. Different operational and financial

processes are a fundamental part of day-to-day (or periodic) activities and processes of the cost department. This department, in particular, is at the 'heart' of operating activities and processes that occur in the firm.

The senior management team sometimes demands changes to the contents of the cost report. The general accounts manager states:

The cost reports are not designed into the operating functionalities of the Oracle ERP programme. The firm has asked the Advac Co. to put the forms of these reports into the system but we found that the firm would incur high costs for that. The senior management has designed the forms of these reports using Excel sheets and has sent them to the firm by CD. The employees in the cost department have installed Microsoft Excel on their computers and, then, they have copied and pasted these forms from the CDs . . . The senior management sends a formal letter every month to the firm to demand the cost report. When the senior management wishes to change these reports, new CDs accompany the formal letter signed by the Director of the Board . . . The cost actors usually produce three copies of those monthly reports and keep them in a safe place specified for this purpose. The first copy is uploaded to the company's server; the second copy is backed up in the IT department (on CDs), whereas the third is a paper copy kept in the relevant department's archive.

A senior cost accountant adds:

Cost reporting actors have attended some professional training courses to master how to deal with relevant reporting technologies such as the Microsoft Excel program. These courses have helped them very much to understand how the monthly cost reports are produced in accordance with the institutional reporting construction of the Ministry of Electricity and Energy, the Egyptian Electricity Holding Company and the Capital Market Authority. The company assigned some members in universities and the senior management to lecture for these training courses.

The best focal change of cost reporting routines is now the notion of 'cost movement'. Attention is focused on the 'movement of costs' rather than on just costs. The accountants and other administrators are now

working on a different organisational ontology and epistemology of understanding and analysing costs based on 'movement' (this is the word they use to signify the impact that they are making on costs in a comparative sense). It is this movement in costs that has become the driving force of all their operational and strategic actions. It has become the basic calculative logic through which organisational efficiency is understood. The purpose of cost reports has been redefined as managing cost vis-à-vis cost reporting for audits and other acts of regulatory compliance, although this aspect remains in the new regime as well.

Hence, the controlling agency has given to the cost and that the notion of cost movement has institutionalised into people's operational routines. As the cost department chief indicates, one of the most important roles that the cost department plays is to control the daily cost movement in different operational departments. Each chief of the cost sub-departments (e.g., inventory cost department chief, purchase cost department chief, indirect cost centres department chief, production cost centres chief) is responsible for controlling daily operating (and then cost) movement. For example, the inventory cost department chief manages the daily cost movement within the inventory department through the ERP system. When the inventory department chief uploads the daily operating movement of 'receiving' and/or 'disbursing' materials into the system, the inventory cost department chief controls those inputs and/or outputs of inventories, determines the costs of received and/or disbursed inventory and compares the actual to the budgeted for this day at a distance. If s/he finds differences (especially in the case of increases in received and/or disbursed inventory and its relevant costs), s/he records them in the system and informs the inventory department chief, who provides a formal report ('the daily operating report') indicating the reasons for these differences and the increases in inventory costs. The same controlling role is triggered by chiefs of other cost sub-departments for their relevant operational departments, such as the purchase department, the maintenance department and production centres.

This kind of role is not confined to the level of senior cost accountants (i.e., chiefs of cost sub-departments) but includes each of the cost department chief, the FM and the director of the board. The cost

department chief states that one of his tasks is the daily monitoring of the entire movement of the cost department and its relevant departments through their operational and/or financial numbers recorded into the ERP system. The daily operating report is then uploaded, which covers the cost movements that have taken place within the company, and this is then sent to the FM. The FM adds:

Every day I enter into the system and print this report after checking it and keep it in the 'daily movement file'. If I discovered any significant differences from the budget, I contact the cost department chief and the chiefs of relevant operational departments in order to inquire about whether these differences are 'positive' or 'negative' for the firm and to require a detailed report for their reasons.

These cost reports have been instrumental in changing managerial actions and behaviour. The Deputy Director of the Board states that the Director of the Board controls cost movements through these monthly cost reports. The reports guide the senior management team's behaviours and strategies, which are adopted for cost minimisation and profit maximisation. Through them, the relevant employees can determine cost and price increases or decreases compared to previous periods, considering economic circumstances and other political considerations surrounding the field. For example, the 2012 cost report revealed increases in costs compared to the previous periods. The EEHC required a detailed report about the reasons for these increases. The company established a committee (including the director of the board, the FM, the cost department chief and chiefs of other operational departments) to discuss the reasons for these increases during that period. The committee reported that there had been changes following the revolution of 25th January 2011 and that they had had an impact in terms of the following increased costs: (1) increased import costs for the high-quality cables that are installed in streets, (2) increased electricity supply costs from power stations and (3) increased transportation costs to get company equipment to specific sites. The EEHC had to change its intra-organisational behaviours and strategies in terms of MEEDCO. These intra political changes included (1) purchasing cables from the

domestic market rather than importing them, while also retaining a satisfactory level of electricity provision to customers, (2) increasing electricity sale prices in accordance with increases in purchase costs from power stations and (3) subcontracting one of the transportation companies (the Hope company), which offered lower costs for five years.

These reports are the administrative and accounting instruments on which the EEHC depends in order to be able to take other relevant action in MEEDCO. The senior accountant indicates that the cost report can be a powerful device by which senior management may evaluate the movement of production, sales, inventory and employees, and then take appropriate decisions. She mentions:

The senior management depends currently on the cost reports in the re-pricing of electrical products at the beginning of each year, considering the change in currency rates for raw materials that the firm is purchasing from abroad and/or as local purchase prices change as a result of the political and economic circumstances of the country ... The electricity sale prices are usually determined after the preparation of the annual budget and the determination of budgeted purchase costs for next year. The holding company first determines the alternatives for expected sale prices depending on budgeted performance indicators for next year derived from the cost reports and numbers. It adds a specific percentage as the profit margin ... The Director of the Board is the person who determines the electricity sale price for the next year and informs the executive manager in MEEDCO (after approval by the Ministry of Electricity and Energy) by telephone. The executive manager distributes new sale prices to geographically distributed regions and branches through the internal bulletin. The senior managerial actors in each region or branch keep the new sale prices; these are kept secret until they are carried out in the new financial year.

The cost centres department chief states:

The cost reports provide the senior management with data enabling them to evaluate the inventory of finished product at the end of the year. The firm adopts a policy of 'cost or price, whichever is less'.



Further, the FM observes:

The senior management requires the cost report in order to identify the direct and indirect costs for the firm's different products and compares them to the budgeted plan . . . The firm implements the standard cost system and analyses deviations; however, it evaluates product costs based upon the cost report and decides whether it needs to cut costs.

Finally here, a senior manager adds:

The cost reports (or what we call in our work, the performance evaluation reports) are now the most important reports for the senior management. By these reports, the senior management can make a variety of decisions so as to maximise profits, minimise costs, rationalise a waste of the electricity due to the stealing of street converters or frequent breakdowns in cables, employees' rewards and promotions, employees' training, increase employees' efficiency, the rewards of directors of the board, the excesses in the rewards exchange, the issues of work movement, enhanced operating performance, current and future sale prices, current and future projects and plans and increased/decreased power sale levels.

### **7.3 Modernisation: ERP Practices of Cost Calculation, Allocation and Measurement**

As discussed throughout, MEEDCO's new costing regime has been implemented alongside wider modernisation reforms that have taken place at the political level. In the pre-modernisation era, before 2001/2002, MEEDCO used a stand-alone computerised system; there was 'no integration'. Each department had a few computers and these were used by specific employees: most were not qualified to use them. This created a state of chaos within the company hierarchy and departmental structures, because of the lack of integration between the operational areas. The result was irregular administrative and accounting practices, which led to negative actions by government control bodies and then to the

kinds of radical changes in organisational structures, processes and practices of cost management that are outlined in [Chapter 6](#).

New ERP systems, as one of the modernisation initiatives, have improved cost management through better cost calculations, cost allocations and cost measurements, via a refined and enhanced system of cost coding, identification and comparisons. Within these ERP systems, the operational functionalities of each department have been reframed. The day-to-day operating routines vary from one department to another depending on their respective responsibilities within the company. A senior cost accountant indicated, for example, that the sequence of daily work for the General Accounts and Budget Department varies from the procedural steps taken in the Cost Department. Also, the tasks of actors in each department vary from one actor to another depending on his/her identity. Indeed, I observed that the ERP portal varies from one department to another and/or from one actor to another, depending on their authority or on the level of power framed within the department and/or the company.

There is now what is called ‘users’ power’, that is, each actor has specific authorities and, accordingly, his/her own portal configuration. For example, in the cost department, day-to-day operating routines for each accounting actor begin by them logging on to the system through an individually assigned username and password. The log on is made through a template on the system showing the company logo of Advac Systems Ltd., which designed the current system. After logging on, the senior cost accountant explains, ‘my own screen/portal configures depending on my identity in the department and positional authorities given by the IT department’. He adds that this screen/portal shows the name of the system and the department at the top. It then shows ‘seven operating menus: File, Reports, Inquiry, Reports’ Organiser, Settings, Frame and Instructions in addition to another icon regarding Re-logging on’. At the bottom, the portal shows ‘the name of our company, date, the name of user and identity, times of logging on and logging out’.

ERP has institutionalised these daily costing routines through specific operating menus. Daily costing practices are concentrated in two main menus within the ERP portal: Inquiry and Reports. As the cost department chief indicates, the Inquiry Menu is the basic menu for daily cost

activities: it includes features that address cost accountants' daily tasks; the Reports Menu includes functions that deal with periodic cost reports. Other operational ERP menus cover the technical settings for the system itself. The basic 'Inquiry' menu includes five functions to deal with day-to-day (or periodic) cost activities. Some of the cost accountants observed that the first feature deals with 'inquiries' about journal entries and balances of accounts. The second addresses the 'analysis' of cost centres, the cost movements against activities and accounting units, the analysis of activities on cost centres and the analysis of cost centres on activities. While the third function deals with 'inquiries' about the total cost movement against activities and the balances for cost centres, the fourth presents 'graphically' the balances of accounts, the movement within cost centres and the balances against activities. The fifth function provides access to the SQL tool and further inquiries. Each function has a specific template through which the cost actors can carry out their operational cost calculations, allocations and measurement routines.

The secondary 'Reports' menu, as noted by some of the cost accountants, has basic functionalities that they use monthly. These are the four main managerial and accounting reports: the account statement, the trial balance, the total journal entry audit and total accounts movement. Each has a specific form that the cost accountants use to prepare monthly cost reports, with the basic functionality being the Analysis of Cost Centres on Accounts. As the cost accountant 'clicks' on this, a template appears on the screen. The template includes a variety of blanks that the cost accountant fills in to complete the required reporting process, including type of account (functional or qualitative), the period of time over which the process has been carried out (from-to), the way of displaying cost centres (columns or rows), journals (from-to), activity (from-to), units (from-to) and totals (appear or disappear).

