How Political Change in Egypt Affected Public Utilities Cost Management Politics

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HOW POLITICAL CHANGE IN EGYPT AFFECTED PUBLIC UTILITIES COST MANAGEMENT POLITICS

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Abstract — this paper provides an empirical case study as to how the macro political dynamics lead to the micro organisational changes of cost management practices in the public sector organisations. It draws on Dillard et al.'s (2004) version of institutional theory to explain how the micro organisational changes of cost management within the public organisations aligned with the macro institutional changes. Empirical data for the study come from an extended case study of a state-owned enterprise in the Egyptian Electricity and Energy Sector, in which semi-structured interviews, field observations and documentary analysis have been deployed as the data collection methods. The paper highlights the necessity of seeing cost management change, especially in the politically sensitive public utilities in less developed countries, as an institutional political change that brings together the wider political objectives of the state and the narrower economic objectives of the firms. Changes of cost management practices deployed in such utilities then operate as technological tools through which the institutional dynamics between the polity and the economy are managed. Accordingly, the paper offers politico-economic mechanisms for cost management change in the public sector.

Keywords — cost management change; institutional theory; Egypt; extended case study; the public sector.

I. INTRODUCTION

This paper provides an empirical case study to illustrate how the macro political dynamics of managing the public sector lead to the micro organisational changes of cost management practices. We demonstrate that cost management change is a shift of institutional politics ranging from the political state to micro organisational practices, especially in the case of politically sensitive public utilities such as electricity and energy (E&E) in less developed countries (LDCs). In doing so, we draw on the particular version of institutional theory that Dillard et al. (2004) proposed. Methodologically, the paper 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 practices change. We draw on this methodological tradition to connect micro changes of cost management with the macro political dynamics in an LDC. Data for the paper come from three months' ethnographic fieldwork in an Egyptian electricity and energy company, MEEDCO, triangulated with various secondary sources of data on macro political dynamics.

This paper is structured into five main sections. Section 2 reviews the ways in which the extant literature has dealt with the issue of cost management with special attention placed upon the literature that specifically talks about cost management change in the public sector. Section 3 explains the way a particular version of institutional theory (i.e., Dillard et al.'s (2004) model) has been used in the accounting literature and how we are going to use it in our analysis. Section 4 divides into two sub-sections: the first outlines and justifies the methodological logic of selecting the extended case method whereas the second outlines the actual methods deployed in collecting and also analysing data. Section 5 is analysis/data section and is organised into three sub-sections. Those sub-sections articulate the 'cost management regime' now in practice in terms of its (a) specific micro level cost management technologies and practices, (b) how such micro practices and technologies were established through macro and field level political technologies of reformation, and (c) how such micro and macro practices and technologies collectively represent a particular neo-liberal regime of governance in which cost management has become a 'strategic' element (vis-à-vis previous welfarism oriented regime) of managing public utilities. Section 6 discusses the fundamental conclusions in a manner which particularly aims to advance both theoretical and empirical contributions of the paper.

II. LITERATURE

Cost management has become one of the main pillars of organisational practices which can facilitate opportunities for the change process in the public sector (Fayard et al., 2012). This confirms the increasing awareness of cost management practices and their changes, especially after changing the organisational culture of the public organisations and the emergence of the new public management (NPM) that involve financial and non-financial indicators. The performance
measurement regimes of the public sector have been changed over the past two decades, moving from bureaucratic management to a new style of management that can adapt to global changes (AlSharari, 2013). The concept of NPM has developed as an innovative notion that increases the quality in public services, adds value for money and reduces the costs in operations. There has now been an increase in public sector reforms and this has been manifested in some political means of modernity, e.g., privatisation and implementing new management accounting techniques which are more concerned with cost management (ibid).

Across a number of studies that focus on cost management and the change in the public sector management practices, the majority focus on police services (e.g., Collier, 2006), healthcare (e.g., Modell, 2001), education (e.g., Covaleski and Dirsmith, 1988) and city councils (e.g., Lapsley and Pallot, 2000). Most of them focus on Western countries, with the exception of one case study in South Africa and number of studies from Australia and New Zealand. However, this published literature has introduced some salient characteristics of cost management change in the public sector: power (e.g., Modell, 2001), leadership (e.g., Kim et al., 2012), culture (e.g., MacArthur, 2006), resistance (e.g., Burns and Scapens, 2000), change agents and professional groups (e.g., Stagl, 2011), policy (e.g., Hopper and Major, 2007) and communication (e.g., Martins and de Toledo, 2000).

The idea of change in the public sector management and cost management practices was first introduced by Argyris and Kaplan (1994). They suggest three inherent processes to employ new strategies by prevailing over the barriers to change which exist at personal, departmental, and organisational levels. Each of these processes has implications regarding the delay that might be foreseen in the implementation of cost management practices or changes towards advancement. Subsequently, several other researchers explored the role of public sector culture in terms of management practices, including cost management (e.g., Etemadi et al., 2009; MacArthur, 2006). 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 different cultural background. Western managers responded quickly and positively to the change process. Frucot and Shearon (1991) also illustrate parallel findings where the performance of Mexican public sector managers was compared to the managers from other countries. Mexican managers were ahead in implementing management and accounting changes during the budgeting process. The organisational culture has a deep impact on the performance of the managers, especially the managerial accountants. Hopper and Major (2007) argue that the political economic culture had an influence on the ABC adoption of the public utilities (e.g., telecommunications) and these influences were located at different levels of their case organisation.

Policy, therefore, influences cost management change within the public utilities. This argument has been seen clearly in Laughlin and Broadbent’s (1993) study which focused on the impact of National Health Services (NHS) policies instituted by political parties in the UK. It 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 legislative process affected some case organisations while it ignored others which led them to develop their own cost accounting systems. However, Collier (2006) argued that a cost accounting system can be introduced to a social environment by bureaucratic means. Collier explained the implementation of the costing system called ABC in the police service in England and Wales. Collier argued that policy can influence the policing performance negatively if a decision is made according to economic reasons, ignoring other social reasons. The police service was independent from government policies and there was a limitation regarding the effect of local policy in organisation with the policies from government.

Some experts highlight the importance of an effective NPM system to bring cost management practices which will consequently 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; e.g., Enterprise Resource Planning (ERP) systems (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 not initially successful subsequently adopted the ERP system and found management accountants brought about effective changes in their management practices, with special reference to cost management. This reflects the role of employing a premium system that contributes to the success of the public organisation's performance. Grabski et al. (2008), for example, assert that implementing an optimum system such as ERP for change purpose is not easy and may involve several difficult steps and complicated processes. However, the involvement of management accountants is essential with regards to the following: accessing timely information, increasing data quality, improving the decision making process, and successfully achieving desired results. An effective implementation of the ERP-based cost management system results in positive changes in the routine tasks and processes of the management accountants. They have direct involvement in the decision making process for doing important management and accounting changes throughout the organisation; and systems like ERP support them and add value to their operations to achieve desired results.

