

The Effectiveness of COSO Framework to Evaluate Internal Control System: The Case of Kurdistan Companies

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ABSTRACT

The paper aims to evaluate the quality of internal control system in Kurdistan, using COSO framework. Since 2013, COSO framework has been prominent assessing, implementing, and evaluating the effectiveness of internal control. Therefore, there is a lack of COSO framework researches in Kurdistan. In this paper, the researchers address the level of deviation of internal control system in Kurdistan companies from COSO framework we evaluated this deviation by applying Lean Diagnoses Tool (LDT). We found that there is a gap between internal control system in Kurdistan companies and the requirements under COSO framework. COSO framework can be applied in Kurdistan companies if they enhance their internal control system according to international internal control standards.

Keywords: Internal Control System, Lean Diagnoses Tool, COSO Framework, Kurdistan Companies

JEL Code: M00, Y20

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1.0 INTRODUCTION

An effective control system is a critical component of company's management and a foundation for safe and sound operations of organization (Thabit *et al.*, 2016). A strong internal control system can help to ensure that the goals and objectives of an organization will be met, that the company will remain profitable and achieve long-term financial goals, and produces reliable financial and

managerial reports. Such a system can also help to ensure that the organization will comply with laws and regulations as well as policies, plans, internal rules and procedures, and decreases the risk of unexpected losses or damages to the organization's reputation.

2.0 INTERNAL CONTROL SYSTEM

The New York State Governmental Accountability, Audit and Internal Control Act of 1987 (Internal Control Act) required State agencies and other organizations to promote and practice a good internal control and to provide accountability for their activities. In 1999, this legislation was made permanent and the State Finance Law was amended to require the State Comptroller to issue internal control standards for State agencies and other organizations (Diapoli, 2007).

To fulfill this requirement, the State Comptroller developed the internal control standards contained in this publication: Standards for Internal Control in New York State Government. These standards have been compiled from those advocated by leading authorities in the field of internal control. All organizations subject to audit by the Office of the State Comptroller are expected to adhere to these standards, and will be evaluated accordingly in any audits that are performed by that office (Brewer and List, 2004).

2.1 The Concept

Many groups and organizations have published standards and guidelines on internal control and defined it in various ways. These definitions have set out the basic concepts of internal control using different words.

The definitions are similar in recognizing internal control's extensive scope, its relationship to an organization's mission, and its dependence on people in the organization. Internal control is focused on the achievement of the organization's mission (Li, 2008).

Therefore, it is essential that an organization have a clearly stated mission that is known and understood by everyone in the organization. It is also important to understand that, while good internal control will provide "reasonable assurance" to meet goals and objectives, it cannot guarantee organizational success (Simkova, 2005). However, goals and objectives are much less likely to be met if internal control is poor.

Internal control is defined as "the integration of the activities, plans, attitudes, policies, and efforts of the people of an organization working together to provide reasonable assurance that help the organization to achieve its objectives and mission".

This definition establishes that internal control (Dinapoli, 2007):

- Affects every aspect of an organization: all of its people, processes and infrastructure
- Is a basic element that permeates an organization, not a feature that is added on
- Incorporates the qualities of good management
- Is dependent upon people and will succeed or fail depending on the attention people give to it
- Is effective when all of the people and the surrounding environment work together
- Provides a level of comfort regarding the likelihood of achieving organizational objectives
- Helps an organization achieve its mission.

2.2 The Purposes

While the overall purpose of internal control is to help an organization achieve its mission, internal control also helps an organization to (IIA, 2008):

- Promote orderly, economical, efficient and effective operations, and produce quality products and services consistent with the organization's mission.
- Safeguard resources against loss due to waste, abuse, mismanagement, errors and fraud.
- Promote adherence to laws, regulations, contracts and management directives.

- Develop and maintain reliable financial and management data, and accurately present that data in timely reports.

2.3 Organizational Roles

Every member of an organization has a role in the system of internal control. Internal control is people-dependent. It is developed by people; it guides people; it provides people with a means of accountability; and people carry it out. Individual roles in the system of internal control vary greatly throughout an organization (Thabit *et al.*, 2016). Very often, an individual's position in the organization determines the extent of that person's involvement in internal control.