ERP has also institutionalised the use of cost journals. The template includes three basic journals that the cost accountants use continually: the balances journal, the documents journal and the adjustments journal. As a senior cost accountant indicates, the cost accountants use the first of these each month when receiving the trial balances of geographically distributed operating branches and regions – for auditing and balancing against the company's central balances. The records are

classified into two geographical regions: Northern and Southern. The cost accountants receive these by email. In the pre-modernisation era the employees in other branches and regions travelled to the governorate in which the company was located to hand them in. Since the advent of ERP, they now send their trial balances via email. After receiving the trial balances, the cost accountants begin loading them into the central balances journal. Then the accountants begin to reconcile the monthly cost balances in the company's books and different regions' balances. Sometimes they find differences between them. The cost accountants send an email to the relevant branch or region to audit these differences. They record and describe these adjustments (if required) in their central balances journal, depending on the geographical region that this branch belongs to.

ERP has also introduced the documents journal, which relates to daily processes at the company headquarters. This journal does not relate to other branches or regions. It includes a specific form on which the cost accountants record and describe day-to-day cost transactions occurring at the company headquarters in the form of 'journal entries'. The cost accountant states:

The daily disbursement documents are moved first from the Inventory Department to the General Accounts Department and then to the Cost Accounts. The cost accountant prepares the monthly trial balance regarding cost processes at headquarters and balances with the General Accounts Department and the Inventory Department in order to ensure the correctness of the cost balances.

The cost accountants can now directly obtain the disbursement documents through the ERP database. A senior accountant adds:

I can obtain the disbursement documents for each project separately. When recording the code of a project, the system shows the disbursement documents through which I can determine the disbursed supplies for each project. As the inventory accountants upload their documents to the system, I can show them automatically on my own screen.

Through the documents journal, ERP has institutionalised two key items: cost centres and cost accounts. The cost centres are shown horizontally while the cost accounts are shown vertically. As the senior cost accountant indicates, the cost centres are currently classified in the documents journal into five centres: the management team, the training centre, the control centre, the printing centre and the invoicing centre. Thus, the classification of these cost centres has been reshaped through ERP implementation. A senior cost accountant states:

In the old computerised system, the documents journal only included three cost centres: management, the control centre and the invoicing centre, while both the training centre and the printing centre were separate cost centres for the system. They had special books, which were prepared manually. The implementation of advanced operating functionalities, as in the Oracle ERP programme, has enabled the IT department to put both centres within the documents journal with the existing cost centres.

He adds:

This upgrade has enabled cost accountants to re-code cost centres especially after adding both the training and the printing centres. The existing code of cost centres within the documents journal has become as follows: the firm management centre 01, the training centre 02, the control centre 03, the printing centre 04, and the invoicing centre 05. The 'zero' numbers indicate the code of the governorate in which the firm is located.

New cost centres have been added and coded since the restructuring of the company and the implementation of ERP. With the moves towards privatisation, as outlined in [Chapter 6](#), in 2006 the company changed its managerial and organisational structures into two regions, so that each includes specific operating branches and each branch represents a 'cost centre' involving specific cost activities, accounts, items and codes. Examples of these new cost centres include the Al Minia workshop – South 262, the Directorate of Rural Electrification – South 263, the Assiut sector – South 350, the Diwan of Assiut sector – South 351, the Electricity East of Assiut 352, the Electricity reservoir 353, the Electricity

West Assiut 354, the Electricity Mubarak 355, the Electricity Assiut centre – Kebly 356, the Electricity Assiut centre – Bahary 357, the Electricity Abu Tig 358 and Electricity Abu Tig – villages 359. A junior cost accountant states:

The movement of each cost centre varies from one month to another depending on the volume of processes and activities taking place within each centre. However, most monthly movement occurs in five key cost centres, i.e., management, training, control, printing and the invoicing centre.

ERP has also institutionalised cost accounts through the documents journal. The cost accounts are classified within the documents journal into three accounts. Each includes sub-cost accounts and has a cost code. Some senior cost accountants explained that the first account is Production Costs 36 (e.g., oils and greases 36123, parts and transport tasks 36133, parts and other tasks 36134, water 36151 and stationery 36161). The second account is Marketing Costs 37 (e.g., parts and transport tasks 37131, parts and other tasks 37132 and stationery 37161). The third account is Administrative and Financing Expenses 38 (e.g., oils 38122, parts and transport tasks 38131, parts and other tasks 38132, water 38151 and stationery 38161). As they were added, new cost accounts have been introduced and coded in the documents journal. They are inventory 161 (e.g., material inventory 1611, fuel and oil inventory 1612, spares and supplies inventory 1613, packaging materials inventory 1614, waste and scrap inventory 1615 and inventory of materials and spares under formation 1616), imperfect production inventory 162, perfect production inventory 163, inventory of goods purchased for sale 164, inventory for others 165 and documented credits for the purchase of goods and services 166.

ERP implementation has also enabled the re-classification and re-codification of cost items. The senior cost accountant mentions that in the old computerised system the cost items were classified and coded as follows: Wages 31, Commodity supplies 32, Service supplies 33, Purchases for sale 34, Financing expenses 35 and Particular expenses 36. However, with Oracle, advanced features have helped

the cost accountants to re-classify and re-code these cost items: Materials and Raw 'work inputs' 31 (instead of Commodity supplies), Wages 32, Production expenses 33 (including both Service supplies and Financing expenses), Purchases for sale 34 and Burdens and Losses 35 (instead of Particular expenses). He adds:

The new cost classification codes show clearly within the documents journal, especially with regard to production cost accounts 36 and marketing cost accounts 37, because most cost items which were re-classified or re-coded are inserted in both accounts.

The recording of cost entries in this documents journal has changed since the implementation of Oracle ERP. A junior cost accountant indicates that the old computerised costing system did not include functionality that enabled them to record the cost entries in the form of 'double entry' bookkeeping. They could only record them in the form of a normal daily entry (i.e., single entries). However, Advac Co. and the IT department considered day-to-day recording processes when designing the Oracle programme: 'If you look at the Inquiry Menu specialised to cost functionalities, you will find the Entry Recording icon. When you press it, the small template will show on the screen to enable you to choose whether the recording in the cost journal will be in the form of single or double entry'. This functionality was not provided in the legacy system or even in the Globus ERP system.

The querying method for 'unbalanced' cost entries in this document journal has also changed recently, following Oracle ERP implementation. When I visited the cost department, I observed that the cost accountant had discovered an 'unbalanced journal entry' in the cost journal recorded in the system. The employee contacted the appropriate journal accountant by telephone in order to correct the entry. The employee says:

There is a template designed within the new system to discover such operating errors. In that case, I found that the journal accountant recorded within the document journal the debit and forgot to record the credit. I told him of this error and required its modification . . . Such a template

(or functionality) was not found in prior operating systems ... The reasons behind such errors are either due to the sudden cutting off of the electricity, leaving work, or the intensity of daily work and the forgetfulness of the employee.

ERP also introduced (using the Analysis of Cost Centres on Accounts template) an 'adjustments journal'. This journal relates to internal operating processes that are carried out at the company's headquarters, but not to other branches or regions. It is organised by calendar month: January, February, March and so on. As outlined earlier, each month the cost accountant reconciles the cost trial balance with each of the general accounts and inventory departments. The cost accountant often finds the differences in the balances of some items shared between the cost department and other departments. The cost accountant must then make balancing journal entries. These monthly adjustments are recorded and described in the adjustments journal. For example, I visited the cost department on 1st December 2013. On that day, the accounting actors in different departments were preparing monthly accounts sheets up to 30th November. I observed while sitting with the cost accountant that the general accounts accountant came to the cost accountant to report that the monthly balances for the general accounts when matched to the cost accounts did not balance. Both accountants logged on to the Oracle database to check that month's inputs for cost data and found that the general accounts accountant had incorrectly recorded the wages. The recorded wages amount was 1,380,304 Egyptian pounds, while the original amount shown in the database (from the original documents) was 1,308,304 Egyptian pounds. This accounting mistake was adjusted in the adjustments journal and both accounts balances were balanced.

The approaches to product cost identification have kept pace with the historical changes in ERP technologies. A senior accountant in the cost department states:

With the legacy computerised system, the senior management adopted the total cost method to identify the product costs. However, this method has not helped the cost accountants to measure and allocate the product costs accurately, for two reasons: the difficulty of quantifying cost activities



because of the multiplicity of operating departments and functions [i.e., cost centres] and the absence of analytical functionalities for cost activities in the legacy computerised system.

Since the implementation of Oracle, the senior management team has changed the method of product cost measurement and allocation to ABC. This new costing approach was institutionalised as of the financial year 1st July 2007. The FM states that the implementation of the Oracle system has helped the cost accountants to calculate, measure and allocate the product costs properly as a result of three specific functions. Firstly, it provides functionality enabling them to analyse the company to homogeneous activities and centres, and to identify cost pools for each activity or centre: 'If we have a look at the 'Inquiry' menu in the Oracle programme, we would find that there are a number of functionalities regarding cost centres analysis, analysing the movement of operating activities, analysing the movement of accounting units, analysing existing activities on cost centres and analysing cost centres on existing activities.' Secondly, it provides functionality that saves time and effort in querying the cost movements for activities and the balances on cost centres, with SQL tools, for example. Thirdly, it includes functionality that presents graphically the balances of accounts, activities and cost centre movements. These features have facilitated decision-makers' understanding of costs. The cost department chief confirms this vital role played by ERP technologies in the intra-modernisation of costing routines:

Cost centres are divided into production (Account no. 5), production service (Account no. 6), marketing service (Account no. 7), and administrative and finance service (Account no. 8). Any journal entry recorded is automatically assigned into the related cost centre . . . Account no. 3 (use of resources) is first allocated to cost centres as a first stage. The costs of service centres are next allocated to production centres. Then, we calculate the unit product cost . . . In the past, the allocation process was manual. We were taking days to do each allocation. Currently, the allocation is very fast and accurate. The customised Oracle software saves time and effort and provides a high degree of accuracy.

With Oracle, MEEDCO has reduced the financial closed cycle. A senior accountant indicates that although the financial year finishes on 30th June, the financial closed cycle is made on 31st May of each year. It is made before finishing the financial year by one month. There is a separation between the June transactions and those of other months. The FM states:

I have decided on this separation due to many mistakes that were found in the preparation of final accounts on 30th June and we have had to (re-) audit different accounts over the year. I have separated the last month of the financial year and other months to avoid such mistakes and to facilitate their discovery. If there are mistakes in the preparation of final accounts and the final balances are not balanced, we can confine these mistakes to June rather than reviewing the other months.

A member of the IT confirms:

We have systemised the Oracle system on closing the financial cycle on 31st May of each year.

## **7.4 State Budget Reforms and the Performance-Based Budget Practices of Cost Estimation Planning**

A new cost estimation planning practice has been established in the company as a result of political budgetary reform. Before the budget reforms, as the FM indicates, the cash basis was applied to the current budget for expenditures and revenues under article no. 5 of the Government Accounting Act no. 127 (1981). It was the result of the fact that the line-item budget was used. The traditional budget was consistent with the institutional construction of accounting on a cash basis. It was focused on inputs and the costs of those inputs, and cash accounting served this orientation quite adequately. The accounts were maintained on a cash disbursement basis, showing only the amount of goods and services paid for during the year and expenditure on purchases of fixed assets as current expenditure.