Accordingly, there are academic endeavours of exploring cost management practices or changes in the public sector through different ways in which the existing research sees the rationale behind various changes in the public sector
management practices, with special reference to cost management. However, most of them have only provided static comparative analyses of the public sector cost management practices and their changes. They do not evaluate and possibly change an institutional structure of this politically sensitive sector. There is a relative lack in wider political analyses connecting the micro organisational changes of cost management to the macro political logics of managing public utilities. There is the academic necessity of theorising and understanding the public sector cost management practices as a 'situated practice,' i.e., within their historical, economic and social contexts.

III. THEORY

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 new institutional sociology (NIS) to understand budgetary processes, co-ordination 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, e.g., industrial relations and the political climate (e.g., Hoque and Hopper, 1997). NIS has been combined with other positivistic theories, e.g., 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, 1998). Other researchers have linked some interpretive theories with other 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 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. Burns and Scapens (2000) utilise old institutional sociology (OIS) and structuralism theory to propose a framework for studying management accounting change.

Although these approaches have provided meaningful frameworks to analyse cost management change, Dillard et al.'s (2004) new institutional framework perhaps provides appropriate theoretical apparatuses of our case observations. This particular extension of new institutional theory has connected the micro organisational practices with wider macro political criteria, which is an important aspect in understanding 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.

Dillard et al.'s (2004) framework has three 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, e.g., motor manufacturers and police services. The third is the organisational level, which relates to the organisation itself. Figure 1 illustrates the framework which is compatible with the view of structuration theory as set out by Dillard et al. (2004).

![Fig. 1: Institutional relational dynamics](Source: Dillard et al., 2004, p. 512)

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 (CPE) 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 (POF) and criteria (COF) 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 (CPE) and (COF) 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 adopters (LA), 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 late adopters and innovators (Dillard et al., 2004; Hopper and Major, 2007).
Late adopters 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 (POF) and criteria (COF) 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 (CPE) at the economic and political level, including the values and norms at the top level (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 (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 (ibid). 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 (ibid).

Within the three levels of social organisation, there are also three dimensions which are called dimensions of contextual change. 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 (Dillard et al., 2004). 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 (ibid). 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 (ibid).

Dillard et al.’s (2004) framework has been used to inform some subsequent cost management 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) 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 focuses on the regulatory way in which new budgeting systems together with the managing-for-results approach were implemented throughout three levels of institutional analysis: political and economic level, organisational field level and organisational level. AlSharari highlights the interaction process between these levels from one side, and between management accounting and organisational change from another side.

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 (see Figure 2). There were several reasons for this revision. Firstly, Hopper and Major found that many factors, e.g., 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 late adopters 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.
**IV. METHODS**

**A. The Methodological Logic – Extended Case Method**

The extended case method (Burawoy, 1998, 2009) is an appropriate methodological approach to understand how the case company constructed operational cost management practices to align with the macro political logics of managing the public utilities. It addresses different research aspects of cost management change phenomenon within its natural situ. It is useful when there is a need to understand a contemporary phenomenon which is neither controlled nor supported by a strong theoretical base in its natural settings. This distinguishes the extended case study research not only from experiments which divorce the phenomenon from its context but also from historical case studies which do not study contemporary events, and surveys which limit the number of variables under study. It is Burawoy (1998, 2009) and some other early researchers from the Manchester School who promoted the notion of ‘extended case method’ to provide the traditional case study method with a capacity to deal with the macro-micro connections. Max Weber, among others of the Manchester School anthropologists, as cited by Harrington (2005, p. 5; see also Burawoy, 2009, pp. 1-18), advocates that “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 our use of the extended case method we have investigated the connection between the micro organisational changes and the macro environmental changes. Our view of the data collected and analysed has been from two perspectives. The first perspective is related not only to the market and industry conditions that makes ‘cost’ one of the fundamental strategic weapons but also to the changes in the wider political ideologies that drive the structural changes in the competitive context. The second perspective is related to the internal re-configuration of organisational structures, processes and practices through which such exogenous changes are internalised into a durable set of strategic cost management practices. While the macro data has mainly been collected from secondary published materials (e.g., reports, periodical magazines, local newspapers, journal articles, websites etc.), the micro data has mainly been collected from different organisational actors (e.g., accountants, operational managers and IT staff).

Middle Egypt Electricity Distribution Company (MEEDCO) has been selected as the extended case site. It is one of the biggest E&E distribution companies in Egypt and has 13 branches in different governates. It has a unique competitive position in the Egyptian E&E market, its market share currently exceeds 56% and its annual profits have increased to 1.7 billion Egyptian pounds. The company has qualified and experienced employees in different specialisations. It has 8,718 employees including engineers, technicians and administrative staff (see MEEDCO, 2013).

The choice of MEEDCO was made for two main reasons. Firstly, it is illustrative of the current economic transitions in Egypt because it is highly influenced by economic and structural programmes that have been undertaken to transform Egypt from a centrally planned economy to a free market-oriented economy. For example, MEEDCO was influenced by the privatisation programme in its transformation from an operational orientation to a more market driven orientation and the industrial and technological modernisation programme in its implementation of advanced IT projects (e.g., ERP) and by state-budget reform programmes in its adoption of performance-based budgeting. Secondly, the selection of MEEDCO reflects the level of access gained during the course of conducting the empirical work.

A formal written permission was obtained from the Central Agency for Public Mobilisation and Statistics (CAPMS) in Egypt (by the Egyptian Cultural Bureau in London) to facilitate the collection of data in the case company. According to the presidential decree no. 2915 of 1964, CAPMS is considered as the official source for providing the state's agencies, authorities, universities, research centres and international organisations with data, statistics and reports that serve in the activities of planning, development, evaluation, forming policies 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, i.e., a state-owned enterprise. Informal personal contact with the Financial Manager (FM) was very effective in identifying interviewees and accessing much of empirical evidence required. Some friendly relations were established with some staff during field interviews. These relations continued and were fruitful in making some inquiries via e-mails or by phone calls during data collection and analysis.

**B. Methods of Data Collection and Analysis**

The fieldwork has depended on data triangulation strategy between interviews, observations and documentary readings to ensure that the micro data collected and analysed is ‘reliable’ and ‘valid’. The use of multiple methods secures an in-depth...
understanding of the phenomenon in question and provides stronger substantiation of constructs and hypotheses. The first author visited the case company nine times during a planned period from 15th November 2013 to 15th February 2014. The interval between each visit ranged from 7–10 days. He conducted 4–5 interviews in each visit and spent the whole working day within different operating departments. He was there from the beginning of the working day for employees (i.e., about 8 a.m.) until finishing their operational routines at 3 p.m. On two of these field visits he was accompanied by the FM. 42 formal interviews with 28 different people were conducted, namely 16 accountants, 7 operational managers and 5 IT staff. Their practical experience ranged from 5–25 years.

Interviews were tape recorded whenever possible and the majority were transcribed. They were either conducted in Arabic or English, the choice being left to the respondents. They ranged from thirty minutes to about two hours depending on work circumstances and the time available with each interviewee. Most interviews, however, were of about one hour duration. Two joint meetings were conducted, involving the discussion between the first author, the marketing manager and the FM on the one hand, and between the first author, the chief of cost department and the IT manager on the other hand. Some photos were taken of employees during their daily activities. At the end of each interview the first author was given contact details of interviewee(s) that s/he might be re-called later in the data analysis phase to understand any unclear matters and to follow-up anything new in their operational cost management practices.

