Internal Audit Function response to ERP Systems Implementation

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ABSTRACT

The internal audit function (IAF) importance has been highlighted by legislative and professional responses to various financial scandals. On the other hand, Enterprise Resource Planning (ERP) systems have institutional logics in controlling business process that pressure the IAF to change. Based on the institutional theory a conceptual framework is formulated to explore the IAF change as a response to ERP systems implementation, wherein ERP systems are considered as carrier of new institutional logics. Interpretive approach has been adopted by conducting an in-depth case study in a multinational organization in Egypt. Interviews with variety stakeholders were chosen as the primary data collection method besides careful examination of available documents. Data have been analyzed using directed content analysis based on coding the transcribed interviews. The study results are enhancing the understanding of the IAF change and provide additional lessons that could be useful in improving the IAF in organizations that implement ERP systems.

Keywords

ERP, SAP, Internal Audit, Corporate Governance, Case Study, Interpretive, Egypt, Content Analysis.

INTRODUCTION

The expanding opportunities for the internal audit function (IAF) have been highlighted through the increased interest in better corporate governance practices (Ebaid, 2011). On the other hand, Enterprise Resource Planning (ERP) systems have new institutional logics in controlling business and information. This implies new ways for designing functions and leads to new work procedures (Grabski, Leech and Schmidt, 2011). ERP systems create new opportunities as well as new challenges to the overall focus of IAF (Saharia, Koch and Tucker, 2008). Consequently, there is a need to investigate the impact of ERP systems on IAF's structure and practices.

Institutions are patterns of social activity that individuals draw upon to guide their practices (Scott, 2001). Therefore, internal auditors within companies draw upon a variety of institutions, such as corporate governance and ERP systems, to guide their actions. According to institutional theory, failing to be equipped to respond to new challenges leads to legitimacy problems (Power, 2003). Failure to assure the effectiveness of internal controls in the new ERP system working environment would lead to legitimacy problems for the internal audit profession. Therefore, the way companies manage the IAF in the ERP system working environment is critical to the fulfillment of its responsibility towards a sound governance system and to sustain its legitimacy. Therefore, there is a need to investigate the impact of ERP systems on IAF in order to find out its changes after ERP implementation.

The remainder of the paper is structured as follows: next sections show the research background and the theoretical perspective; then the research methodology is described. The case study is presented in the subsequent section. Finally, conclusion and future research are presented.

RESEACH BACKGROUND

Increasing public interest in corporate governance, particularly the importance of having a sound internal control system, has driven organizations to review their expectations of IAF. The series of corporate collapses that took place in the period 2002-2003 (Enron, WorldCom) resulted in a growing number of rules and regulations that made a radical redefinition of the nature of internal control. The concept of risk has become linked to the idea of internal control. These risks are managed through accountability mechanisms, such as financial reporting, internal control and internal audit. Undergoing changes in the IAF have been broadly acknowledged in the literature (e.g. Robson, Humphrey, Khalifa and Jones, 2007). From the other side, ERP systems act as a catalyst for the IAF change; by affecting the internal control system within organizations. While the internal control objectives remain the same, the mechanisms of control are changed by implementing ERP systems (Madani, 2009).

ERP systems have the potential to greatly influence internal auditing. The traditional IAF would not be sufficient after ERP system implementation (Kanellou and Spathis, 2011; Madani, 2009). The traditional boundaries of internal auditing are challenged as ERP systems complicate the IAF (Saharia, Koch and Tucker, 2008). Spathis and Constantinides (2004) examine the changes brought by implementing ERP systems in the accounting process. Their results have revealed that the only notable change in accounting practices is related to the increased use of the IAF.