The new performance-based budget, as one of the public budgetary reforms, was initiated by the government and supported by the WB. The FM states that under the new budget all costs had to be included. The budgetary reforms required an ‘accrual accounting system’ for the measurement of past programme costs and estimates on an accrual basis for the coming fiscal year. For example, an inventory was to be maintained on an accrual basis and the portion of capital expenditures used in each fiscal year should be charged to the performance cost for that period. The cost department chief indicates this in saying:

To set up a new performance-based budget system, we started studying the problems of the existing government accounting system in order to tackle them. We found two main problems as a direct result of using the cash basis. Firstly, fixed assets are not capitalised. Depreciation is not recognised. Secondly, the inventory does not show the goods and services used during the fiscal year . . . We decided to switch to accrual accounting by setting up an inventory system, a costing system and a fixed assets system . . . The uniform accounting system formed the basis for the move to accrual accounting.

Thus, the new neoliberal performance-based budget required the adoption of an effective costing system, the role of which had been limited under traditional budget practices. Drawing on the uniform accounting system, in response to the instructions of the CAA, the company’s Committee of Administrative and Financial Affairs has now institutionalised new practices for cost accounting, inventories and fixed assets. The senior cost accountants indicate that the uniform accounting system and its regulations were introduced by the CAA in 1966/67. This is now compulsory for enterprises in the public sector, with the exception of banks and insurance companies, which have different accounting rules and regulations (see Dahawy et al. 2010). Interestingly, the FM indicates that under the legacy system the company used the uniform system except in cost estimation planning, when it used the government accounting system. However, with the introduction of the performance-based budget and the need to move to an accrual accounting basis, MEEDCO adopted the uniform accounting system for establishing cost

estimation planning routines and their related information systems (e.g., costing, inventory, fixed assets) rather than the cash-based government accounting system.

The uniform accounting system sets out the principles of cost estimation planning, and the importance of using direct costing techniques is emphasised. The system includes a section relating to the definition of the various cost elements and the costing centres. Cost items are classified into wages, commodity requirements, service requirements, finished goods purchased for sale, current transferred expenses and current transfer in accordance with the performance-based budget (see [Table 7.1](#)).

MEEDCO's organisational budget only includes certain cost items from the performance-based state budget because of the nature of the company's activity. The FM indicates that, at a macro level, the expenditures in the state budget are classified into wages ([Chapter 1](#)), current expenditures (i.e., commodity requirements, service requirements and finished goods purchased for sale) and current transfers ([Chapter 2](#)), investment uses ([Chapter 3](#)) and capital transfers ([Chapter 4](#)). But at the micro level, in MEEDCO's budget, the expenditure side only covers cost items outlined in [Chapters 1 and 2](#). The performance-based expenditures of MEEDCO's budget do not include investment uses ([Chapter 3](#) of the state budget) and capital transfers ([Chapter 4](#) of the state budget). Due to the area the company operates in, it mainly includes wages ([Chapter 1](#)), commodity requirements, service requirements, finished goods purchased for sale and current transfers ([Chapter 2](#)).

MEEDCO now uses the same cost centre classification as the performance-based state budget, and divides the responsibility centres into five cost centres: namely, production, the production service centre, the marketing service centre, the finance and administrative centre, and the capital transaction centre. The latter is used to analyse and show separately the cost of self-constructed fixed assets. The uniform accounting system then directly allocates the resource use to these five cost centres. A senior cost accountant states:

MEEDCO currently uses the same classification of cost centres in the performance-based state budget: the production centres that include regions and branches, the production service centres that include regions

Table 7.1 The institutional construction of the performance-based budget

Analysis of uses of resources and relevant classification codes		5	6	7	8	9
3	Resource use	Production centres	Production service centres	Marketing service centres	Finance and administrative centres	Capital transaction centres
31	Wages	531 Wages	631 Wages	731 Wages	831 Wages	931 Wages
32	Commodity requirement	532 Commodity requirement	632 Commodity requirement	732 Commodity requirement	832 Commodity requirement	932 Commodity requirement
33	Service acquired	533 Service acquired	633 Service acquired	733 Service acquired	833 Service acquired	933 Service acquired
34	Finished goods purchased for sale	534 Finished goods purchased for sale	—	—	—	—
35	Current transferred expenses	535 Current transferred expenses	635 Current transferred expenses	735 Current transferred expenses	835 Current transferred expenses	935 Current transferred expenses
36	Current transfer	—	—	—	—	—

Source: MEEDCO (2003)

and some functional central administrations, the marketing service centres that include the central administration for customer assistance, the finance and administrative centres that include the central administration for the commissioner's affairs and the central administration for financial and administrative affairs, and the capital transaction centres that include the central printing department and the central carpentry department ... This new performance-based classification of cost centres reflects the fact that the costing system closely follows the existing organisational structure. The expenditures in [Chapter 1](#) and [Chapter 2](#) are directly allocated to these cost centres.

The budgetary reforms have also institutionalised a new performance-based inventory system. This new system is based on the treatment of commodity requirements in the uniform accounting system in response to the performance-based budget. Under the uniform accounting system, as the director of the inventory cost department indicates, the commodity requirements consist of raw materials, fuel, spare parts and supplies, packing and wrapping materials, and salvage. The perpetual inventory system is used here to keep a running, continuous record that tracks inventories (i.e., commodity requirements) on a day-to-day basis. Detailed records of the cost of each inventory purchase and use are maintained. These records show the inventory for every item. The 'moving average method' is used to calculate the cost of units used and the cost of the remaining units. Under this method, a new average is computed after each purchase. The average cost is computed by dividing the cost of goods available for use by the units available.

A new fixed assets system has now been brought in as part of the performance-based reforms. This also shows the changes that have resulted from the introduction of the uniform accounting system. Under the uniform accounting system, as the director of the fixed assets cost department indicates, fixed assets are currently classified into land; buildings, construction, facilities and roads; machinery and equipment; transportation and delivery facilities; tools; furniture and fixtures; and deferred expenses. They are valued at their historical cost plus additional capital expenses. Depreciation is defined as the accounting method for dividing the cost of the fixed asset over the lifetime of the asset using

specific depreciation rates. For example, the FM states that, ‘the depreciation rates for equipment, furniture and cars are 10 per cent, 6 per cent and 20 per cent respectively’.

The Committee of Planning and Performance Budgeting and Evaluation is responsible for controlling and managing the programme and the budget. The planning manager indicates that with the performance-based budget new performance evaluation criteria have been institutionalised. These are to manage and monitor whether the intra-institutionalisation processes of budgeting, budgetary accounting and budgetary reporting align with specific institutional constructions of missions, principles, strategies, policies, methodologies and measures that have been enforced by the MOEE and the EEHC (see [Table 7.2](#)).

The new performance-based budget has institutionalised specific procedural steps for the preparation of MEEDCO’s budget. The FM indicates that with neoliberal budgetary reforms there are three steps for preparing the budget of the government and its related companies. Firstly, a budget committee is established in each governmental unit to prepare current and capital budget proposals. Secondly, each government unit submits a budget proposal to its related ministry. Each ministry consolidates the budget proposals of related government units and submits a consolidated budget proposal to the MOF before 1st January each year. The budget proposals of the different ministries are accompanied by supporting documents that justify their estimates and any changes therein from the previous year’s appropriations. Thirdly, the sector of the state’s General Budget in the MOF prepares the general state budget proposal that consolidates the proposals of all the ministries after they have been modified. After this, the Minister of Finance submits the general state budget proposal to the People’s Assembly for approval. A senior accountant states:

The budget preparation starts with the formation of the budgeting committee. There are two departments, which are permanent members of the budgeting committee, responsible for the budget proposal: the General Administration for Revenues and the General Administration for Budget and Encumbrances. The first department is in charge of preparing the estimates of electricity sale revenues and monitoring their collection.

**Table 7.2** The institutional construction of budgetary performance evaluation

Construction	Performance evaluation criteria
Mission	<ul style="list-style-type: none"> <li>• Evaluating operational performance effectively.</li> <li>• Applying obvious performance measures.</li> <li>• Adopting the rules and regulations of the performance-based budget.</li> <li>• Providing necessary reports to senior management.</li> <li>• Achieving the strategic objective of the company, i.e., profit.</li> </ul>
Principles	<ul style="list-style-type: none"> <li>• Fairness, credibility, relevance and flexibility.</li> </ul>
Strategy	<ul style="list-style-type: none"> <li>• Elevating performance level and controlling costs.</li> <li>• Improving services provided to customers.</li> <li>• Increasing the rate of voluntary compliance by customers.</li> <li>• Developing labour skills and behaviours.</li> </ul>
Policy	<ul style="list-style-type: none"> <li>• Expanding the use of advanced operating technologies.</li> <li>• Satisfying customers and boosting their confidence.</li> <li>• Supporting economic development and encouraging investments and competitive efficiency.</li> </ul>
Methodology	<ul style="list-style-type: none"> <li>• Increasing employee satisfaction and loyalty.</li> <li>• Achieving total quality.</li> <li>• Implementing the system of programme- and performance-based budgets.</li> <li>• Developing the internal work system.</li> <li>• Recruiting trained, qualified labour.</li> <li>• Boosting customer confidence.</li> </ul>
Measures	<ul style="list-style-type: none"> <li>• Productivity = actual revenues collected ÷ actual labour hours. This figure should be compared with (estimated revenues ÷ planned labour hours).</li> <li>• Effectiveness = (actual revenues collected ÷ estimated revenues) + (achieved sub-objectives ÷ planned sub-objectives).</li> <li>• Efficiency = actual labour hours ÷ planned labour hours.</li> <li>• Quality = collecting estimated revenues, together with achieving 98% customer satisfaction.</li> <li>• Results = (actual revenues collected this period – actual revenues collected in the same period in the previous year) compared with actual revenues collected in the same period in the previous year. This percentage should be compared with the targeted growth rate.</li> </ul>

Source: MEEDCO (2013)

These estimates are based on the previous year's estimated revenues, expected growth rate and prevailing economic conditions in each industrial sector and service sector. These are prepared for each individual commodity and service separately.



She adds:

The second department, the General Administration for Budget and Encumbrances, is in charge of preparing the estimates of expenditures and monitoring the spending of encumbrances and changes therein. Expenditure estimates are prepared using the forms received from the Ministry of Finance at the beginning of each year. These estimates are based on sending requests to branches and regions to determine their needs for the coming year. After consolidating these needs, the expenditure estimates are submitted to the Ministry of Finance, which decides certain encumbrances after the approval of the People's Assembly.

Budgetary variances are now reported at the end of each fiscal year. Since the recent budgetary reforms, as shown earlier, MEEDCO has used the uniform accounting system in performance-based budgeting. The purpose of this system is to control and manage the performance of the annual budget approved by the parliament. Budget and actual (accounting) numbers are continuously compared and at the end of the fiscal year variances between the budget (*ex-ante*) and the actual accounting (*ex-post*) figures are reported. A senior manager states:

The uniform accounting system is a group of regulations and restrictions that state-owned enterprises have to follow in the implementation of the performance-based general state budget, in recording and classifying the financial operations and in preparing their budgetary statements.

The uniform accounting system has also allowed MEEDCO to institute a document cycle that refers to a specific group of documents, books and records. The documents are recorded in accounting books within the framework of the existing rules and routines of the performance-based budget. A senior accountant indicates that these documents are of two main types: documents of 'original entry' and supplementary documents. The documents of original entry are used to record the financial transactions in journals and ledger accounts. Examples of these documents are Expending Forms (no. 50 Government Account/G.A. and no. 132 G.A.) and Reconciliation Forms (no. 61 G.A. and no. 62 G.A.). The

supplementary documents are enclosed with the documents of original entry in order to provide additional information and explanations.