Eight direct observations have been observed during the interviews and/or two meetings attended with key organisational actors. Observation can be formal and less formal (Buralowy, 2009). Informal observation was conducted at any time the first author was present in the company. Any opportunity to spend time inside the company was used, even on days where no interviews were scheduled. He was given an office (next to the FM’s office) to operate from during his stay in the company. He joined the FM and his staff in their lunch breaks, in the course of which numerous work-related discussions could be observed. He could move freely inside the company, thereby getting access to the on-site library and other information sites. These cumulative instances of informal observation contributed greatly to the knowledge about the company and to getting a feeling for what was going on in general terms.

Formal observation, on the other hand was a more sensitive issue. The first author asked to be able to observe various meetings, but this was at first declined, due to the confidentiality of the issues that were discussed, especially if these were considered 'strategic.' However, the evolving relationship and increasing levels of trust between the 'gatekeepers' and the first author resulted in limited access to meetings being eventually granted. Cost department meetings were observed at corporate level and these were not recorded on tape but recorded in fieldnotes. Observation of meetings contributed to a further understanding of cost management interaction and decision making.

Documents provided a rich source of information on the company in general, but also an additional source of understanding of numerous organisational processes, notably with reference to cost management. A whole range of different types of documents, ranging from internal to publicly available documents were collected, viewed and analysed. Internal documents could in some cases be photocopied and taken away, or 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.

A summary of the methods deployed in collecting and analysing data is provided in Table 1.

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<th>METHODS OF DATA COLLECTION AND ANALYSIS</th>
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<td>Methods</td>
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<tr>
<td>Semi-structured interviews: tape recorded 40, notes taken 2</td>
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<tr>
<td>Category: accountants, managers, IT personnel</td>
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<td>Duration: 30 minutes – 2 hours</td>
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<td>Documentary evidence</td>
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<td>E-mails</td>
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<td>Screen captures of operational structures, processes and practices</td>
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<td>Two meetings attended</td>
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<td>Secondary published materials (e.g., articles, newspapers, reports etc.)</td>
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V. FINDINGS

A. Privatisation and the Emergence of a Cost Report and New Control Forms

Privatisation has been one of the critical acts of political reformations that changed not only the ownership structure of the case company but also the normative and ideological orientation of its management. Privatisation is a macro political act triggered by a set of macro political crises, but on the other hand, privatisation has simultaneously been a micro organisational realisation of certain macro political aims and ideologies such as neo-liberal aims of seeking economic efficiency through free market. Nevertheless, one of the inevitabilities is that one cannot understand privatisation as a political or organisational act without juxtaposing it against its predecessor, nationalisation. Hence, the regimes of nationalisation always provide the prelude to understand the political economic and organisational logic of privatisation.

Nationalisation was a cornerstone in 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 exercised by the leader of the revolution in the Revolutionary Command Council. Those who held the leading positions in the managerial hierarchies of the companies were the military...
personnel (Zohny, 1988). These were either members of the Revolutionary Council or members of the new security network established by the regime that was gradually consolidating power and hegemony over governmental organisations. The bureaucratic nature of public administration was a product of cultural and social framework built up over a long period of time. Companies were viewed as governmental and military departments instead of dynamic producing entities and applied bureaucratic techniques in their operation (ibid).

However, the government realised the importance of privatisation and liberalising the economy especially after the military defeat in 1967 which raised serious questions about the postcolonial regime's nationalisation policies. The state opted for a policy of relative politico-economic liberalisation. In 1973, the government inaugurated an 'open door' policy (in Arabic 'Infitah'). This policy became the official economic policy of the government. The new policy stressed 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. For example, law no. 43 of 1974 was enacted, and was later amended by law no. 32 of 1977. By these laws, the liberalisation encouraged joint ventures with foreign capital during the 1970s and foreign capital joint ventures with the public sector were treated as foreign investment companies enjoying freedom from intervention (Wahba, 1996).

In our case, nationalisation was a partial failure and the state could not totally nationalised Philips though the nationalistic political mood at that time demanded a full nationalisation. This was due to the technological and market dependency of the case company on foreign capital. Philips as it was in the past, a leading international company in the electricity industry based in the Britain, established its branch in Egypt under the name of 'Philips-Orient' in 1940. Its main activity was just distributing hydro-electricity which was launched for the first time in 1944 in light of the political practices of a colonial state (MEEDCO, 1990). In 1960, following the 1952 revolution and the issue of postcolonial nationalisation laws, Philips was 50% nationalised by the government. One of the key political practices was the gradual transformation of the colonial capitalist regime to the nationalised socialist regime. The postcolonial state headed by the Revolutionary Command Council nationalised private electricity companies by only 50% of its capital, while keeping the other 50% in the hands of foreigners. The logic of following such Nasserite policy was to benefit from the expertise of foreigners in the operation of these companies, but it was under the management of the Revolutionary Command Council. By this logic, especially after issuing nationalisation law no. 118 of 1961, Philips became a 50% public sector company under the name of Middle Egypt Electricity Distribution Company (MEEDCO). Nevertheless, its electrical products and services continued to have the brand name of Philips until the public sector crisis and successive losses that swept the state-owned enterprises in the end of 1980s and the political re-privatisation initiatives of the company in the early of 1990s (MEEDCO, 1992).

Although the government tried to re-privatise MEEDCO back to Philips, the foreign capitalist, it failed due to certain market criteria of profitability. In 1991, the management of the case company was transformed to the Egyptian Electricity Holding Company (EEHC) under the supervision of the electricity ministry. According to law no. 203 of 1991, the government's share was transferred to the EEHC in order to manage the organisational and managerial affairs (MEEDCO, 1998). This was the start of emerging a political tension between the ministry and British partner about the priorities and politics of the company. It was a tension between the wider political objectives of the state and the narrower economic objectives of the company. However, in 1997, the government tried to limit this tension through re-privatising and re-selling the company to the British partner. But negotiations failed due to successive losses recorded in business results and Philips evaluated its brand name as 60% of the company's value. The FM states:

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 with less than the due (right) amount...

The political struggle of MEEDCO's re-privatisation was not only due to the Egyptian side's rejection of this deal but because the foreign capital choose also to withdraw. Although the government had not given up the hope of selling the company through its attempts to modernise the operational systems by 'imitating' the systems and practices adopted by Philips including ERP. Philips, in mid-1998, decided to completely withdraw its investments in Egypt and transferred them to Eastern Asia, especially China. The reason was due to the increased political tension with the government, the weakness of investment at that time and non-existence of laws and decrees guaranteeing the full protection of foreign capital. The nationalised postcolonial regime tried to show the political changes of state governance by opposing the commercial interests of the West in the Middle East and adopting aggressive politics against the 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 adopted 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 logistics 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 in the political privatisation attempts of the company. MEEDCO 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 and its relevant institutional constructions. The company was placed within the industrial and technological modernisation institutions and, accordingly, it adopted new production activities through which it can maximise profits and encourage investment in its shares in the stock market. Under these external modernisation forces, especially in the first experimental phase, it imported and marketed electrical finished products such as televisions, refrigerators and electric lightbulbs. In mid-1999, with the second phase of this industrial modernisation, MEEDCO reduced supporting production activities to only electric lightbulb manufacture and marketing along with its main activity of electricity distribution. It currently operates three production factories: a glass factory, a general lighting and special electric lightbulb factory and a fluorescent tube factory (MEEDCO, 2013).