Based on reviewing the literature (e.g. Grabski et al., 2011; Kanellou and Spathis, 2011), no clear indication has been revealed of how ERP system implementation changes the IAF in order to enhance its legitimacy. The insights gained to date have a number of limitations. Firstly, there have been no previous studies that address the internal audit change as a response to ERP system implementation (Kanellou and Spathis, 2011), especially in developing countries contexts. Secondly, auditing research has stayed relatively away from trying to be understood in its social context, particularly in terms of contemporary audit practice (Robson et al., 2007). Thirdly, previous studies ignore the fact that ERP built-in best practices are derived from companies working in developed countries; hence it is not necessarily that best practices from other contexts are appropriate for developing countries (Soh, Sia and Tay-Yap, 2000). Finally, as supported by Abdolmohammadi and Boss (2010), most researches have focused on addressing the changes in external auditing while very few are driven by the internal audit view. Moreover, Grabski et al. (2011) suggest that there is a lack of a strong theoretical base in ERP studies, while there are different levels of analysis in research on ERP systems offering interesting new insights. Mignerat and Rivard (2005) suggest that there is room for contributions at sub-organizational levels of such as groups, departments and functions.

Because of the limitations in the previous research, it has been clear that there is a need to investigate the internal audit changes after the implementation of ERP system in its social context. Therefore, the institutional perspective has been adopted as a lens for research for the reasons explained in the following section.

CONCEPTUAL FRAMEWORK BASED ON INSTITUTIONAL THEORETICAL PERSPECTIVE

Institutional theory acts as a lens for studying the phenomena of IAF change. It is used to interpret results as it examines how institutions influence organizational actors and provides a mean of analysis. Institutional theory (DiMaggio and Powell, 1991) suggests several routes by which institutional change might lead to shifts in organizational structure. Once in place, the new institution changes work roles and activities, which require substantial modifications to functions (Barley, 1990). Additionally, institutional theory offers theoretical perspectives to analyze goals, values and prescriptions that underlie and legitimate behaviors of groups (DiMaggio and Powell, 1991). New technologies first alter tasks and skills then these changes generate opportunities and pressures for changing organizational structure (Barley, 1990).

Based on the institutional perspective, a conceptual framework is proposed to describe institutional effects, wherein ERP system is considered as an institution that carries new institutional logics (Gosain, 2004) those are significant catalyst for the IAF improvement. Institutional logics act as organizing principles that guide activities and embody the goals of an institution (Friedland and Alford, 1991). Under new institutional logics, strategies will be implemented by organization and internal auditors as a response in order to sustain or repair legitimacy. Oliver (1991) suggests strategic responses as a result of institutional pressures. Those are: acquiescence, compromise, avoidance, defiance and manipulation. These strategies are exerted through different tactics. Sub-organizations such as IAF, under new institutional logics, use the same strategies and tactics to manage legitimacy in the organization. These relations can be summarized in the conceptual framework in figure 1:
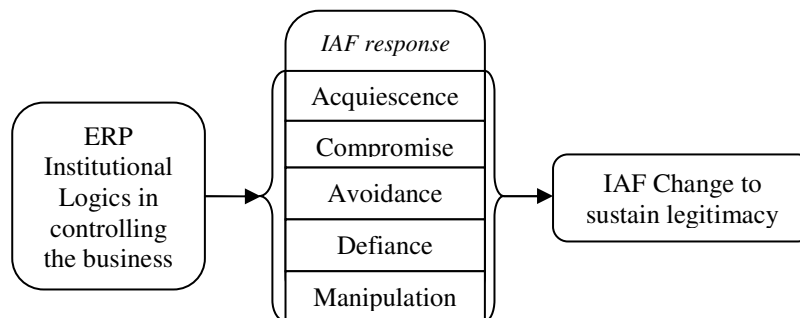
Figure 1 conceptual framework for the IAF change as a response for institutional logics

METHODOLOGY

The limited empirical evidence has created the need to conduct exploratory type of research. The philosophical perspective for this empirical study is "interpretive", as its aim was to gain "knowledge of reality" through the study of social constructions (Klein and Myers, 1999). To gain the required in-depth interpretations and to gather relevant data, in-depth case study method was adopted. Benbasat, Goldstein and Mead (1987, p. 382) suggests that the case study method is mainly appropriate for IS research since that "interest has shifted to organizational rather than technical issues". In the interpretive studies, Walsham (1995) proposes that interviews are the primary data source since they provide the best interpretations that interviewees have about the events taking place. Therefore, interviews with stakeholders were chosen as the primary data collection method. However, to get further insights into the research context and to verify interview responses, reviewing documentary evidence was used.