The books and records consist of journal books, ledger books and statistical and controlling books. The FM indicates that journal books are used to record the financial transactions based on the 'double entry system'; they include the general journal book for expending forms (no. 224 G.A.) and the general journal book for reconciliation forms (no. 224 G.A.). Ledger books include budget accounts (e.g., ledger book of expenditures (no. 81 G.A.) and ledger book of revenues (no. 81 G.A.)), a ledger book of the current central bank (no. 87 G.A.), current accounts under reconciliation (no. 39 G.A.), regular accounts (e.g., prepaid amounts) and the intermediate accounts book (e.g., remittance books and cheque books). The statistical and controlling books complement the basic accounting books to monitor some aspects that are not available in the original accounting records. Examples of these books are encumbrance records (no. 291 G.A. and no. 292 G.A.) and statements of daily trial balances (no. 69 G.A.).

Additionally, new interim budgetary statements have been introduced as part of the performance-based budget reforms. Previously, MEEDCO had only prepared the end of year final account (form no. 75 G.A.) to show the actual expenditures and revenues throughout the fiscal year just ended. The chief of the financial accounts and budgeting department indicates that in the old line-item budget the actual expenditures and revenues were only compared with the adopted expenditures and revenues in order to demonstrate to what extent MEEDCO had complied with spending mandates and the financing of activities. This final account was prepared in line with the book that is issued periodically by the MOF.

Although the company still prepares this final account, the budgetary reforms now require interim budgetary statements as well. According to the executive manual of the government budget law, especially those chapters and articles relating to the implementation of the new performance-based budget, MEEDCO is required to prepare the following interim budgetary statements (see MEEDCO 2013):

- a. An approximate monthly follow-up report on revenues and expenditures. This initial report provides a rough view of the financial position before closing the accounts.

- b. A monthly report on revenues and expenditures (form no. 75 G.A.). This shows the actual financial position.
- c. A quarterly report on revenues and expenditures (also form no. 75 G.A.). This is prepared every three months and comprises the expenditures, revenues and balances of the financial accounts for this period. It also contains the same figures for the three preceding quarters.

The chief of the financial accounts and budgeting department ends his discussion about the new budgetary reporting routines with the observation that:

Based on monthly cost reports, the financial accounts and budgeting department prepares both interim and annual budgetary statements. The objective is to determine compliance with the budget regarding the appropriations and revenues and to indicate whether these appropriations and revenues were obtained and utilised in accordance with legal and contractual requirements . . . All these aforementioned budgetary statements (or reports) are submitted to the Egyptian Electricity Holding Company, the Ministry of Finance and the Central Agency for Accountability.

## 7.5 Conclusion

As shown earlier, there are clear interconnections between recent political reforms in Egypt and the changes that have been made to cost management practices at the company level. Cost management is a strategic management practice that has been reshaped by the kinds of macro political forces that affect electricity and energy companies – such as privatisation, modernisation and budgetary reforms. These external forces have been internalised as a single cost management procedural protocol, which encompasses the far-reaching changes that have been made in cost estimation planning, calculation, allocation, measurement, reporting and controlling. With privatisation, new control forms (e.g., cost reports) have been introduced into cost and management accounting practices. With modernisation, ERP technologies have redefined

older computerised costing methods through the strategic cost management techniques that have been built into the new integrated system. Alongside budgetary reform, performance-based budgeting has become the strategic cost planning tool, replacing the traditional line-item budget. MEEDCO's recent neoliberal orientation is consistent with one of the first interpretations of 'strategy', as provided by Chandler (1962), who considers strategy to be the direction an organisation takes to achieve certain objectives according to a certain path with the use of certain resources. This reflects the design approach to strategic management associated with Porter (1991, p. 95), and the work on strategic cost management carried out by Shank and Govindarajan (1992, p. 179), who argue that 'strategy is the act of aligning a company and its environment'.

Therefore, it would seem that between different kinds of institutional isomorphism there is interplay and overlap. Cost and cost management systems were available when the case study company was established, but MEEDCO and its holding company had their cost and cost management systems imposed by the MOEE, which is considered to be a form of 'coercive' isomorphism. The preparation of these systems was carried out by experts from universities and professional associations inside and/or outside Egypt, which might be deemed a type of 'normative' isomorphism. MEEDCO used advanced ERP technologies in different operational areas, especially in accounting. This kind of pressure reflects 'mimetic' isomorphism (see DiMaggio and Powell 1983; Dillard et al. 2004; Hopper and Major 2007).

New rules were created when the new accounting systems, including costing systems, were introduced. These were in line with processes that have become institutionalised, that is, those taken-for-granted assumptions that establish ways of thinking and acting (Burns and Scapens 2000). The rules of the new accounting systems did not conflict with the existing institution, as can be seen in the new cost management routines. MEEDCO used power over meaning, which includes symbols, rituals and language. Within this form of power, the change was given new meaning to make it legitimate, desirable, rational or inevitable (see Miller 1990; Hardy 1996). Burns and Scapens (2000, p. 18), for example, argue that there are three forms of change possible in this

kind of context: 'formal versus informal change; revolutionary versus evolutionary change; and regressive versus progressive change'.

MEEDCO distinguishes between formal and informal change. For example, there has been formal change through a revolutionary approach to the costing system. Burns and Scapens (2000, p. 20) argue that 'revolutionary change involves a fundamental disruption to existing routines and institutions'. In the context of the case study company, the adoption of ERP included disruption to existing routines and institutions. There has also been informal change in terms of the calculation, allocation and measurement of product costs. Formerly, as the FM indicates, cost elements, including raw materials, labour and overhead costs, were separated. Informal change occurred when the accountants merged labour costs with overhead costs under conversion costs. Here, the distinction between formal and informal change is similar to the distinction between intentional and unintentional change (Burns and Scapens 2000, p. 20).

Thus, MEEDCO's old cost management practices have been reshaped alongside a reshaping of countrywide politico-economic reforms. There is concern about the institutionalisation of cost management practices when they are made to align with strategies enforced by exogenous industry and market forces. Amat et al. (1994), for example, conclude that competition, as an external factor, plays a role in the design and implementation of management accounting systems including budgeting, reporting and cost accounting. Hoque et al. (2001) conclude that there is a positive relationship between external environment forces, as in the case of competition, and cost and management accounting systems, although the latter adopt a static method that fails to explore the processes of change in this positive relationship.

However, from limited direct observations that the company allowed me to do during the interviews, some internal conflicts, which are more or less confined to technological and managerial issues of implementing ERP, were observed between the financial department and other operational departments due to the fact that the ERP technologies have not been fully implemented in the whole company. Also, as observed, the operational tension between the FM and the Board Director was due to that the Board Director is a military man and has not been persuaded of

the importance of encouraging employees on the ERP implementation through their promotions and/or a financial bonus every three months. As shown in [Chapter 6](#), the Board Director of my case company is one of the military leaders and, thus, a culture of fear dominates organisational actors' behaviours and actions. The change in their internal cost management policies and practices was made under what are effectively military regimes. Further reflections on this operational conflict and fear are given later (see [Chapters 8 and 9](#)).

The next chapter provides a discussion on the findings of the present work, supported by other accounting research that explores neoliberal public sector reforms in less developed countries such as privatisation, modernisation and state-budget reforms. This penultimate chapter discusses also how using Dillard et al.'s (2004) particular framework, as an analytical structure and throughout the book chapters, is a more appropriate instrument that revealed the 'real' political dynamics of cost management change in my case study company, mediated through Burns and Scapens's (2000) multi-dimensional power relations.

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# 8

## Discussion

### 8.1 Introduction

The previous chapters analysed the macro-micro institutional dynamics of cost management change using the framework proposed by Dillard et al. (2004), and complemented by Burns and Scapens's (2000) model. Those chapters concluded that, in Egypt, E&E are managed at three distinct but interrelated institutional levels: political, field (i.e., as a distinct industrial sector) and organisational. They provided an analysis of how politico-historical forces have constructed the E&E sector as a distinct field of management. They examined the historical evolution of managing E&E as a political phenomenon. They focused on the specific technological, political and institutional tools that the government has adopted not only for the management of production, transmission and distribution of electric power but also as a politico-economic approach to paving the way for 'cost' to become a central strategy in E&E enterprises. This penultimate chapter discusses the findings of the present work, alongside a discussion of the institutional dynamics that were explored at economic and political, organisational field and organisational levels. It explains the role of these Dillard et al.'s (2004)



macro-micro dynamics, supported by Burns and Scapens's (2000) power relations, in the successful changes made to cost management practices in MEEDCO, the case study company.

This discussion, then, is presented in three main sections. Section 8.2 discusses how Dillard et al.'s (2004) macro-micro dynamics have been institutionalised within public utilities cost management change. It explains how Dillard et al.'s (2004) three theoretical dimensions revealed that privatisation is not just a binary issue and that the state leadership of public utilities has not been only through privatisation but there are other manifestations of the state intervention into public utilities practices such as modernisation and budget reform, which indeed are supplementary political technologies to ensure the successful implementation of privatisation attempts. It also addresses how these Dillard et al.'s (2004) macro-micro dynamics have shown that management accounting practices are not just about budgets and/or other cost estimation planning technologies. The wider political view of these Dillard et al.'s (2004) macro-micro dynamics revealed that a set of apparently non-political management accounting technologies, especially cost reporting, performance-based budgeting and ERP, became a set of political cost management tools. Section 8.3 discusses how Burns and Scapens's (2000) power relations have been institutionalised in these Dillard et al.'s (2004) macro-micro dynamics of cost management change. In my case study company, Dillard et al.'s (2004) institutional dynamics of cost management structures, processes and practices are governed by OIS-based power relationships between external and internal organisational actors. Such powerful relationships have included Burns and Scapens's (2000) different kinds of power over resources, processes, meanings and systems. Section 8.4 discusses how Dillard et al.'s (2004) macro-micro dynamics, reinforced by Burns and Scapens's (2000) power relations, have caused a 'culture of fear' amongst the employees while changes in the operational practices of cost estimation planning, cost calculation, cost measurement, cost allocation, cost reporting and cost controlling.

## 8.2 Politics of Cost Management Change

Dillard et al.'s (2004) macro-micro dynamics, as analysed over the book chapters, revealed that it is necessary to see cost management change, especially in politically sensitive public utilities in less developed countries, as a form of institutional change that is closely linked to the structural changes taking place in the wider arena of state politics. The new cost management practices deployed in such utility companies operate as technological and micro-level managerial tools that bring together the wider political objectives of the state and the narrower economic objectives of the firms. Hence, cost management is political and operates as an instrument of neoliberal reform. In an empirical sense, this means that E&E production and distribution in Egypt has been, historically, managed at three distinct but interrelated levels: the political level, the field level and the organisational level. Neoliberal political reforms – privatisation, modernisation and state budget reform – have penetrated all these levels to transform cost management practices, in effect institutionalising a neoliberal regime in which the cost management has become not only a strategic imperative in a managerial sense but also a political imperative in terms of state politics. While privatisation instigated the changes required in political ideologies and ownership structures in order to establish the political and institutional infrastructure for neoliberal transformation, modernisation brought about the accounting technologies that enabled such ideological and structural transformation at the micro level. The state budget reforms then linked these changes to the crisis in public finance and, thus, the micro-level changes in cost management practices became a political as well as a managerial imperative. In this way, a set of apparently non-political management accounting technologies, especially ERP and performance-based budgeting, became a set of political tools.