MEEDCO's managerial structures have also been re-classified. Some organisational actors indicate that the company is a large player and its branches are distributed across Egypt to provide the electric service to customers. These branches have been geographically re-classified into two regions: the Northern region and the Southern region. Each includes certain operating branches that are distributed in different governates such as Al Minia, Beni Suef, Fayoum, Assiut and Wadi Al Gadid. Both regions are integrated with the Central Operating Area (COA) which holds the supervision and monitoring of their 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 within MEEDCO. Its fundamental purpose is to monitor the operating performance of different regions and branches and provides a 'performance evaluation' report or what is called in practice a 'cost report' to EEHC and MOEE every quarter.

New cost control forms have been institutionalised in political privatisation attempts of the case company. There is a 'regime change' in cost accounting practices from mere costing practices directed towards meeting the administrative apparatuses of internal and external auditing. In the pre-privatisation, modernisation and budgetary reform regimes, cost accounting practices were by and large directed towards 'calculating' costs for the financial reporting, auditing and other administrative purposes. Costs were perceived as a unit of reporting and that the traditional cost report just provided some basic cost numbers. The FM explains that in the legacy operating systems, MEEDCO only prepared the monthly cost reports for the internal auditing within the cost department and then sent them to the holding company by registered mail for the external auditing. This cost report only included the basic information with respect to account statement, statement of account balances, statement of cost entries and cost trial balance. While the account statement follows-up each cost account separately, the accounts balances statement follows-up the total cost accounts. The cost entries statement reviews total cost journal entries and correct the recording mistakes during a month. The cost trial balance reviews the balances of cost accounts with other operating departments to ensure the correctness of monthly cost balances and do the required adjustments.

Now, while holding on to such administrative and financial reporting purposes (because there is no way a company can ignore them), the company has expanded its cost accounting practices to a 'cost management' regime. In this regime the cost has become something more than to 'calculate and report' but something to be operationally and strategically managed through a durable set of calculative practices. The Senior Cost Actors indicate that with the company's transformation to be a more market driven company accompanied by the privatisation attempts and the returning again to trading on the Stock Exchange at the start of 2005, the ministry of electricity and energy, the holding company and the capital market authority required it to submit a detailed cost report through which they can manage its administrative and financial affairs and take relevant actions with respect to different operational conditions.

The purpose of cost reports has been then re-defined together with certain changes even to the content and format of such reports. The FM indicates that the new cost report has not only included basic cost information, as before, but it covers different operational conditions, e.g., cost, pricing, production, inventory, sales, employees etc. It is this cost report which includes now three different forms of management and accounting reports (see MEEDCO, 2013). The first group includes the reports which are classified into geographically distributed operating regions and branches. They have included account statement, statement of account balances, statement of cost entries, cost trial balance, a statement of total costs,
The price. The second group specifically led the forms of these, calculative logic through which the e uses the word they use to signify the impact that they are accountant and profits and losses account. The third group includes further reports which the senior management and the stock market sometimes demand. They are often related to some internal affairs such as employees' efficiency, daily work issues, communications with customers and future development proposals. The Senior Cost Accountants provide an 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 spends a few seconds to view 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, pages number 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), totality 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 the end of the period).

This detailed cost report should be submitted at specific times otherwise the company's shares will be ceased their trading in the Stock Exchange. The FM indicates that the company should submit the cost report at most on the 10th day of the month following each quarter otherwise the stock market will cease to trade its shares in the market. The cost department and other operating departments work collectively to produce and submit this report at specific times. The FM states:

- The cost department holds the tasks 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 the 'heart' of operating activities and processes that occur in the firm.

- The senior management sometimes demands change in the contents of this cost report. The General Accounts Manager states:

  The cost reports are not designed into the operating functionalities of 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 lots of costs for that. The senior management has designed the forms of these reports using Excel sheets and has sent to the firm by CDs. 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 IT department (on CDs) whereas the third is a paper copy kept in the relevant department's archive.

The best focal change of cost reporting routines is now the notion of 'cost movement.' The current attention is specifically focused on the 'movement of costs' rather than just the costs. The accountants and other administrators are now working on a different organisational ontology and epistemology of understanding and analysing the cost based on the 'movement' (this is the word they use to signify the impact that they are making on the cost in a comparative sense). It is this movement in the cost which has become the driving force of all their operational and strategic actions. This cost movement has become the basic calculative logic through which the organisational efficiency is understood. The purpose of cost reports is re-defined as managing cost vis-à-vis the cost reporting for audit and other regulatory compliance, though this aspect still there 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 which the cost department plays is controlling daily cost movement in different operational departments. Each chief of cost sub-departments (e.g., inventory cost department chief, purchase cost department chief, indirect cost centres department chief, production cost centres chief etc.) is responsible for controlling daily operating (and then cost) movement. For example, the inventory cost department chief manages daily cost movement within the inventory department through the ERP system. When the inventory department chief uploads daily operating movement of 'receiving' and/or 'disbursing' materials into the system, the inventory cost department chief can control those inputs and/or outputs of inventories, determine the costs of received and/or disbursed inventory and compare the actual to the budgeted for this day at a distance. If he finds differences (especially in the case of increases in received and/or disbursed inventory and its relevant costs), he records them into the system and informs the inventory department chief who provides a formal report (called in practice the daily operating report) indicating the reasons for these differences and these increases in inventory costs. The same controlling role triggers by chiefs of other cost sub-departments for their relevant operational departments such as purchase department, maintenance department and
The cost reports are now instrumental in changing managerial actions and behaviours. The Deputy Director of the Board states that the Director of the Board controls the cost movement through monthly cost reports. Those reports manage the senior management’s behaviours and strategies adopted for cost minimisation and profit maximisation. By those, it can determine cost or price increases or decreases compared to the previous periods considering economic circumstances and other political considerations surrounding the field. For example, the cost report of 2012 revealed increases in costs compared to the previous periods. The Egyptian electricity holding company required a detailed report about the reasons for these increases. The company has constituted a committee (included the director of the board, the FM, the cost department chief and chiefs of other operational departments) for deciding the real reasons for these increases during that period. The committee reported that there are changes happened following 25th January 2011 revolution and that impacted on increasing costs: (1) increased importing costs for high-quality cables installed in the streets, (2) increased electricity supply costs by power stations, and (3) increased transportation costs for the company's equipment to specified working sites. The holding company had to change its intra-organisational behaviours and strategies in MEEDCO. These intra political changes included (1) purchasing cables from the domestic market rather than the importing transactions yet keeping as much electricity service quality provided to the customers as possible, (2) increasing electricity sale prices in accordance with increases in purchase costs from power stations, and (3) subcontracting with one of the transportation companies (called the Hope company) with less costs for 5 years.