Due to the exploratory nature of the research, semi-structured interview was adopted. The research comprises a series of nine interviews in a multinational organization in Egypt which has already implemented ERP systems. The interviews were audio taped and transcribed. Interviews and written material were reviewed and read several times to do data reduction process that sort, organize and data focus, suggested by Miles and Huberman (1994). The formal process of developing the coding scheme began after forming the initial conceptual framework and has been revised after the first few interviews. The whole process was an iteration of coding a sample of data and revising the coding scheme. Codes were categorized according to the initial conceptual framework that guided the study based on the directed content analysis suggested by Hsieh and Shannon (2005). The process of coding and drawing conclusions from the raw data involves a back and forth process (Lewins and Silver, 2007). To help make sense of the data, interview transcripts and other documents were coded within NVivo 9 software where the list of the themes that developed earlier in conceptual framework was been referred to. The credibility of findings was verified by that most ideas were mentioned by more than one interviewee and in more than one situation. Saturation was achieved when evidence became increasingly redundant. Institutional theory provided a means of interpreting and understanding the responses of the IAF to the pressures of the new concepts of internal controls of the ERP systems, which have led to sustain IAF legitimacy as a corporate governance value-adding tool.

THE CASE STUDY

Most of the studies regarding the IAF and ERP systems have taken place in the developed countries such as US and UK (Ebaid, 2011; Kholeif, Abdel-Kader and Sherer, 2007), while ignoring developing countries where there is a diffusion of ERP systems. Therefore, the research focus is on one of the developing countries namely Egypt. The case company is a multinational company specializing in fast-moving consumer goods. This company will be referred to as "EG Company" for confidentiality purposes. Its products include foods, beverages, cleaning agents and personal care products. EG company has three main regions: Europe region, Americas region and Asia Africa region that includes Middle East, Turkey, Africa, Asia and Australasia. The company has been selected based on a combination of accessibility and representativeness. EG company has implemented (SAP) ERP system at the beginning of 2011.The company has implemented financial accounting, controlling, Sales and Distribution, Materials Management and Human Resources modules. The goal was to consolidate different systems into a single informational model. Before SAP, having a consolidated view of just financials could take more than a month. SAP system enables EG company to change and manage its processes more effectively. SAP enables business change and also determines what the change can and should be. Interviews with stakeholders have been conducted such as the IAF manager, senior internal auditor, risk manager, internal controller, the SAP financial module manager, SAP vendor and, external auditor and head of Internal Audit Institution (IIA) in Egypt. In the following subsections, each construct of the conceptual framework will be covered.

Assumptions of ERP systems' institutional logic in controlling the business

Institutional logics are "*sets of material practices and symbolic constructions which constitute a field's organizing principles and which are available to organizations and individuals to elaborate*" (Friedland and Alford, 1991, P. 248). ERP systems embody institutional logics and preserve rules by constraining individuals' actions. ERP systems bind different functions within organizations to certain choices about how activities should be done. By examining institutional logic's content, it becomes possible to understand and explain the nature and types of social relations that exist between organizations and individuals (Friedland and Alford, 1991). ERP systems embody particular rationalized logics and procedural focus; however the principle commonly associated with ERP systems is control (Yoo, Lyytinen and Berente, 2007). Conceptions of control can be understood as an institutional logic. However, while institutional logics present the 'cognitive maps' to activities, conceptions of control are akin to managerial practices (Rajao and Hayes, 2009). ERP systems' vendors are emphasizing that a key logic of ERP systems is the use of "built-in" controls that mirror a company's infrastructure. ERP systems offer better governance environment through different logics and assumptions of controlling business. Institutional logics are founded on

assumptions associated with specific causal means-end relationships (Bacharach, Bamberger and Sonnenstuhl, 1996). Therefore, the research explored the ERP systems' assumptions of the logic of controlling the business as follows:

Standardization

Standardization through having one system with one database and standard business process is the motive for ERP systems implementation. For multinational companies, appears the need for global standardization between all companies. ERP systems are embedded standardized general ledger accounting structures that facilitate assuring good control procedures in place. Furthermore, by implementing SAP system, illegal procedures have to be stopped, reengineered and standardized as they cannot be customized in SAP systems, especially regarding tax laws in developing countries as they can be easily played around and give suppliers and retailers illegal tax benefits through conducting transactions without formal invoices. For example, The SAP manager in EG Company stated:

> *"The motivation to implement SAP in EG Company is to have a standard business process across the region as a starting point to standardize the global business process across our multinational company"*

Continuous timely monitoring

SAP systems provide the infrastructure necessary for the evolution of the IAF to be an ongoing process. An important assumption of SAP systems is the real-time updating. SAP systems offer real-time integration of enterprise information flow with logistics and real-time sharing for internal control support. SAP systems enhance real-time data processing and facilitate real-time control. SAP systems offer internal reports to continuously monitor and improve internal controls through periodic, ad hoc or specialized reports. These reports help internal auditors monitor and improve user access controls and segregation of duties (SOD) on continuous basis. For instance, the SAP manager exemplified:

> *"SAP systems offer real-time notification of problems in internal control. For instance, system can be configured to send an e-mail notification to the concerned person if a user performs transaction against SOD rules"*

Transparency

SAP system provides a crystal clear business cycle that is important to support better internal control environment. Clear business cycle means that there is only one way to do the process that will never change and there is not any substitute way. Visibility and defining exceptions can be easily implemented. SAP system enhances the ability of the IAF to get required data directly from the system without depending on anyone who can hide or manipulate the figures. SAP systems allow data retrieval from many different organizational positions and provide visibility to any organizational object. SAP systems make the possibility of information manipulation more challenging. The provided transparency allows internal auditors to monitor any changes to transactional data or accounting records. For example, senior internal auditor at EG Company commented:

> *"The clear business cycle makes individuals' actions visible as data entered in one place flows through to others. Any data change will affect other departments and can be seen by others"*

Multiple ways of control

SAP systems offer controlling system that is based on multiple ways of control for the same object. ERP systems separate strongly between movement of materials, goods and their financial impacts that offer controls in different ways. Controls of the logistics, controls of its financial results and controls by matching and keeping consistency. SAP is supporting audit requirements through providing: Inherent controls those are delivered with SAP and do not need to be designed into the system; Configurable controls those are automated controls to be defined at the time of system customization; Security controls those are user access and SOD controls and Reporting controls those controls rely on standard or ad-hoc reports from SAP. SAP vendor said:

> *"SAP systems provide multiple ways of control for the same transaction through providing different angles and levels of any combination of information parameters whether financial or nonfinancial"*

Integration

The most important logic of SAP systems is the integration of business information, including financial and non-financial. SAP systems provide more integrative internal control system rather than isolating internal controls. By integrating accounts payable, accounts receivable, cash and payments cycles with logistics movement, SAP systems enhance the internal control

system. SAP systems offer enterprise information flow integration with logistics. SAP systems integrate business processes and provide instant access to integrated data across the whole company to improve operational and financial control. It is no longer needed to make multiple updates for the same piece of information in the different systems. This reduces the likelihood of retaining and using inaccurate information. SAP systems offer that all business activities that are subject to financial reporting are fully and accurately recorded in a consistent and timely way, which can be easily audited at any time. For example, the head of the IAF at EG Company stated:

> *"SAP systems integration reduces the need to do manual reconciliations of data drawn from different sources. SAP closes the cycle from beginning to end as all cycles are fully integrated"*

Preventive controls

SAP systems are controlling business based mainly on preventive controls. SAP systems' built-in controls are designed based on SOD rule. Any transaction can't pass through the system without getting the required approvals to prevent any unauthorized transaction. An access protection system serves as a preventive internal control to prevent violations of any legal restrictions and regarding editing of electronically stored data. It ensures that no unauthorized, incomplete or incorrect data is entered into the system and no data are posted to wrong period. Each user has an authorization profile that defines which specific records that user can access, as well as whether the user can display, change and/or delete information. According to SAP control framework,