These Dillard et al.'s (2004) political dynamics at work in MEEDCO are consistent with some findings of the wider literature on the connection between state politics and organisational management and cost management changes. Ahmed and Scapens (2003), for example, illustrate how an

institutionalist perspective can help us to understand the development of cost-based pricing rules in Britain. Cost-based pricing practices gained importance in Britain at the beginning of the twentieth century, with the introduction of uniform cost accounting schemes such as the one set up by the British Federation of Master Printers. This scheme emerged as a result of changing politico-economic conditions caused by an expansion of the printing industry in the closing decades of the nineteenth century. In addition, Skærbæk and Melander (2004) illustrate the state politics of the changing forms of accounting in a Danish government-owned company under privatisation. They argue that accounting is often central to the transformation of organisational institutions under privatisation and that emergent accounting forms translate the political manoeuvrings of their case organisation as the result of network relationships.

Uddin and Hopper (2003, p. 769) argue, 'It is unwise to assume that efficient forms of accounting will automatically flow from policies increasing the role of the private sector. Accounting is socially and politically determined, and cannot be left to markets, being an important pre-condition for market functioning'. Lapsley and Pallot (2000) explore management accounting in a situation of change in local government in Scotland and New Zealand. Modell (2003) compares goal-directed and institutional perspectives in the development of performance measurement in Swedish universities, and later (Modell 2005) investigates the political and institutional processes surrounding the construction of a consumer-orientated measurement of performance practices. Modell (2006) also explores how cost allocation rules are shaped by the political interplay between key actors in the regulatory process. De Silva and Luck (2014) argue that socio political factors have influenced the budgetary reform process of a government agency. The top-down budgetary process resulted in some beneficial outcomes and in bringing their case organisation to 'crisis point'. This was due to the government having control over funding and the high levels of efficiencies negotiated with the departments. This is consistent with the findings of Brown and Herbert (2014), who argue that the public sector performance management system has become an instrument of political discourse and the means by which to achieve the translation and operationalisation of new political rationalities and technologies of government.

Further, Cragg and Dyck (1999) study the relationships between ownership and internal control of state-owned, privatised and publicly trading firms in the UK. They argue that there is a change in the objectives of state-owned companies when they transfer to the private sector. Privatised companies focus on profitability and on the fact that managers are more likely to resign when companies trade at a loss. Conversely, state-owned companies tend to concentrate on non-commercial objectives. Cragg and Dyck adopt a statistical approach, however, which cannot provide an in-depth understanding about how these objectives change. Uddin and Hopper (2001) identify the effect of full privatisation on accounting systems. Their study examines an intensive case study of a soap manufacturing company in Bangladesh, which was privatised in 1993, after which there were some important changes. For example, the top management team used the budget to assess the company's performance: in other words, the budget had become more market-oriented. There were also significant changes made in accounting practices, which were associated with new computerised systems, in order to speed up the process of getting information to managers.

Uddin and Hopper (2003) also examine changes in accounting practices and financial performance in the same case study of a soap manufacturing company in Bangladesh. They compare the issues arising with those of other privatised companies in the WB report. Their results reveal that the company's financial accounting and budget systems have changed, because the company became subject to all rules and the Companies' Act, which affected the company once it had been privatised. Budgets and related controls changed significantly after full privatisation, because of the use of computerised systems to speed up the stream of inner-information. Related to these findings, Uddin and Tsamenyi (2005) examine changes to budgetary control and performance monitoring in the context of a series of WB-sponsored public sector reforms in Ghana. They argue that budgetary practices in their case study organisation did not change substantially, with the exception of reporting practices. Budgeting remained politicised, delayed, directionless and ineffective. Reporting to the monitoring agency did not make any positive changes to accountability and performance and was thereby unable to serve public interests. Xu and Uddin (2008) explore public sector reforms with special reference to privatisation and its political

impacts on changing regimes of control in a Chinese SOE. They argue that the underlying rationale for the Chinese government's privatisation and public sector reforms is the view that reformed state enterprises and privately managed firms will demonstrate superior cost controls and better performance management, and hence encourage political stability, economic growth and employment. Nevertheless, the aims of reform policies in China, including better control, increased profitability and an improved working life for Chinese people, did not materialise in their case study organisation.

Another study of reform processes was carried out by Mir and Rahaman (2007), who explore the role of accounting in of a continuously evolving governmental agency in the Australian state of New South Wales. They argue that since the late 1980s their case organisation has been transformed from a budget-dependent bureaucratic governmental agency to a business-oriented commercialised agency operating in a competitive environment. Busco et al. (2002) explore post-acquisition cultural change, which was eased with a company-wide performance measurement system. They adopted an Italian state-owned company as case study. The company had been privatised, after which it was acquired by a US company. The company had been state owned and it had had to present reports and budgets to both the executive director and the government, but the systems used were not incorporated into the organisational processes. However, there have been two main types of organisational change within the company and both were supplemented by extensive and intensive training plans. First, the case company redesigned systems of accountability. Secondly, they implemented a measurement-based quality programme. As a result of these changes, all members of the organisation shared the same language of accountability and performance measurement. This is consistent with the conclusion of Burns et al. (2003, p. 46), which states:

Management accounting change should be accompanied by clear explanations of why it is taking place, and they should encompass everyone in, or affected (either directly or indirectly) by, the process of change. Otherwise, the existing taken-for-granted assumptions are likely to remain unchanged, and thereby create conflict and resistance that can ultimately lead to the failure of the programme of change.

Political, economic and social are then classified as environmental factors (see Miller 1990; Sulaiman 2003). For example, economic crises have tended to drive accounting change (Hopwood 1987). According to Granlund (2001), specific economic, institutional and human factors support continuity together more than driving change (Granlund 2001). During the crisis phase, 'accounting information systems exhibited many dysfunctional limitations which inhibited effective crisis management' (Ezzamel and Bourn 1990, p. 422). Abernethy and Chua's (1996, p. 599) case illustrates that 'accounting control systems do not serve a particularly important role in the planning and control function, but rather are used to rationalise and supplement other more visible elements of the control package'. Social and political crises have also contributed to the importance of management accounting and standard costing (Oakes and Miranti 1996). Cost and management accounting is characterised by continuity and change, despite huge institutional changes in environment (Vamosi 2000). The present case concludes that Dillard et al.'s (2004) politics has played a significant role in the accounting changes that have taken place in MEEDCO. The more that clarity of vision, awareness and attention to detail controls these political manoeuvrings, the better the chance of successful change in the organisation's accounting system. It is important to understand the relationship between politics and an organisation's culture, especially regarding the role of political actors in terms of the effects of cascading down accounting change (see Miller 1990; Skærbæk and Melander 2004; Wickramasinghe and Hopper 2005; Uddin and Tsamenyi 2005; Alawattage and Wickramasinghe 2008).

### 8.3 Power Relations of Cost Management Change

Generally, there is a relationship between those politics and power which facilitated the change process, especially if such power has been used to institutionalise the accounting change (see Burns and Scapens 2000; Dillard et al. 2004; Jacobs 2009). Indeed, Burns and Scapens's (2000) power relations are embedded in the Dillard et al.'s (2004) wider political

dynamics of cost management change in the present case study company. The power relations at play here concern wider political structural changes at the levels of the state and the economy (Samson 1994; Dillard et al. 2004). They have been instrumental in institutionalising these changes into durable organisational cost management structures, processes and practices. Ezzamel and Burns (2005), for example, explore power relations between organisational actors in a struggle over management control strategy. They describe their case study company as it introduces a new system of measurement – Economic Value Added (EVA) – in a large UK company. This company designed EVA to replace the previous performance measurement system, which focused on profit margins, and which had been suspended after six months' use. The main reason for this suspension was a conflict that arose between the company accountants and the management team. However, EVA did not become a component of the day-to-day information used by different organisational levels. There was no matching and harmony between new rules that were emerged with EVA and existing institutions or taken-for-granted assumptions were grounded.

MEEDCO's new cost management practices are governed by power relations between external and internal organisational actors. According to the institutionalist paradigm, power relations are the most important relations in society (see Dugger and Sherman 1994; Burns and Scapens 2000; Dillard et al. 2004). In this context, power is the actual or potential ability to affect the behaviour of others in order to achieve organisational goals, change events, overcome resistance to change and impose decisions (see also Burns and Scapens 2000; Dillard et al. 2004; Yang and Model 2013). Debates in institutional theory examine different perspectives such as change and stability. This can be formulated as the power of factors of the institutional stability against power of factors of institutional change, and how these forces can become intertwined (Oliveira 2010). NIS, for example, as seen in the work of Dillard et al. (2004) and Hopper and Major (2007), is concerned with power in terms of pressure coming from the external environment, whereas OIS focused on power within the organisational realm, as is the case in Burns and Scapens's (2000) model.

These power relations have been intertwined to institutionalise new cost management practices in the present case study company. Both these types of power can be seen in MEEDCO: external and internal (see Burns and Scapens 2000; Dillard et al. 2004). External power has been imposed by political actors (e.g., the government, the stock exchange) and field actors (e.g., the MOEE and the EEHC) in the form of laws, decrees and regulations. Internal power has been imposed by the Director of the Board, the Financial Manager and the Cost Department, as regards the single procedural protocol of cost management, including cost estimation planning, cost calculation, cost allocation, cost measurement, cost reporting and cost controlling.

The top-level power holder – the government – significantly influenced MEEDCO in introducing strategic and accounting change. Also, the literature (see Graetz et al. 2002; Dillard et al. 2004; Josiah et al. 2010; Yang and Model 2013) notes that power used by an international regulator – here, the EU and the WB – influences the application of new accounting and strategic management regimes. MEEDCO then had a strategic role in using this power in cascading the accounting systems, as in the case of the legacy systems, or the newer systems of Globus and Oracle ERP. The types of formal power that MEEDCO adopted were both coercive and legitimate; however, the use of coercive power was accompanied by a participative role, which contained support provided by the company itself. My case study concludes that the use of power by a government body or by central government can assist in the introduction of an accounting system in public organisations, even if it is coercive with a participative role (Yang and Model 2013). The role of power is evident in this instance from its influence on public entities during three strategic political reforms over the last decade: privatisation, modernisation and budgetary reform. Thus, the present work is in agreement with Dillard et al. (2004) and Josiah et al. (2010) in concluding that the impact of some forms of power, such as leadership power, personal power and legitimate power, can contribute significantly to the success of accounting change.

These kinds of intertwined relations include different kinds of power over resources, processes, meanings and systems (Burns and Scapens 2000). New cost management practices have become ways of thinking



and acting and taken-for-granted assumptions. Different operating departments (including the cost department) have used power over meanings, which include symbols, rituals and language. The change has given new meaning to make it legitimate, desirable, rational and inevitable (Wickramasinghe and Hopper 2005). The management team have exercised power over resources to enact and reproduce the new rules. The changes in the costing system and the adoption of strategic cost management tools (e.g., ERP) have been assumed to be successful, because there is a match between the new rules and the emerging routines in existing institutions. These changes are the outcome of political reform and, accordingly, they can be regarded as formal changes because they have resulted from conscious design and planning by the organisation's management (Granlund and Lukka 1998).