B. Modernisation and the ERP Practices of Cost Calculation, Allocation and Measurement

The industrial modernisation programme (IMP) has been a topic of much controversy over the past years. The programme, scheduled to start in 1999, was only launched in December 2001. Approved by the People's Assembly in December 1998, the IMP aimed at boosting export capacity by improving industrial efficiency and competitiveness, bringing about regulatory reform and boosting the capacity of both the ministry of industrial and technological development (MITD) and business associations (IMC, 2003). The 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 failure of the programme to materialise until December 2001, despite the availability of the fund, had the EU threatening to withdraw its support (Wahish, 2002). Former president Hosni Mubarak intervened in December 2000, issuing a presidential decree establishing the organisational structure for the programme. The decree stipulated that four entities should be created for its implementation. First, the Industrial Modernisation Council (IMC) is headed by the MITD and includes representatives from the ministries of international co-ordination, trade, finance, public sector and electricity. Six private sector businessmen and two university professors are also present on the council. Second, the IMC is the executive body for the programme. The general director and eight other directors of IMC were recruited internationally. Third, the IMC consultancy board is headed by the minister of industry and technological development and is made up of members with an industrial or economic development background. Finally, the interim committee was composed of the members of the board of directors with 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 IMC (Al-Sayyid, 2003).

This modernisation programme was the outcome of managerial crises that had been flagged in the political arena due to the particular nature of the company. It was not simply the problem of 'no integration' or that the employees in MEEDCO were not qualified to use computers that might have caused many administrative and/or accounting irregularities. But there were many other political and agential issues related to political patronage, corruption etc. Although the 1990s witnessed serious policies 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. For example, the present education system cannot adequately support governmental efforts to encourage innovation, research and development or even technological improvement. Incentives to investors are given while extra taxes, complicated procedures and macroeconomic ambiguity discourage investors. Calls for less bureaucracy and simplified procedures cannot be realised with the present attitudes of civil servants especially those who were directly associated with the execution of laws and interaction with business people (Handoussa, 2002).

Such dysfunctional attributes of state capitalism have created the organisational inability to govern its managerial practices, ideologies and processes. This organisational inability was materialised in rather accounting terms as a lack of proper accounting and administrative mechanisms to deal with such political and agential issues of the electricity industry. These particular attitudes of state governance were internalised at that time into the managerial crisis of MEEDCO through a set of accounting irregularities. In 1999, some irregular practices had been discovered by the Disclosure and Transparency Management (DTM) in the stock exchange. DTM is the responsible for auditing the financial reports that listed companies provide every quarter before publishing them to shareholders or investors in the stock market. DTM classified these irregular practices of MEEDCO into three main irregularities (see ESE, 1999/2000): accounting irregularities related to the revenues, accounting irregularities related to the expenditures and managerial irregularities related to the disclosure.

The firm had committed some accounting irregularities
related to the revenues. These included manipulation in the timing of revenue recognition, recording of non-existent revenues, providing the firm's funds to others for the use of buying its own products/services and recording revenues greater than their true values. For example, the company had registered revenues of the accounting period ended on some sale operations, which should have been in the following period, in order to inflate the period revenues and profits to coexist with the company’s expectations that may have been stated in this regard. This had been done by manipulating the dates of documents and records of shipment of goods sold during the following accounting period to appear to have been shipped to customers during the period just ended and thus recorded as income for that period. This included the manipulation of the internal clock of computers so that the issuing of shipping documents and sale bills prior to the actual shipping dates (ibid).

Other irregularities were committed with respect to the expenditures. These included capitalisation and the postponement of expenditures to subsequent periods, overvaluation of end period inventory, manipulation of the formation and the 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 through their recording as an asset or what is called capitalisation and postponement expenditures. This resulted in the inflation of the period profits and hence reduced earnings in subsequent periods during which depreciation of these assets or deferred expenses occurs. This had been 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 (ibid).

The company also committed some managerial irregularities related to the accounting disclosure in the financial statements. These irregularities included the insufficient disclosure in the report of the board of directors, the insufficient disclosure about transactions with related parties and the manipulation in the announcement of business results in the press before publishing the financial statements. For example, in the press, the company announced net profits for the period ended before unusual expenses, and did not declare that the profit announced includes a large amount of unusual expenses items. This gave an indication to the analysts and the shareholders that the company achieved annual profits that exceeded even their expectations. Nevertheless, in fact, the period profits in the income statement were less than the comparative period of the previous year because the income statement included a large amount 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. Then, it announced net profit before the deduction of depreciation expense (i.e., the fixed assets and the intangible assets) in a press statement, which expressed the improvement in its 'unreal' financial results (ibid).

Such irregularities created negative actions by some regulatory bodies that constitute the institutional infrastructure of MEEDCO, e.g., the General Authority for Capital Markets (GACM) and the Central Agency for Accountability (CAA). GACM is responsible for supervising on listing (or delisting) the companies within the Stock Exchange. It also institutionalises certain organisational, administrative and disclosure criteria and practices that must be available in the companies that wish in trading their shares on the stock exchange. CAA has the responsibility of auditing different state-owned enterprises every six months and provides its performance evaluation report to their relevant ministries to make necessary decisions (if required). This regulatory body audits the financial and managerial performance of different public companies depended on the rules and regulations that have been institutionalised within these companies by the uniform accounting system (see Kholeif, 2008). With such irregularities, the FM states that GACM decided upon the deletion of MEEDCO's shares from trading on the stock exchange. CAA issued annual auditing report showing explicitly the doubt in the company's continuity.

Both regulatory actions led to the fluctuation of the financial and market performance and the collapse of its name in the electricity industry, especially after the shareholders lost confidence in its 'old' executive management. In April 2000 an emergency General Assembly was held to research the firm's status. The General Assembly is responsible for electing the executive management of MEEDCO while the senior management is appointed by the Egyptian electricity holding company and the ministry of electricity and energy. It has the right to discuss the financial and market performance of the company with the senior and executive management in its regular annual meeting. In this emergency general assembly a new executive director (a University Professor) was elected in addition to the removal of some executive managers who had been involved in these irregularities and in the fluctuation of the firm's reputation before the public. Commenting on new systems and practices which accompanied such organisational changes, the Current Executive Director mentions:

The new executive management adopted effective ways for re-building the firm whether with respect to policies, strategies or even processes. In 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 Globus system and then upgraded through the implementation of 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 are integrating those accounting units within the financial department together. 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 would be operational throughout the whole system in 2016. These include adding a new module integrating geographically dispersed inventories in different governates with the purchase department and the inventory accounts integration 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 exposed 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., facilitated change (and modernisation).

New ERP, as one of the modernisation initiatives, systems have improved the management of cost through better cost calculation, cost allocation and cost measurement by a refined and enhanced system of cost coding, identification and comparisons. With ERP systems, the operational functionalities of each department have been re-framed. The day-to-day operating routines vary from one department to another depending on its responsibilities in the company. A Senior Cost Actor indicates that the sequence of daily work for the General Accounts & Budget Department, for example, varies from the procedural steps within the Cost Department. Also, the tasks of actors inside each department vary from one actor to another depending on his/her identities. The first author observed that with ERP the portal actually varies from one department to another and/or from one actor to another depending on their authorities/power framed within the department and/or the company.