> *"When an event is triggered, the SAP automation controller checks whether the event is registered in its events table. If the event is not registered, it is ignored. If it is registered, the automation controller generates an OK_CODE that it then passes to the Objects Control Framework"*

Compensating controls

Compensating controls means that there should be more than one control to serve the same area. SAP system, by the interference of internal auditors, doesn't dictate one control for one risk. It offers mixing between different controls to mitigate same risk. Compensating controls serve to accomplish the objective of another control that did not function properly, helping to reduce risk to an acceptable level. Moreover, another internal control is that SAP users in secured areas, especially accounting, operate under dual control principle. For instance, internal auditor at EG Company stated:

> *"Compensating controls offered by SAP, are mixing two different controls to mitigate same risk. This is better than focus totally on the functionality of a list of controls"*

Automation

SAP systems are automatically checking validity of previous process in order to continue processing. SAP systems are controlling SOD conflicts by providing automatic test that can be regularly run. SAP provides automated controls such as discrepancy reports and reconciliations of outputs to source data. SAP generates a numbered document for every transaction that cannot be removed once created. This provides an automatically created audit trail, which gives auditors the ability to trace and verify all entries. Individuals' responsibilities are automatically controlled by setting up options ranging from blocking specific actions to automatic reporting options. According to SAP control framework,

> *"SAP system has an automation controller that administers all instances of custom controls those controlling desktop applications. Communication between the controls at the frontend and the application program at the backend runs through the automation controller"*

Data consistency

The assumption of SAP systems that attracts the internal auditors' attention is the quick and easy data consistency. SAP systems make data consistence through unifying data process starting from data entry to financial information reporting. SAP systems offer data consistency when consolidated from different branches of different regional companies of a multinational company. SAP systems store information of the enterprise business activities whether financial or nonfinancial, so offer data consistency and eliminate data duplication and redundancy. For Example, internal auditor commented:

> *"There were different values for the same business data in different departments. SAP systems significantly strengthened our capabilities by providing timely, consistence and accurate financial and non information that enable us to make better assurance"*

The institutional logic of ERP system in controlling the business is based on some related assumptions as mentioned. Those assumptions can be summarized in figure 2 as follows:
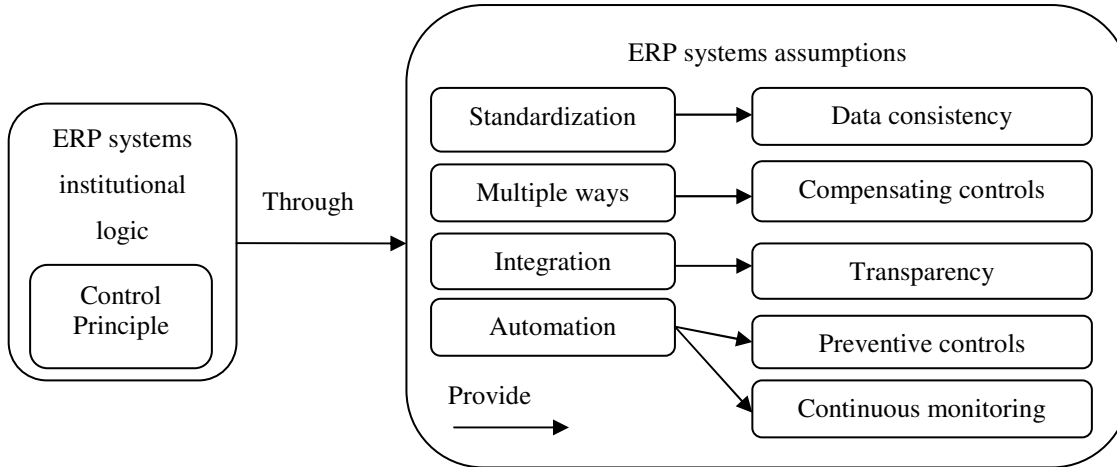
Figure 2 ERP systems institutional logic, principle and assumptions

IAF Change

By drawing upon the institutional theory of Oliver (1991) internal auditors' responses to ERP implementation are analyzed. The responses to ERP system implementation are more pluralistic and complex than singular and homogeneous responses that are often characterized in the literature. Internal auditors have exploited the implementation of SAP system through extending their areas of involvement by the aim of increasing value added. However, this change also requires a redesigning of internal audit processes, competencies and roles.