The power of resources, then, has emerged in the institutionalisation of cost management change in MEEDCO. It has been exercised to influence decisions and outcomes and to achieve desired behaviours through the dissemination and/or restriction of resources. These resources have included information, expertise, political access, credibility, stature and prestige, access to higher echelon members, the control of money, rewards and sanctions (see Hardy 1996; Dillard et al. 2004). This power modifies individual behaviour and tends to be used in relation to specific task-oriented settings; it often employs the 'carrot and the stick' to secure desired behaviours (see also Hardy 1996; Burns and Scapens 2000). The resource allocation from central government has played a role in the successful accounting change witnessed in my case study, as Dillard et al.'s (2004) analytical dynamics have shown over the course of Chapters 5–7. Accounting change is not possible without the provision of adequate resources, which an organisation requires to initiate and facilitate the change process (Dillard et al. 2004). The resources in this case were of two kinds: human and non-human, where non-human resources include finance, building and transportation. It was found that MEEDCO had been allocated resources through the MOEE and the EEHC. MEEDCO was given the authority to recruit the employees that were required to attain high quality performance and realise the strategic plan. MEEDCO focused on intangible support more than tangible, by providing workshops, shared meetings and consultancy publications. The

leaders in each branch had to use the allocated resources effectively in order to improve performance.

Power over processes was another dimension of the power relations evident in MEEDCO with reference to the institutionalisation of cost management change. The main source of this power involves decision-making processes, participants and agendas, and its influence is exercised over subordinates in the decision-making process (Dillard et al. 2004). This form of power relationship resides in the processes of decision-making that integrate diverse cost management rules and routines that have been implemented by senior management to influence outcomes. The mobilisation of power must then be undertaken to prevent, reduce or increase subordinate participation in decision-making processes (Wickramasinghe and Hopper 2005). Power over meanings also applies in the case study company as a means by which to form cognition, perception and preference, so that individuals accept the status quo because they cannot imagine an alternative (Dillard et al. 2004). It has been used to prevent organisational conflicts from appearing. Interest groups begin their applications and do not initiate requests of others through the administration of meanings (Hopper et al. 2009). The fourth and final dimension of power relations in MEEDCO is power over the system, which reflects the notion of OIS (see Burns and Scapens 2000).

New rules have emerged with these power relations and this has created new cost management routines. This could be seen as a revolutionary change, because it has included essential disruption to legacy routines and to institutions (Burns and Scapens 2000). The new routines began with the encoding and enactment of processes, and have been enhanced by power relations. In pre-political reforms, the processes of enactment faced resistance from people in MEEDCO, when the rules and routines challenged the existing norms, meanings and values. The change process in which executive actors used power over resources was regarded as organisational conflict. However, under neoliberal political reform, power mobilisation has been adopted. The encoding and enactment processes of new cost management routines have now been generated as repeated behaviour, which has led to the reproduction of

new routines over time (see Scapens and Burns 2000; Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007).

## 8.4 'Culture of Fear' in Cost Management Change

In my case study, it can be seen that culture is a powerful device that can play a significant role in creating effective change in cost management practices (see Miller 1990; Dillard et al. 2004; Hopper and Major 2007). MEEDCO already had experience in performance management and accounting systems before the national call for change from costing to cost management regimes. This previous experience and accounting culture played a positive and supportive role in facilitating the costing change and new cost management regime implementation. The particular culture of MEEDCO, which is close to Egyptian military culture, supported the accounting change. The cultural background of MEEDCO and its sub-departments helped the organisation to act in line with the political reforms that occurred at the levels of the state and the economy – such as privatisation, modernisation and budgetary reform.

The military culture of the Board Director has caused a culture of fear and operational tension. The Board Director is still a military man and he likes to regulate and manage 'everything'. The executive managers could not make any decision, even if a simple decision, without reference to the firm's director. He caused a culture of fear amongst the employees. This is causing enormous issues and tension within various operating sectors on ERP-based cost management practices. As observed:

- The case company has accepted the change imposed by the political management and the field actors for legitimation and the need to the financial support especially after the failure of its re-privatisation and the subsequent negative effects on its trade name in the electricity market. However, internal conflicts were observed between the financial department and other operational departments due to the fact

that the ERP technologies have not been fully implemented in the whole company.

- The operational tension between the FM and the Board Director was due to that the Board Director is a military man and has not been persuaded of the importance of encouraging employees on the ERP implementation through their promotions and/or even a financial bonus every three months. At the beginning of ERP implementation, the senior management rewarded the employees who participated in the data entry into the system through a financial bonus every three months. But after the installation of the system and it becoming the fundamental part of day-to-day routines for employees, the Director of the Board stopped this bonus for several reasons. Firstly, it only included departments operating through ERP, not other departments. Secondly, the improper inclusion of some employees from departments not implementing ERP on these bonuses sheets. Thirdly, because of the nature of some employees' work in the firm, for example, inventory personnel, they were not required to use the system. Those employees were deprived of these bonuses unfairly.
- The Director of the Board is not persuaded of the importance of putting other departments into the ERP programme although they shape the 'heart' of the company. They embrace a lot of day-to-day (or periodic) operating activities and processes. This of course causes huge operating problems between these departments and departments operating through ERP, especially the financial department.
- The senior management has not imposed its authority on people so that they implement ERP. The senior managers always require the IT manager to persuade the people of the importance of these programmes for the firm. He talks to the employees once, twice and then some employees are persuaded by ERP and begin its use whereas others argue. He could not impose his opinion on the people in the company. This matter needs a decision by the Director of the Board.

Although the military culture of the Board Director has caused a culture of fear and operational tension, it has achieved unprecedented

success and transformed the firm from losses to a profit. As observed, the Board Director has achieved unprecedented success for the firm. The historical profit trajectory clearly shows his success in the transformation of the company financial outcomes from loss making to profit making. The firm's production and sales have changed from losses of 75 million Egyptian pounds in 1985 to a profit of 1.7 billion Egyptian pounds in 2013. Such transformation definitely makes the company saleable to a foreign investor in the future.

Some research has proposed that a new organisational culture – the institution – is a main foundation of power, especially if it acquires power to become prevailing, for it successfully modifies the legitimacy of the accepted manner for action (see Dillard et al. 2004; Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008; Hopper et al. 2009, 2012). Wickramasinghe and Hopper (2005), for example, explore how management accounting controls rules and routines support power relations by providing the power to define the norms and standards that shape organisational behaviour; it also has the power to demarcate suitable forms of structure and policy that run unquestioned over time. A significant element of this process is located in meanings and values (Alawattage and Wickramasinghe 2008). This is consistent with Burns and Scapens (2000), who argue that the 'encoding process draws on the taken-for-granted assumptions, which comprise the institutional principles, through their instantiation in existing meanings, values, and power' (p. 10). It should be emphasised, then, that the kinds of power relations outlined here have helped to implement the kinds of cost management change discussed throughout the present work.

A number of studies explore cost management and recent changes in public sector management culture: the majority of these focus on performance management (e.g., Verbeeten 2008; Yang and Model 2013), police services (e.g., Collier 2006), health care (e.g., Modell 2001; Grafton et al. 2011; Chapman et al. 2014; Kaplan and Witkowski 2014), education (e.g., Covalleski and Dirsmith 1988), transportation (e.g., Stittle 2004; Cole and Cooper 2006; Jupe and Funnell 2015), city councils (e.g., Lapsley and Pallot 2000) and inter-organisational relations with the military under the wartime regime (e.g., Noguchi et al. 2015). Most focus on Western countries, with the exception of one case study in South Africa (see Josiah et al. 2010) and a

number of studies from Australia and New Zealand (e.g., Jacobs 1997; Mir and Rahaman 2007; Keneley and McKenzie 2008). In the UK, for example, Crompton and Jupe (2003; see also Jupe and Funnell 2015) found that the privatisation of British Rail, far from benefiting taxpayers, has caused them substantial losses. The privatisation process led to a substantial underpricing in the sale of public assets. The inadequate £1.9 billion raised by the sale of Railtrack was more than cancelled out by the debt write-off of nearly £1.5 billion plus a £1 billion transfer of liabilities (Crompton and Jupe 2003, p. 639). Arnold and Cooper (1999) argue that a similar redistribution of wealth was evident after they traced the cash flows generated by the privatisation and subsequent resale of Medway Port. This is consistent with the case outlined by Jean Shaoul (1997) of the water industry in England and Wales. Haselipa et al. (2005), in Argentina, also found that electricity market reforms and privatisation eventually increased income inequality and unemployment, and led to a weakening of social security. However, this literature published in the UK and elsewhere has established some salient characteristics of cost management change in public sector reforms: power (e.g., Modell 2001; Yang and Model 2013), leadership (e.g., Kim et al. 2012), culture (e.g., MacArthur 2006; Mutiganda 2013), resistance (e.g., Burns and Scapens 2000; Scapens and Burns 2000), change agents and professional groups (e.g., Stagl 2011; Agrizzia and Sian 2015), policy (e.g., Miller 1990; Dillard et al. 2004; Hopper and Major 2007; Sharma and Lawrence 2015), communication (e.g., Martins and De Toledo 2000) and inter-organisational relations with the military (e.g., Noguchi et al. 2015).

The idea of change in public sector management culture and in cost management practices was first introduced by Argyris and Kaplan (1994). They suggested three processes by which to employ new strategies to overcome the barriers to change that exist at personal, departmental, and organisational levels. Each of these processes has implications in terms of delays that might occur in the implementation of cost management practices or in their changes. Subsequently, some other researchers explored the role of public sector culture in terms of management practices, including cost management (e.g., MacArthur 2006; Etemadi et al. 2009; Ashraf and Uddin 2011; Mutiganda 2013). These studies argue that

culture has an impact on the rapport between NPM ideologies and cost control systems. People from dissimilar cultures respond differently towards management and accounting changes in the public sector. Tsui (2001), for example, tested the impact of public sector culture on the managerial and accounting performance of Western and Chinese managers. Chinese managers did not respond optimistically to the process of management and accounting change, due to their cultural background, whereas Western managers responded quickly and positively to the change process. Frucot and Shearon (1991) explain parallel findings where the performance of Mexican public sector managers was compared to managers from other countries. The Mexican managers forged ahead in implementing management and accounting change during the budgeting process. Organisational culture has a significant impact on the performance of managers, and especially on the managerial-level accountants. Hopper and Major (2007) also argue that the political and economic culture has an influence on the ABC adoption of public utilities (e.g., telecommunications), and that these influences were located at different levels in their case study organisation.

Thus, it seems clear that internal policy, which indeed reflects the organisational culture, influences cost management change within public utilities. My case study concludes that internal policy, which indeed reflects the military culture of the Board Director, can support or impede accounting change in organisation. MEEDCO, for example, realised that it was important to review internal policies and they made the required changes in order to enhance the supporting roles of those internal policies. However, some problems arose in the area of human resources due to rapid internal policy changes, but the reform of several rules, laws and regulations at government level helped public entities, especially MEEDCO, to reduce the impact of those issues. This shows that internal policy changes can impede the success of accounting change but that prompt government action can resolve many of these issues (see Dillard et al. 2004; Hopper et al. 2009).