There is now what is called 'users' power,' i.e., each actor has specific authorities and, accordingly, his/her own functional portal configures. For example, in the Cost Department, day-to-day operating routines for each accounting actor begin by logging on to the system through his/her own password and username. The logging on is made through a specific template on the system showing the 'Logo' of the company which designed the existing system, Advac Systems Ltd. After logging on to the system, the Senior Cost Accountant mentions that "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. Then it 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. The 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 fundamental menu for daily cost activities because it includes functionalities regarding the daily tasks of cost accountants whereas the Reports Menu includes functionalities regarding periodic cost reports. Other operational ERP menus are related to technical settings for the system itself. The fundamental 'Inquiry' menu includes five operating functionalities regarding day-to-day (or periodic) cost activities. As some Cost Accountants say, the first functionality regards 'inquiring' about journal entries and the balances of accounts. The second regards 'analysing' cost centres, the activities movement, the accounting units movement, analysis of activities on cost centres and analysis of cost centres on activities. While the third functionality regards 'inquiring' about the total activities movement and the balances of cost centres, the fourth expresses 'graphically' the balances of accounts, the movement within cost centres and the balances of activities. The fifth functionality regards the SQL tool and further inquiries. Each functionality has a specific template through which the cost actors can do their operational cost calculation, allocation and measurement routines.

The secondary 'Reports' menu includes other functionalities especially regarding monthly operational reports. As other Cost Accountants state, it shows fundamental functionalities that the cost accountants are accustomed to use monthly. They are the four main managerial and accounting reports: the Account Statement, the Trial Balance, Total Journal Entry Audit and Total Accounts Movement. Each functionality has a specific form through which the cost accountants can prepare their monthly cost reports. Nevertheless, the fundamental functionality of the cost accountant within this menu is a functionality regarding Analysis of Cost Centres on Accounts. As the cost accountant presses 'Click' on this functionality, a specific template appears on the screen. This template includes a variety of blanks that the cost accountant should fill in to complete the required reporting process, including type of account (functional or qualitative), the period of doing the process (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 now institutionalised specific cost journals through this operational template. This template includes currently three fundamental journals that the cost accountants have continually used in practice: the balances journal, the documents journal and the adjustments journal. For the balances journal, as a Senior Cost Accountant indicates, the cost accountants use this
journal each month when receiving the trial balances of geographically distributed operating branches and regions. Each month different branches and regions are sending their trial balances to the company for auditing and balancing with the central company's balances. The cost accountants receive these trial balances each month by e-mails. In pre-modernisation, i.e., in the computerised operating regimes, the employees in other branches and regions traveled to the Governate in which the company is located to hand them in. But with ERP they have now been sending their trial balances via e-mails. After receiving the trial balances, the cost accountants begin downloading them into the central balances journal. These are classified into two geographical regions: the Northern region and the Southern region. Then the accountants begin to balance between monthly cost balances in the company's books and different regions' balances. Sometimes they find differences between them. The cost accountants send an e-mail to the relevant branch or region to audit these differences and to record the adjustments required in their journals. 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 institutionalised the documents journal which is related to daily processes occurring in the Headquarters. This journal is not related to other operating branches or regions like the balances journal. It includes a specific form through which the cost accountants record and describe day-to-day cost transactions occurring within the Headquarters in journal entries. The Senior 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 in the Headquarters and balances with the General Accounts Department and the Inventory Department in order to ensure the correctness of cost balances.

However, the cost accountants can now obtain directly the disbursement documents through the ERP database. A Senior Accountant mentions:

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 through my own screen.

ERP has institutionalised through this documents journal two key things: cost centres and cost accounts. The cost centres show horizontally while the cost accounts show vertically in this journal. As the Senior Cost Accountant indicates, the cost centres are currently classified within the documents journal into five centres: the firm management, the training centre, the control centre, the printing centre and the invoicing centre. The classification of these cost centres within this journal has been re-shaped through the ERP implementation. The Senior Cost Accountant states:

In the old computerised system, the documents journal only included three cost centres: the firm 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 have had special books which were prepared manually. The implementation of advanced operating functionalities as in Oracle ERP programme has enabled the IT department to put both centres within the documents journal with existing cost centres… She 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 Governate in which the firm is located.

New cost centres have been added and coded especially after re-structuring the company and the ERP implementation. With the privatisation attempts, as shown earlier, the company has re-structured its managerial and organisational structures in 2006 into two geographically distributed operating regions so that each includes certain operating branches and each branch represents a 'cost centre' involving specific cost activities, accounts, items and codes. Examples of those new cost centres are Al Minia workshop – South 262, Directorate of Rural Electrification – South 263, Assiut sector – South 350, Diwan of Assiut sector – South 351, Electricity East of Assiut 352, Electricity reservoir 353, Electricity West Assiut 354, Electricity Mubarak 355, Electricity Assiut centre – Kebly 356, Electricity Assiut centre – Bahary 357, Electricity Abu Tig 358 and Electricity Abu Tig – villages 359. A Junior Cost Accountant mentions:

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., the firm management, training, control, printing and invoicing centre.

ERP has also institutionalised cost accounts through this documents journal. The cost accounts are classified within the documents journal into three accounts. Each includes sub-cost accounts and has a special cost code. Some Senior Cost Accountants state 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). With Oracle ERP, as they add, new cost accounts have been introduced and coded within 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, wastes 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 documentary credits for the purchase of goods and services 166.

The ERP implementation has also enabled to the re-classification and re-codification of the 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 Particularistic expenses 36. However, with Oracle, advanced operating functionalities have helped the cost accountants to re-classify and re-code these cost items to become as follows: 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 & Losses 35 (instead of Particularistic 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 within this documents journal has now changed due to Oracle ERP implementation. Some Junior Cost Accountants indicate that the old computerised costing system has not included functionalities enabling them to record the cost entries in the form of 'double entry.' They could only record them in the form of a normal daily entry (i.e., single entries); the double-entry theory was not implemented. Nevertheless, the Advac Co. and IT department have considered day-to-day recording processes when designing the Oracle programme. "If you looked at the Inquiry Menu specialised to cost functionalities, you will find the Entry Recording icon. When you press on 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 a single or double entry." This functionality was not provided in the legacy computerised system or even the Globus ERP system.

The querying method about 'unbalanced' cost entries within this document journal has currently changed due to Oracle ERP implementation. When the first author visited the Cost Department, he observed that the cost accountant discovered an 'unbalanced journal entry' in the cost journal recorded into the system. The employee has contacted the appropriate journal accountant by telephone in order to correcting 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 the electricity; leaving work, or the intensity of daily work and the forgetfulness of the employee.