Implementing SAP systems stimulates internal auditors to place in their professional identity. They relate SAP systems to their roles and responsibilities and thus their identity. Internal auditors face new institutional logics from SAP system at the functional level that mainly related to their shared professional values. These pressures make internal auditors adapt to advanced practices that developed outside the company. When uncertainty increase over the new internal audit practices and structure after implementing SAP, the internal audit manager with the audit committee searched for new ideas from their professional communities to develop the function and imitate practices already adopted by other company branches. Their arguments for introducing new types of working are drawn from their professional contacts and international practitioner communities.

Internal auditors' response to SAP implementation can be interpreted in the beginning as *compromise strategy* through bargaining and balancing tactics. At the beginning the internal auditors have fears from new system that will do most of their job and they may lose their jobs. Internal auditors' involvement in ERP system implementation process gives them the opportunity to negotiate with SAP vendor about their requirements. During implementation stage, internal auditors try to customize SAP system in order to be compatible with what they are used to. By having an integrated internal audit team, not all the internal audit team has to deal directly with SAP. This can be interpreted as a balanced solution. There were internal negotiations between the head of the IAF with the internal auditors in lower levels and with the audit committee to reform the IAF after the SAP implementation. For example, SAP vendor commented:

> *"At senior, junior or audit team leader levels there were fears and rejections in the beginning. There were some open negotiations as internal auditors were seeking to obtain an advantageous solution and a favorable position. They were seizing SAP implementation to reproduce their responsibilities and to raise their identity within the company"*

The head of IAF added:

> *"Having an integrated internal audit team was a solution attained through discussion with internal auditors and audit committee after reviewing the structure and practice of IAF in the EG branches which had SAP system before"*

Later on, internal auditors' response to SAP systems' logics can be interpreted with *Acquiescence strategy* through compliance, habit and imitation tactics. The internal auditors have been asked by the top management to comply with the new working environment. Internal auditors accept the new way of doing their job and they manage it in a way that serves their position within the company. They change their work habits to be based on analytical thinking and on collaborative efforts within the integrated team as they learned from other branches of their multinational company. In the beginning they seek help from SAP supporters. Once they got the knowledge to perform their missions using the new system, they start to look for creative ways to improve their performance. When SAP system offers better option of controlling business, internal auditors change their mindset and change their way of doing things to improve their identity. For instance, internal auditor commented:

> *"We as internal auditors have no option to avoid using SAP. They were enforced to compromise with the new system as there is no other option. Furthermore, we found SAP system implementation is a good opportunity to improve our position within the company by having key system knowledge. We consider it as a business control tool; therefore we will be the most important group within the company"*

The head of IAF added:

> *"We deal with U companies on different regions which gone SAP live long time ago. We were trying to make up the gap. After SAP implementation we are equal as we start use the audit multinational network within our company to copy their practices and structure. We have to use the same language to set on the same meeting table"*

In EG multinational company, IAF follows the internal auditing structure and practices in other branches which have implemented SAP system successfully. Internal auditors learn from those examples about the business threats and IAF changes needed. Dealing with branches in the same region while they had SAP long time ago, encourage internal auditors to improve their function. Moreover, using same consultant that has been used by other branches has helped in copying their model.