Public organisations, then, have to consider their internal policies and adapt those policies that will support accounting change; they also need to forestall, if possible, any conflict that may occur during the adoption of the new systems. This argument has been put forward by Laughlin and

Broadbent (1993; see also Grafton et al. 2011) whose study focused on the impact of National Health Service policies instituted by political parties in the UK. They concentrated on legislative change and the link between cost accounting and law, known as the 'juridification process', as well as considering how this process uses law to shape the behaviour of social systems. Laughlin and Broadbent argue that the legislative process affected some case study organisations while failing to address the needs of others, which led to the development of individualised cost accounting systems. However, Collier (2006) argues that a cost accounting system can be introduced to a social environment by bureaucratic means. He explains the implementation of the ABC system in the police service in England and Wales, and argues that policy can influence policing performance negatively if a decision is made for economic rather than social reasons. According to his case study, the police service was run independently from government policies and there was a limit to the effect of policies receiving from the government in an organisation.

Some writers have highlighted the importance of an effective new public management (NPM) system in respect of bringing in cost management practices that will reduce redundancy, normalise accounting procedures and assimilate accounting information (e.g., Williams and Seaman 2002; Scapens and Jazayeri 2003). Several public businesses worldwide have sought to improve their costing and business operations by using advanced IT-based systems such as ERP (Hyvonen 2013). The ERP influence on management accountants is concerned with the recognised achievement of the system implementation with dramatic changes of cost management practices (Grabski et al. 2008). The public organisations that were initially unsuccessful subsequently adopted an ERP system and found that management accountants were then able to bring about effective changes in management practices, especially with reference to cost management. This reflects the importance of deploying a premium system that can contribute to the success of public organisations' performance. Grabski et al. (2008), for example, assert that implementing an optimum system such as ERP for the purpose of change is not easy and may involve several difficult steps and complicated processes. However, the involvement of management accountants is essential with regard to the following: accessing timely



information, increasing data quality, improving the decision-making process and successfully achieving desired results. An effective implementation of an ERP-based cost management system results in positive changes in the routine tasks and processes of management accountants. They have direct involvement in the decision-making process in relation to important management and accounting changes throughout the organisation: systems such as ERP support them and add value to their operations to achieve the desired results.

Accordingly, Dillard et al.'s (2004) macro-micro dynamics, reinforced by Burns and Scapens's (2000) power relationships, indeed provided more appropriate theoretical aspects of my case observations. This Dillard et al.'s (2004) framework deviates somewhat from other analytical frameworks used in this area. There, as outlined over the course of [Chapter 3](#), are various theoretical modes connecting macro-micro dynamics of management accounting change such as a cultural political economy of management accounting controls (Wickramasinghe and Hopper 2005), contingency theory with NIS (Lee and Modell 2000), contingency theory with labour process theory (Hoque and Hopper 1997), ANT with Giddens's concepts of modernity (Jones and Dugdale 2002), Foucauldian perspective of power/knowledge relations (Hoskin and Macve 1988, 1994, 2000), Foucauldian perspective of power/knowledge relations with the concept of sociology of translation from ANT (Ezzamel 1994), Burawoy's (1979, 1985) theorisation of management controls of labour processes (Uddin and Hopper 2001) and Giddens's idea of the dialectic of control from structuration theory (Uddin and Tsamenyi 2005).

Nevertheless, Dillard et al.'s (2004) analytical aspects have deeply connected the micro organisational practices with wider macro political criteria through three distinct but interrelated institutional levels by Burns and Scapens's (2000) power relations: the political level, the field level and the organisational level, which is an important aspect in theorising and better understanding the cost management changes in Egyptian public utilities. This investigation improves our understanding of recent political reforms, and the impact of each reform at different institutional levels in relation to the introduction and implementation of accounting change. Especially the selected case study company has a particular political history closely associated with the Egypt's postcolonial political

history. Using this particular framework, as an analytical structure and throughout the book chapters, revealed that it is necessary to see cost management change, especially in politically sensitive public utilities in less developed countries, as a form of institutional change that is closely linked to the structural changes taking place in the wider arena of state politics. The new cost management practices deployed in such utility companies operate as technological and micro-level managerial tools that bring together the wider political objectives of the state and the narrower economic objectives of the firms. Hence, cost management is political and operates as an instrument of neoliberal reform. In this way, compared to other theoretical modes of macro-micro connections, a set of apparently non-political management accounting technologies, especially ERP and performance-based budgeting, became a set of political tools.

The ultimate chapter of the present work provides the book conclusions referring back to the research questions and aims to advance its theoretical and empirical contributions, limitations and relevant future research.

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# 9

## Conclusion

### 9.1 Introduction

The work presented over the course of the preceding chapters provides – using the framework proposed by Dillard et al. (2004) – a political theorisation of cost management change in a politically sensitive sector – here, the public sector in a less developed country. It fills a gap in the existing literature by examining the wider political dynamics that have had a crucial impact on the success of management change, and cost management change, in a public sector organisation in Egypt. There is an academic need for more research into public sector reforms and their implications for the accounting field, although there have been a number of research projects that have dealt with such issues in specific contexts (e.g., Uddin and Hopper 2001, 2003; Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008; Agrizzia and Sian 2015; Jupe and Funnell 2015; Noguchi et al. 2015). This ultimate chapter provides the book conclusions, sets out research contributions, shows research limitations and identifies future research opportunities.

This conclusion, then, is presented in three main sections. Section 9.2 provides the conclusions of the present work. This section

summarises and concludes the book, referring back to the research questions and the ways in which the book has answered those questions. Next, [Section 9.3](#) sets out the theoretical and empirical contributions derived from the existing literature and the findings of this book. It highlights the academic need to use the three-dimensional framework proposed by Dillard et al. (2004) to theorise the micro cost management changes that have been brought about in relation to macro political reforms, and the ways in which this proposed framework extends or critiques the existing knowledge around the accounting issues studied. It also highlights the need to carry out more research into the operations of politically sensitive organisations – such as the public sector – that reflects neoliberal public sector reforms such as privatisation, modernisation and state-budget reforms. Lastly, [Section 9.4](#) presents some research limitations due to the surrounding revolutionary circumstances in Egypt during the main data collection period and subsequently it introduces some suggestions for my future research directions.

## 9.2 The Conclusions of the Book

This book takes the form of an empirical case study to illustrate how a particular set of macro political dynamics in management of the public sector led to micro organisational changes in cost management practices. It has demonstrated that cost management change can be a result of a shift in institutional politics ranging from the political state to micro organisational practices, especially in politically sensitive public utilities such as E&E in less developed countries. In order to address these issues, the book has drawn on a version of institutional theory proposed by Dillard et al. (2004), complemented by Burns and Scapens's (2000) model. Methodologically, it relies on the extended case study method (Burawoy 1998, 2009) in which 'macro regression of micro' plays a pivotal role in explaining the political and structural logics of micro public sector change. It has drawn on this methodological tradition to connect micro-level changes in cost management with macro-level

political dynamics in a less developed country. Data for the book came from three months' ethnographic fieldwork in an Egyptian electricity and energy company, MEEDCO, triangulated with various secondary sources of data on macro political dynamics.

The first conclusion of this book is that the Dillard et al.'s (2004) macro–micro dynamics revealed the necessity of seeing cost management change, especially in politically sensitive public utilities in less developed countries, as an integral part of the institutional political change that has brought together the wider political objectives of the state and the narrower economic objectives of companies. Changes in the cost management practices deployed in such utility companies operate as technological tools through which the institutional dynamics between the polity and the economy are managed. In the present case, macro political dynamics have been institutionalised into a durable set of cost management practices that reflect the strategic changes brought about by exogenous institutional forces. These include changes in cost estimation planning, calculation, allocation, measurement, reporting and controlling.

The notion of the performance-based budget has been explored here, which has been institutionalised in terms of a new set of cost estimation planning rules and routines in response to political management endeavours towards state expenditure minimisation. Previously, MEEDCO applied a cash line-item budget prepared under government accounting law. Following the financial crisis, the WB instructed the Egyptian government of the need to minimise expenditure through the implementation of a new type of budget, that is, a performance-based budget. MEEDCO is one of a number of public electricity companies that have been chosen by the MOF to implement this reform. The organisation's management team had to change some of their cost estimation planning routines to comply with the political demands of this state reform and, thus, to implement the performance-based budget. Such changes have included the adoption of the accrual basis in accordance with the uniform accounting system, the development of relevant information systems (e.g., cost accounting, inventories management and fixed assets management) and the use of custom-built ERP databases to provide real-time information, which helps managers to determine accurate cost estimates.

With modernisation programmes initiated by the Egyptian government and supported by international development agencies, such as the EU, advanced ERP technologies have been brought in to institutionalise costing rules and routines. Using ERP technologies, the management teams have redefined cost calculation, allocation and measurement processes into a single procedural protocol. This has institutionalised specific operating menus, journals, templates and forms. With Oracle ERP, in particular, costing routines have been put in place that were not available in the legacy systems: double-entry bookkeeping for recording cost entries, rather than single entry, for example, ABC in the determination of a product's cost rather than using total cost theory, the reduction of the financial closed cycle and the addition of new cost centres, cost classification codes and a new accounts guide, all of which are used in accordance with the firm's new structure and the regulations of the uniform accounting system.

With the failure of re-privatisation attempts, new forms of periodic control reports have emerged, including a 'cost report', which was instrumental in changing managerial actions and behaviours. The MOEE and the Egyptian stock exchange have forced MEEDCO to provide a cost report every quarter. The purpose is to monitor the company's performance and to protect shareholders from irregularities that might damage their investments. Previously, MEEDCO's departments only prepared a monthly report for internal auditing purposes. Now, with the recent strategic change in managerial priorities, the cost department has more power over cost reporting processes. The role of other organisational actors has been confined to sending their monthly sheets separately to the cost department. This new control report is a powerful device intended to provide relevant information and to change the shape of managerial actions taken. Examples of new actions are those that relate operationally and/or strategically to the maximisation of profit, the minimisation of costs, the rationalisation of waste, employee rewards and promotions, employee training and current and future sale prices.

The second conclusion is the failure of re-privatisation was a strategic impetus for the governmental intervention in MEEDCO. Although

MEEDCO, like others, is one of the SOEs, it has the culture and ideologies of the private business sector. It has been transferred from an operational service firm to a more market-oriented one. This is due to the effects of economic reform programmes such as the privatisation programme and the IMP. This transfer has occurred through a decision by the government in early 1999 especially after its failure to re-privatise the firm because of its successive losses and the non-existence of the legal and institutional framework guaranteeing the full protection of foreign investments at that period. Since then, MEEDCO has become a 100 per cent public sector company.

The third conclusion is that with the governmental intervention a set of apparently non-political cost management technologies, especially ERP, became a set of political tools. The military management by the Board Director adopted effective ways for rebuilding the firm whether with respect to policies, strategies or even processes. With modernisation programmes accompanied by re-privatisation attempts, initiated by the Egyptian government and supported by the international development agencies such as the WB and the EU, advanced ERP technologies have been brought in to institutionalise costing rules and routines. With ERP, the organisational management under what are effectively military practices has redefined cost management processes into a single procedural protocol.

Within these Dillard et al.'s (2004) macro-micro dynamics, as another conclusion, there is an isomorphism in cost management structures, processes and practices, including:

- Competitive isomorphism: MEEDCO faces intense competition forces in Egyptian and Arab markets and, accordingly, it had to adopt re-pricing, cost leadership and decentralisation strategies.
- Coercive isomorphism: MEEDCO faces external pressures from the political and field actors regarding privatisation, industrial and technological modernisation, and budget reform.
- Mimetic isomorphism: Due to Egyptian market conditions, MEEDCO faces uncertainty that led it to imitate leading E&E companies regarding the adoption of market-oriented informational systems (e.g., CRM) and intra-institutionalisation technologies (e.g., ERP).