The strength of the system of internal control is depends on people's attitude toward internal control and their attention to it. Executive management needs to set the organization's "tone" regarding internal control. If executive management does not establish strong, clearly stated support for internal control, the organization as a whole will most likely not practice good internal control (Thabit *et al.*, 2016).

Similarly, if individuals responsible for control activities are not attentive to their duties, the system of internal control will not be effective. People can also deliberately defeat the system of internal control. For example, a manager can override a control activity because of time constraints, or two or more employees can act together in collusion to circumvent control and "beat the system" (Dinapoli, 2007).

To avoid these kinds of situations, the organization should continually monitor employee activity and emphasize the value of internal control. While everyone in an organization has responsibility for ensuring the internal control system is effective, the greatest amount of responsibility rests with the managers of the organization (Thabit *et al.*, 2016).

Management has an important role in making sure that the individuals performing the work have the necessary skills and capacity to do so, and, to provide employees with appropriate supervision, monitoring, and training to reasonably assure that the organization has the capability to carry out its work (Arend *et al.*, 2012).

The organization's top executive, as the leading manager, has the ultimate responsibility. The Internal Control Act provides that, the top executive is responsible for establishing the organization's system of internal control, and is also responsible for (Brewer and List, 2004):

- establishing a system of internal control review
- making management policies and guidelines available to all employees
- implementing education and training about internal control and internal control evaluations.

To the extent that the top executive authorizes other managers to perform certain activities, those managers become responsible for those portions of the organization's system of internal control.

The law also requires designation of an internal control officer who reports to the head of the organization. Drawing on knowledge and experience with internal control matters, the internal control officer is a critical member of the management team who assists the agency head and other management officials by evaluating and improving the effectiveness of the internal control system (Arens *et al.*, 2012).

While the internal control officer has responsibility for both implementing and reviewing the organization's internal control efforts, the organization's managers are still responsible for the appropriateness of the internal control system in their areas of operation (Dinapoli, 2007).

The internal control officer helps establish specific procedures and requirements; the effectiveness of these procedures and requirements must be audited by someone who was not involved in the process of putting them into place. In contrast, the organization's internal auditor is responsible for evaluating the effectiveness of the system of internal control.

This individual must be independent of the activities that are audited. For this reason, in most instances, the internal auditor cannot properly perform the role of internal control officer.

3.0 COSO FRAMEWORK

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) is a joint initiative of the five private sector organizations (American Accounting Association, American Institute of CPAs, Financial Executives International, The Association of Accountants and Financial Professionals in Business, and The Institute of Internal Auditors) and is dedicated to providing thought leadership through the development of frameworks and guidance on enterprise risk management, internal control and fraud deterrence (<http://www.coso.org>).

3.1 The Concept of Internal Control System according COSO Framework

COSO defines internal control as a system describing the policies, plans, and procedures implemented by management of an organization to protect its assets (COSO, 1992).

Usually the people involved in this effort are the entity's board of directors, the management, and other key personnel in the firm.

3.2 The Objectives

The Management of organization typically has three broad objectives in designing an effective internal control system (Arens *et al.*, 2012): *Operations Objectives*: These pertain to effectiveness and efficiency of the entity's operations, including operational and financial performance goals, and safeguarding assets against loss; *Reporting Objectives*: These pertain to internal and external financial and non-financial reporting and may encompass reliability, timeliness, transparency, or other terms as set forth by regulators, recognized standard setters, or the entity's policies; and *Compliance Objectives*: These pertain to adherence to laws and regulations to which the entity is subject.

3.3 The Components

COSO's Internal Control—Integrated Framework, the most widely accepted internal control framework in the United States, describes five components of internal control that management designs and implements to provide reasonable assurance that its control objectives will be met. Each component contains many controls, but auditors concentrate on those designed to prevent or detect material misstatements in the financial statements (COSO, 2013). The COSO internal control components include the following (Arens *et al.*, 2012; Uwadiae, 2015).