IAF change to sustain legitimacy after implementing ERP system can be summarized in figure 3, as follows:
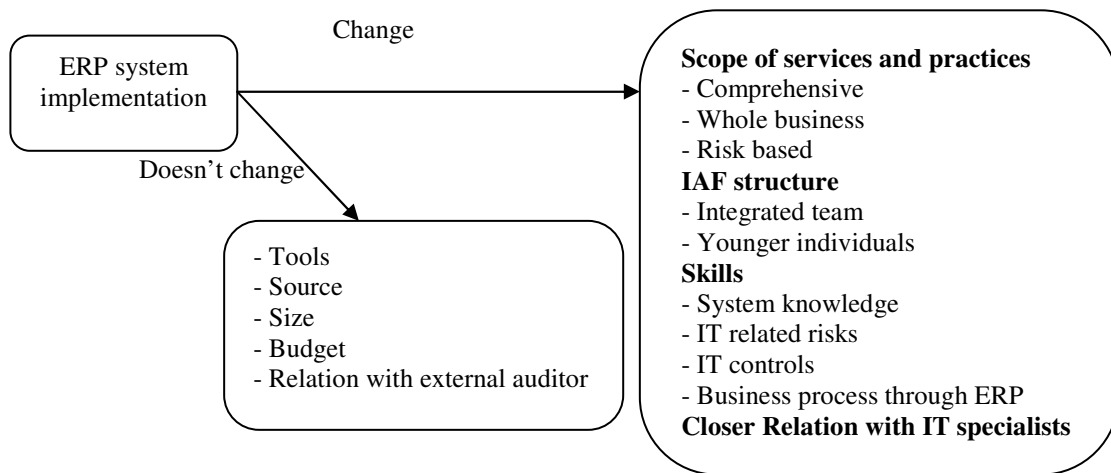
Figure 3 the internal audit change after implementing ERP system

Internal audit practices become comprehensive audit ensuring that all controls are addressed in an integrated fashion to address business risks. This can be referred to as "integrated auditing" approach. Integrated comprehensive audit approach focus simultaneously on an organization's financial, operational, IT and processes controls. Audit scope is based on risk assessment. Internal auditors assess risks around ERP system as a sub-set of the overall internal audit risk assessment process and as an integrated part into the internal audit practices. For instance, internal auditor stated:

> *"We have to audit all types of controls whether in SAP or outside to assure that they are able to mitigate risks. IAF's scope covers all modules rather than financial module only. SAP implementation extends the scope of IAF to cover all business processes and gives them opportunity to provide internal consulting services to enhance business process"*

IAF's structure is changed to be an integrated comprehensive audit that gathered many specialists in different areas. There is only one internal integrated audit department where IT, marketing, human resource, operations and production auditors are members of that integrated team. An integrated team facilitates that IT audit areas became part of the risk assessment process and annual audit plan. Moreover, younger internal auditors are welcomed to join the audit team as they haven't the traditional mindset of auditing and they are more flexible and accept changes. For example, the head of IAF asserted:

> *"IAF has been improved in order to add value by making it a comprehensive function with an integrated internal audit team. Nobody can gain whole SAP knowledge. SAP knowledge is knowledge per module or per function. Therefore, there is an auditor specialized in sales, HR, manufacturing, purchasing and inventory"*

SAP manger added:

> *"Young internal auditors are motivated to improve the function. The internal audit team is an integrated team, contains younger auditors than older and multi disciples' experiences"*

Internal auditors change their looking at the business process from functional view to process view with the ability to know and understand technicality behind. A set of communication skills are crucial to success in an integrated internal audit team. SAP systems need a broader set of information systems and business knowledge. Business process knowledge is a part of the core knowledge base supporting ERP knowledge. Internal auditors' mentality should understand the added-value by ERP systems and the required technological knowledge to realize it. Several types of knowledge are needed such as component knowledge of basic functions of application used to execute tasks and knowledge of the interlinking subsystems and interdependencies resulted. Proposals include increasing core skills of general internal audit team to understand new risks of auditing in SAP working environment, to acquire more sophisticated knowledge to address IT-related risks. For instance, internal auditor stated:

> *"Internal auditors need IT skills to know how to read data reported from SAP and how to run it. They should have system knowledge to get full understanding of how process and data flow are going through SAP. They are enforced to understand controls from the process point of view. Internal auditors should understand how to check unseen approval within SAP. They need to have the ability to work in an integrated team rather than individually"*