ERP has also institutionalised within this above-mentioned Analysis of Cost Centres on Accounts template what is called the 'adjustments journal.' This journal is also related to internal operating processes in the Headquarters, not related to other branches or regions. It is now classified into months: January, February, March and so on. As shown earlier, the cost accountant balances each month 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 relevant cost accountant must make an adjustment to balance monthly cost balances with others. These monthly adjustments are recorded and described in this adjustments journal. For example, the first author visited the Cost Department on 1st December 2013. On that day, the accounting actors in different departments were preparing monthly accounts sheets on 30th November to match their balances together. He observed during sitting with the cost accountant that the general accounts accountant came to the cost accountant to report that the monthly balances between general accounts and cost accounts were not balanced. Both accountants logged on Oracle database to check this month's inputs of cost data and found that the general accounts accountant recorded wages wrongly. The recorded wages amount by the general accounts accountant was 1380,304 Egyptian Pounds while the original amount on database (from the reality of documents) was 1308,304. This accounting mistake has been adjusted in this adjustments journal and both accounts balances have been balanced.

The approaches of product cost identification have kept pace with the historical changes of operational 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 due to 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...

With Oracle, the senior management has changed the method of product cost measurement and allocation to become activity-based costing (ABC). This new costing approach has been institutionalised commencing on the financial year 1st July 2007 following Oracle implementation. The FM states that the implementation of Oracle programme has helped the cost accountants to calculate, measure and allocate the product costs properly due to three fundamental reasons. Firstly, it provides functionalities enabling them to analyse the company to homogeneous activities and centres, and identifies cost pools for each activity or centre properly. "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 functionalities saving time and effort in querying the movement of activities and the balances of cost centres such as SQL tools. Thirdly, it includes functionalities helping to report graphically on the balances of accounts, activities and cost centres movements. These have facilitated the understanding of the cost outputs by decision-makers.

With Oracle, the company 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 transactions of June and 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.

C. State-Budget Reformations and the Performance-Based Budget Practices of Cost Estimation Planning

The particular political act of state-budget reformations was due to the intense 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% (Ramos, 2002). The decline in tax to GDP had occurred in income taxes and was for a time offset by an increase in the trade and consumption taxes. But the structure and narrow base of the old consumption tax meant 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 the 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 collection of taxes. The lack of application 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 political state-budget reformations were then 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% 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% in 1997/98 from 0% in 1990/91. Since the beginning of the 1990s, the USA 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 that achieve stability and peace in the region (see Walker, 1997). Walker (1997, p. 160) argues that "so 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 that "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, e.g., the South East Asian crisis, that were an obstacle to institutional progress and had multiple effects on overall fiscal performance and politico-economic outlook of the country. 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 was at the front of the international recommendations to manage this increased budget deficit and guarantee fiscal sustainability. In September 2000, the World Bank introduced to the government a package of speedy-recovery budget reforms through which it can 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 for the
MEEDCO responded to these external reformations of state-budget to enhance the legitimacy before its constituencies. The FM indicates that MEEDCO accepted these external pressures of state-budget reforms to enhance its legitimacy before the ministry and the holding company. It is to gain financial support to develop internal systems especially after the deterioration of market position due to irregularities discovered in 1999. This was a strong motivation to manage the expenditure and increase the sales through the budget reforms. The FM adds that the 'formal' design of new budget reformations started shortly after the WB delegation's meeting with the MOEE/EEHC's officials at the beginning of 2002. Nevertheless, the Deputy Director of the Board states that MEEDCO started 'informal' change of cost estimation planning routines after the commissioner's decision on 2nd December 2000. This was due to the fact that other external reform forces, e.g., the privatisation and the modernisation, created the early necessity for re-organising and modernising various information systems associated to cost estimation planning routines.

A new cost estimation planning regime has been legitimised within the company through political budgetary reforms. In the pre-budgetary reforms, as the FM indicates, the cash basis was applied on the current budget for expenditures and revenues according to the article no. 5 of government accounting act no. 127 of 1981. It was the result of the fact that the line-item budget was used. The requirements of the traditional budget were consistent with the past institutional construction of 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 the expenditures on purchases of fixed assets as current expenditures.

The new performance-based budget, as one of the public budgetary reforms, has been initiated by the government and supported by the World Bank. The FM states that in the reformations of the state-budget that introduced a new performance-based budget, all costs should be included. The budgetary reforms required an 'accrual accounting system' for the measurement of past programme costs and estimates on accrual basis for the budget year. For example, an inventory should be maintained on an accrual basis and that the portion of capital expenditures used up in each fiscal year should be charged to the performance cost for that period. The Cost Department Chief indicates this by 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 base for the move to accrual accounting.

Hence, the new neo-liberal performance-based budget required the adoption of an effective costing system whose role was rather limited in the traditional budget system. Drawing on the Uniform Accounting System, in response to the instructions of the Central Agency for Accountability, the Committee of Administrative and Financial Affairs in the company has institutionalised new constructions for cost accounting, inventories and fixed assets. The Senior Cost Accountants indicate that the Uniform Accounting System and its regulations were introduced by the Central Agency for Accountability in 1966/7. It 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). However, the FM indicates that the company in legacy operating systems used this uniform system except with respect to cost estimation planning, because it used the government accounting system in this regard. But with the introduction of the performance-based budget and the need to move to the accrual accounting basis, MEEDCO adopted the institutional treatments of this uniform accounting system in establishing cost estimation planning routines and their related information systems (e.g., costing, inventory, fixed assets) rather than the cash-based government accounting system.

New performance-based budget has institutionalised specific procedural steps for the preparation of MEEDCO's budget. The FM indicates that with neo-liberal budgetary reforms there are three steps for preparing the government's budget and its related companies. Firstly, a budgeting committee is established in each governmental unit to prepare current and capital budget proposal. Secondly, each government unit submits a budget proposal to related ministry. Each ministry consolidates the budget proposals of related government units and submits a consolidated budget proposal to the Ministry of Finance before the 1st of January each year. Budget proposals of different ministries should be accompanied by supporting documents that justify their estimates and any changes therein from the previous year appropriations. Thirdly, the Sector of General State Budgeting in the Ministry of Finance prepares the general state budget proposal that consolidates budget proposals of all ministries after modifying these proposals. After that, the Minister of Finance submits the general state budget proposal to the People's Assembly to approve. A Senior Accounting Actor 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 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. These estimates are based on the previous year 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 that decides certain encumbrances after the approval of the People's Assembly.

With budgetary reforms, this Uniform Accounting System has institutionalised specific documental cycle for the performance-based budgetary accounting. The Uniform Accounting System relies on a group of documents, books and records which the case company adopts in the processes of budgetary accounting. The documents are recorded in accounting books in 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 enhance the operations of those documents.

The books and records of budgetary accounting 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 now on the 'double entry system.' These books are the general journal book for expending forms (no. 224 G.A.) and 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.)], ledger book of 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., book of remittance and cheque books). The statistical and controlling books complement the above fundamental 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 statement of daily trial balance (no. 69 G.A.).