- Normative isomorphism: MEEDCO has its own training sector through which professionals and specialists from universities and/or senior actors lecture and train employees on the new management and accounting systems.

The next conclusion is the state leadership of cost management structures, processes and practices under what are effectively military regimes. Cost management structures, processes and practices are governed by Dillard et al.'s (2004) power relationships between external and internal actors:

- External power: Imposed by political actors (e.g., the government, the stock exchange) and field actors (e.g., the MOEE and the EEHC) in the form of laws, decrees and regulations.
- Internal power: Imposed by the Board Director regarding cost estimation planning, cost calculation, allocation, measurement, reporting and controlling. He is still a military man in the army and also an electrical engineer. He is the only person who receives orders from the state and hence he is the 'state man' in the company. He likes to regulate and manage everything. The executive managers could not make any decision, even if a simple decision, without reference to the firm's director. He caused a 'culture of fear' amongst the employees. This is causing enormous issues and tension within various operating sectors.

Lastly, the book concludes that there is Burns and Scapens's (2000) internal conflicts and tension amongst organisational actors on ERP-based cost management practices. Dillard et al.'s (2004) model has not addressed internal conflicts resulting from the change, which is the 'point of departure' towards further development for this model in my future directions (see Section 9.4). As observed, the case company has accepted the change imposed by the political management and the field actors for legitimation and the need to the financial support especially after the failure of its re-privatisation and the subsequent negative effects on its trade name in the electricity market. However, internal conflicts were observed between the financial department and other operational departments due to the fact that the ERP technologies have not been fully implemented in the whole

company. Also, as observed, the operational tension between the FM and the Board Director was due to that the Board Director is a military man and has not been persuaded of the importance of encouraging employees on the ERP implementation through their promotions and/or even a financial bonus every three months.

### 9.3 Contributions

This book has made both theoretical and empirical contributions to the existing cost management literature. Theoretically, institutional theory is too thin to capture the real political dynamics of cost management change in MEEDCO. Institutional theory involves particular micro-economic dynamics, which include competition, markets and consumers, as well as organisational factors such as culture and power (see Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007). Competition, markets and customers have been classified as economic factors (Sulaiman 2003), and competition has been deemed a key factor in the design and implementation of cost and management accounting systems (Amat et al. 1994). Hoque et al. (2001), for example, argue that multiple measures for performance evaluation are associated with businesses facing high competition and that it is important to make greater use of computer-aided manufacturing processes, which are more concerned with cost management.

This narrower view of institutional theory is inconsistent with Dillard et al.'s (2004) wider institutional dynamics of my case study company. In the present case, Dillard et al.'s institutional framework clearly reveals the importance of the state, an erstwhile Western private sector partner, and pressure for privatisation by external transnational financial institutions, especially the WB and the EU, and local regulators which warrant greater attention and lend my book to more detailed institutional analysis. Here, as shown above, the dynamics include the fact that E&E costs in the Egyptian business environment have historically been managed at three distinct but interrelated institutional levels: the political, the field and the organisational level (see Dillard et al. 2004;

Hopper and Major 2007). These Dillard et al.'s (2004) wider dynamics reflect the 'cost management regime' now in place in terms of (a) specific micro-level cost management technologies and practices, (b) the ways in which such micro practices and technologies were established through macro- and field-level political technologies of reform and (c) the ways in which such micro and macro practices and technologies collectively represent a particular neoliberal regime of governance in which cost management has become a 'strategic' means (vis-à-vis the previous welfare-oriented regime) of managing public utilities.

This book contributes also to continuing debates on privatisation and its political impacts on public utilities management accounting practices. Its findings are rather similar to those of full privatisations elsewhere. However, the Egyptian case study here denotes a 'failure' of re-privatisation as it is still state-owned corporation due to unwillingness of 'private' (especially foreign) investors to buy a majority of the company stake. As discussed in Chapter 8, a number of management accounting case studies deal empirically with public utilities issues and reforms and the implications of the latter for organisational cost management change (e.g., Cragg and Dyck 1999; Uddin and Hopper 2001; Wickramasinghe and Hopper 2005; Alawattage and Wickramasinghe 2008). Through various case studies the existing research has examined the rationale behind recent changes and trends in public sector management practices, with special reference to cost management; however, most have only provided static comparative analyses of public sector cost management practices and their respective changes. There has been no serious attempt to evaluate, and possibly change, an institutional structure in this politically sensitive sector. There has been a relative lack, in wider political analyses, of any attempt to connect micro organisational changes in cost management to the macro political logics of managing public utilities (see Miller 1990; Skærbæk and Melander 2004; Uddin and Tsamenyi 2005; Wickramasinghe and Hopper 2005; Mir and Rahaman 2007; Alawattage and Wickramasinghe 2008; Xu and Uddin 2008; Agrizzia and Sian 2015; Sharma and Lawrence 2015; Jupe and Funnell 2015; Noguchi et al. 2015). Thus, there is an academic need to use the three-dimensional framework proposed by Dillard et al. (2004) to theorise and better understand public sector cost management



practices as ‘situated practices’, that is, within their ‘real’ political, field and organisational contexts.

Moreover, Dillard et al.’s (2004) institutional framework refers to changing development policies which reveal that the Egyptian experience deviates somewhat from the findings elsewhere (e.g., Skærbæk and Melander 2004; Wickramasinghe and Hopper 2005; Mir and Rahaman 2007; Alawattage and Wickramasinghe 2008; Agrizzia and Sian 2015; Sharma and Lawrence 2015; Jupe and Funnell 2015). Changes in its policies and practices under dominant military regimes, as shown over the course of Chapter 5, are particularly inconsistent with changes elsewhere in less developed countries<sup>1</sup>. Such inter-organisational relation with the military is different from what was much more prevalent elsewhere in the world – including in the UK. There was a massive nationalisation programme and communism was a popular political logic for the state. However, one of the key differences between this global trend and the Egyptian state (as well as in some other Islamic countries) was that it was not only nationalistic but also militarised. Cost management has thus become a ‘corporate practice’ that can facilitate the change process in the public sector (see Burns and Scapens 2000; Dillard et al. 2004; Hopper and Major 2007; Pollanen 2011; Fayard et al. 2012). This confirms an increasing awareness of cost management practices and the modifications made to them, especially after changes to the organisational culture of public sector organisations and the emergence of NPM, which involves both financial and non-financial indicators (Carter and Mueller 2006). Public sector performance measurement practices have changed over the past two decades, moving from bureaucratic management to a new style of management that can adapt to global change (AlSharari 2013). The innovations of NPM have helped the development of quality in public services, value for money analysis and reductions in operational costs. There has been an increase in public sector reform over recent years, and this has been manifested in some political means of modernity, such as privatisation and the

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<sup>1</sup> There is a small comparative study which suggests that the Egyptian experience deviates somewhat from the findings elsewhere (for more details, see Hopper et al. 2009).

implementation of new management accounting techniques, which address issues of cost management (see Bejerot and Hasselbladh 2013; Noguchi et al. 2015).

## 9.4 Future Directions

Given the three-month administrative restrictions on data collection period, the data collection limitations emanated from the political turbulence in Egypt due to both revolutions of 25th January 2011 and 30th June 2013, and the number of other salient issues raised, this book do have certain data and analytical limitations that prevented it from making a fuller contribution that it could have otherwise done. Nevertheless, I believe, the book has made a significant academic contribution upon which further contributions can be made through future research.

Firstly, Dillard et al.'s (2004) model, which used here as an analytical structure and throughout the book chapters, has not incorporated recent institutional works. The book has adopted the basic institutional levels of this particular model as they are: the political level, the field level and the organisational level. Dillard et al.'s (2004) basic institutional framework (supported by Burns and Scapens's 2000 power relations) provided appropriate theoretical apparatuses of my case observations. This particular framework has deeply connected the micro organisational practices with wider macro political criteria which is an important aspect in understanding detailed cost management changes in Egyptian public utilities. So a possible first avenue for further research in the future would concern the development of Dillard et al.'s (2004) basic framework to incorporate more recent institutional works, for example, path dependencies, logics and incorporation of normative criteria.

Secondly, Dillard et al.'s (2004) basic model has not addressed in details internal conflicts resulting from the change but focused mainly on Burns and Scapens's (2000) power relations and Weber's (1958, 1961, 1968) axes of tension (representation, rationalisation, power) in specifying the context within which institutional practices develop. As

shown in [Chapters 6–8](#), perhaps due to some fieldwork limitations arising from a time of political turbulence and lack of trust, data by and large reveals the way in which the managerial actors in the company accepted and accommodated the changes imposed by the political management. ‘Accommodation’ was much more prevalent in interview transcripts than ‘resistance’, perhaps because in such a politically turbulent, risk and uncertain environment, the field actors were driven more by the necessities of legitimation for ‘existential securities’ and the need for continuing financial support. This also includes rebuilding the managerial trust with changing political administrations though accommodation than resistance, especially after a series of allegations regarding management and accounting irregularities. However, from limited direct observations that the company allowed me to do during the interviews, some internal conflicts, which are more or less confined to technological and managerial issues of implementing ERP, were observed between the financial department and other operational departments due to the fact that the ERP technologies have not been fully implemented in the whole company. Also, as observed, the operational tension between the FM and the Board Director was due to that the Board Director is a military man and has not been persuaded of the importance of encouraging employees on the ERP implementation through their promotions and/or a financial bonus every three months. So potential future research would concern the development of Dillard et al.’s (2004) basic framework to incorporate these internal conflicts within public utilities considering the necessity of a longer fieldwork to investigate in details how and why such internal conflicts happen although different organisational actors have indeed accepted the political change of their structures, processes and practices.

Thirdly, there was a possibility of incorporating an analysis of the significance of ‘military regimes’ as some data pointed in that direction. However, restrictions in data collection does not allow me to collect ‘sufficient data’ to advance on that interesting issue. Hence, the intervention of the military in the management and accounting practices in the public utilities are by and large absent in the analysis. Following both recent revolutions, the public utilities management practices have been in the hands of the military leaders. As shown in [Chapters 6–8](#), the

Board Director of my case company is one of the military leaders and, thus, a culture of fear dominates organisational actors' behaviours and actions. The change in their internal policies and practices was made under what are effectively military regimes. However, given the time of data collection period spanned from November 2013 to February 2014, it was too early to investigate the subsequent implications of penetrating the military leadership in the public sector organisations especially following the revolution of 30th June 2013. So a potential second avenue for further contribution in the future would focus on the intervention of the military culture into the management and accounting practices in Arab Spring countries.

Lastly, the book has not addressed in some detail significant ERP introductions such as ABC. The effect of ERPs upon cost management change is one of crucial themes of the book. The claim that its effects are considerable is not a consistent with the findings elsewhere but the book does not engage with this literature (e.g., Scapens and Jazayeri 2003; Grabski et al. 2008; Hyvonen 2013). There is considerable detail on ERP and costing changes but the derivation of some other significant introductions, for example, ABC, are not examined in detail. The focus in the data collection phase was mainly on the two key questions of my study addressing the macro and micro dynamics of cost management change, without addressing somewhat to such ERP introductions. Thus, this leads to a possible avenue of contribution to critical management accounting literature in the near future.

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