SAP implementation doesn't encourage getting special software for auditing, however SAP itself offers reporting and notifications options which are very helpful. Internal auditors use SAP as a tool to get reports, verify accounts, check balances, get the evidence reference of audit work and do regular tests. The reason for not changing the tools used by IAF is that internal auditors don't exploit all features offered by SAP system yet. Furthermore, SAP has been implemented recently and the need for using more advanced auditing software doesn't appear yet. For example, external auditor of EG stated:

> *"SAP systems can be considered as an internal audit tool that has made it possible to track and analyze more data much faster. There isn't any EG company use a professional audit application except the corporate audit team at London. SAP system has reporting package for monitoring the system not especially designed for internal audit function use"*

SAP implementation doesn't generate a need for internal audit outsourcing. Having qualified internal audit team is much preferable than outsource IAF. Moreover, the close relation between the IAF and the IT professionals started with SAP implementation. During implementation, cooperation started when defining SOD rules by internal auditors and applying them by IT professionals. After implementing SAP most of controls become automated and technical those are set up by IT team. IAF is still responsible for understanding and reviewing those controls. For instance, ERP manger stated:

> *"The team who knows the problems before SAP, problems and challenges during the implementations has the most ability to assess the source of risks and to assure the right controls. The internal audit provides the rules according to business process and the technical team matches these rules with the technical tasks that can be*

> *performed in the SAP. The work relationship between the internal audit team and the IT team after implementing*
> *SAP is a mutual relationship"*

Although SAP system decreases auditing efforts, its complexity widens auditing scope and analytical processes. Therefore, SAP implementation decreases the number of traditional internal auditors, while the team has increased as internal auditors from different backgrounds become needed. On the other side, SAP implementation doesn't significantly affect the annual budget of the IAF; however it increases the investment in qualifying the internal audit team. The budget of IAF increased slightly as some specialists from different areas have been joined the team to be an integrated IAF. For example, the head of IAF asserted:

> *"Actually, the number of the traditional auditors is decreased. However, the number of the internal auditing*
> *team increased as we add some individuals from different backgrounds. Moreover, there was a part of the*
> *implementation budget dedicated to IAF improvement"*

In multinational companies, there is more confidence in the efficiency of the IAF; however having ERP system increases this confidence. External auditors count on the work of the internal audit function. The external auditors are sensitive after ERP system implementation as the whole business is in the IAF scope and there is huge change management.

CONCLUSION

This research has referred to institutional theory to examine the development of the IAF in ERP system working environment. The specific feature adopted is the strategic responses (Oliver, 1991) of IAF. Davenport (2000) argues that ERP systems impose logics on a company's organization. Others (e.g. Kanellou and Spathis, 2011) have argued that implementation of ERP systems has a great impact on auditing; however previous research didn't look at the nature of the IAF change. This study provides fresh insights by conceiving of ERP systems on their own as having institutional logics that motivate IAF improvement.

The participants' responses confirmed that the new logics of ERP system in controlling the business require changing the IAF; otherwise this profession will not be able to do its' corporate governance role effectively. As suggested by (Kanellou and Spathis, 2011; Chen, Huang, Chiu and Pai, 2012) it is obvious that ERP significantly change the auditing procedure and the internal control. Integrated internal audit now audit the processes and systems across the organization as a horizontal rather than vertical approach. Instead to conduct separate audits focusing on vertical analysis of different sets of the controls over the end-to-end process; it depends on horizontal analysis in a way that ensures that all interconnected controls to address the business risk are addressed in an integrated fashion. The audits focus simultaneously on an organization's financial, operational and IT controls and processes. Internal auditors are now considered by the top management as a business partner or even an advisor. According to Oliver (1991), when conformance is anticipated to enhance legitimacy, acquiescence will be the most probable response to institutional influence. IAF that adapts to the challenges of risk and assurance in ERP system working environment will thrive and prosper. Whereas, those continue to follow traditional compliance approach are unlikely to be considered as value-added function. IAF needs to be changed as rapidly as working environment or its legitimacy will be threatened.

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