New interim budgetary statements have been also institutionalised through performance-based budget reformations. In the pre-budgetary reforms, MEEDCO prepared only the end of year final account (Form no. 75 G.A.) to show the actual expenditures and revenues throughout the ended fiscal year. The Chief of the Financial Accounts and Budgeting Department indicates that in the old line-item budget regime the actual expenditures and revenues were only compared with the adopted expenditures and revenues in the budget in order to demonstrate to what extend MEEDCO was complied with spending mandates and the financing of activities. This final account was prepared in the light of the book that is issued periodically by the Ministry of Finance.

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

a. An approximate monthly follow-up report of revenues and expenditures. It is quickly prepared to give a rough view of the financial position before closing the accounts.

b. Monthly report of revenues and expenditures (Form no. 75 G.A.). It is prepared to show the actual financial position.

c. Quarterly report of revenues and expenditures (also Form no. 75.G.A.). It is prepared every three months and comprises the expenditures, revenues and the balances of the financial accounts for this period. It includes the expenditures, revenues and the balances of the financial accounts of the preceding three-quarters.

The Chief of the Financial Accounts and Budgeting Department ends his discussion about the new budgetary reporting routines by saying that:

Based on monthly cost reports, the Financial Accounts and Budgeting Department prepares both interim and annual budgetary statements. The objective is to determine the 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.

VI. DISCUSSION AND POTENTIAL CONTRIBUTIONS

This paper provides politico-economic mechanisms for cost management change in the politically sensitive sector such as
the public sector in a less developed country (LDC). It fills the existing literature gap by examining wider political dynamics that have a crucial impact on the success of management change, and cost management change, in the public sector organisations. Although there is the academic necessity of researching public sector reforms and their salient implications upon the accounting field, there are quite a few research endeavours that dealt with such issues (e.g., Uddin and Hopper, 2001, 2003; Hopper and Major, 2007). This case study research investigates these public sector political reforms at different government levels, including the entities, which are official departments, or organisations within organisational field level and the organisational level, by using the framework proposed by Dillard et al. (2004). This may increase the understanding of recent political reforms, and the impact of each reform at different institutional levels, whilst introducing and implementing accounting change (see Burns and Vaivio, 2001; Carnall, 2003).

Institutional theory is too thin to capture the real political dynamics of cost management change in the case company. Institutional theory involves particular micro-economic dynamics, which include competition, markets and consumers and 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 classified as economic factors (Sulaiman, 2003). Competition has been deemed as a key factor in design and implementation of cost and management accounting systems (Amat et al., 1994). The results of another study argue that greater emphasis on multiple measures for performance evaluation is associated with businesses facing high competition and making greater use of computer-aided manufacturing processes which are more concerned with cost management (Hoque et al., 2001).

This narrower view of institutional theory is not consistent with the wider institutional dynamics of our case company. There the dynamics are on fact that the Electricity and Energy costs in the Egyptian business environment are historically managed at three distinct but interrelated institutional levels: political level, field level, and organisational level (see Dillard et al., 2004; Hopper and Major, 2007). These wider dynamics articulate the 'cost management regime' now in practice in terms of its specific micro level cost management technologies and practices, how such micro practices and technologies were established through macro and field level political technologies of reformation, and how such micro and macro practices and technologies collectively represent a particular neo-liberal regime of governance in which cost management has become a 'strategic' element (vis-à-vis previous welfarism oriented regime) of managing public utilities. Macro political dynamics have been institutionalised into a durable set of cost management practices which reflect the strategic change of the exogenous institutional forces. These have included the 'change' in cost estimation planning, calculation, allocation, measurement, reporting and controlling.

For example, a performance-based budget has been institutionalised with a new set of cost estimation planning rules and routines in response to the political management endeavours towards state expenditure minimisation. Previously, MEEDCO applied the line-item budget which was prepared on the cash basis under the Government Accounting Law. Due to the financial crisis, the World Bank has instructed the government of the necessity to minimise expenditure by the implementation of a new type of budget, i.e., the performance-based budget. MEEDCO is among public electricity companies that have been chosen by the Ministry of Finance for the implementation of this budget. The organisational management had to change some of cost estimation planning routines to comply with the political demands of the state-budget reform and the implementation of the performance-based budget. Such changes have included the adoption of the accrual basis in accordance with the Uniform Accounting System, developing relevant information systems (e.g., cost accounting, inventories management and a fixed assets management), and using custom ERP databases in providing real-time information which helps the managerial actors to determine accurate cost estimations.

With modernisation programmes initiated by the Egyptian government and supported by the international development agencies such as the European Union, advanced ERP technologies have been brought in to institutionalise costing rules and routines. With ERP, the organisational management has re-defined 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, new costing routines have been put in practice, which were not implemented under the legacy operating systems: the adoption of the double-entry theory while recording cost entries rather than a single-entry theory, the ABC implementation in the determination of products cost rather than the total cost theory, the reduction of financial closed cycle, and adding new cost centres, cost classification codes and new accounts guide in accordance with the firm's new structure and the regulations of the Uniform Accounting System.

With privatisation attempts, on the other hand, new forms of periodic control reports have emerged including a 'cost report' which was instrumental in changing managerial actions and behaviours. The Ministry of Electricity and Energy alongside the Stock Market have forced on MEEDCO providing the cost report every quarter. The purpose is to control the performance and protect the shareholders from irregularities damaging their investments. Previously, operating departments in the case company prepared only a monthly report for the internal auditing. Nevertheless, with the strategic change of managerial priorities, the cost department came to have power over new cost reporting processes. The role of other organisational actors has only confined to sending their monthly sheets separately to the cost department. This new control report is a powerful device to provide relevant information and to change the shape of managerial actions taken. Examples of new actions are those related operationally and/or strategically to maximise profits, minimise costs, rationalise the waste of the electricity, employees' rewards and promotions, employees' training and current and future sale prices.

These real political dynamics of the case company are
consistent with a set of 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 understand the development of cost-based pricing rules in Britain. They conclude that the cost-based pricing practices gained importance in Britain at the foundation of the 20th century, with the introduction of uniform cost accounting schemes, such as the one set up by the British Federation of Master Printers. That scheme emerged as a result of changing politico-economic conditions caused by an expansion of the printing industry in the closing decades of the 19th century.


Political, economic, and social are then classified as environmental factors (Sulaiman, 2003). For example, economic crises have driven accounting change (Hopwood, 1987). Specific economic, institutional and human factors support continuity together more than driving change (Granlund, 2001). During the crises phases the "accounting information systems exhibited many dysfunctional limitations which inhibited effective crisis management" (Ezzamel and Bourn, 1990, p. 422). Abernethy and Chu’a’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." The social and political crises have additionally contributed to the importance of management accounting and standard costing (Oakes and Miranti, 1996). Cost and management accounting is also characterised by continuity and change, despite huge institutional changes in environment (Vamosi, 2000). Our case concluded that politics have a significant role in the accounting change of MEEDCO. The more clear awareness and attention controls those politics, the more chance of successful change of the accounting system in the organisation. It is important to understand the relationship between the politics and an organisation’s culture, especially regarding the role of political actors in cascading the accounting change in less developed countries where the political sensitivity of public organisations is greater (see Wickramasinghe and Hopper, 2005; Alawattage and Wickramasinghe, 2008).

VII. REFERENCES


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