3.3.1 Control environment

Control environment is the attitude toward internal control and control consciousness established and maintained by the management and employees of an organization. It is a product of management's governance, that is, its philosophy, style and supportive attitude, as well as the competence, ethical values, integrity and morale of the people of the organization. The control environment is further affected by the organization's structure and accountability relationships. The control environment has a pervasive influence on the decisions and activities of an organization, and provides the foundation for the overall system of internal control. If this foundation is not strong, if the control environment is not positive, the overall system of internal control will not be as effective as it should be.

3.3.2 Risk assessment

Risk should be assessed and managed through an organization-wide effort to identify, evaluate and monitor those events that threaten the accomplishment of the organization's mission. For each risk that is identified, management should decide whether to accept the risk, reduce the risk to an acceptable level, or avoid the risk.

3.3.3 Control activities

Control activities are tools - both manual and automated - that help identify, prevent or reduce the risks that can impede accomplishment of the organization's objectives.

Management should establish control activities that are effective and efficient. When designing and implementing control activities, management should try to get the maximum benefit at the lowest possible cost.

Here are a few simple rules to follow (Uwadiae, 2015):

- The cost of the control activity should not exceed the cost that would be incurred by the organization if the undesirable event occurred.
- Management should build control activities into business processes and systems as the processes and systems are being designed. Adding control activities after the development of a process or system is generally more costly.
- The allocation of resources among control activities should be based on the significance and likelihood of the risk they are preventing or reducing.

Information and communication: Information and Communication is the exchange of useful information between and among people and organizations to support decisions and coordinate activities. Information should be communicated to management and other employees who need it in a form and within a time frame that helps them to carry out their responsibilities. Communication with customers, suppliers, regulators and other outside parties is also essential to effective internal control.

Monitoring: Monitoring is the review of an organization's activities and transactions to assess the quality of performance over time and to determine whether controls are effective. Management should focus monitoring efforts on internal control and achievement of the organization's mission. For monitoring to be most effective, all employees need to understand the organization's mission, objectives, risk tolerance levels and their own responsibilities.

3.4 The Relationship of Objectives and Components

A direct relationship exists between objectives, which are what an entity strives to achieve, components, which represent what is required to achieve the objectives, and the organizational structure of the entity (the operating units, legal entities, and other). The relationship can be depicted in the form of a cube, as shown in figure (1) (<http://kfknowledgebank.kaplan.co.uk>): (i) The three categories of objectives; operations, reporting, and compliance, are represented by the columns; (ii) The five components are represented by the rows; and (iii) An entity's organizational structure is represented by the third dimension.

Fig. 1. The Cube of COSO



Source: Uwadiae, Oduware, 2015, COSO – An Approach to Internal Control Framework, Financial Reporting, Deloitte.

4.0 PRACTICAL PART

4.1 Internal Control Systems in Companies

Internal control systems are a critical component of risk management; however, they can be quite the investment. And balancing the potential cost of them versus maintaining profitability of the organization can often be a challenge for companies.

Maximizing the efficiency and effectiveness of internal controls is one way to achieve goals on multiple ends of the spectrum. No matter the shape or size of a company, following these measures can lead to more efficient and effective internal controls (Uwadiae, 2015):

- Establishing efficient separation of duties – preventing one employee from performing conflicting duties and protecting the organization against undetected fraud and errors
- Increasing reliance on system controls – enabling controls that function continuously, consistently and more efficiently than manual controls
- Focusing attention on crucial issues – determining and investing internal control resources in the issues that are a top priority to the organization

By focusing on the balance of efficiency and effectiveness, companies can leverage internal controls to better manage risk.

4.2 The Analysis Tools

In this paper, the researchers use two statistical tools to measure the effectiveness of COSO framework in evaluating internal control system for Kurdistan companies

4.2.1 Fuzzy Logic Tools

In 1965 Prof. Lotfi A. Zadeh introduced fuzzy sets, where many degrees of membership are allowed, and indicated with a number between 0 and 1. The point of departure for fuzzy sets is simply the generalization of the valuation set from the pair of numbers $\{0, 1\}$ to all the numbers in $[0, 1]$ (Thabit *et al.*, 2015). This is called a membership function and is denoted as A , and in this way we have fuzzy sets. Membership functions are mathematical tools for indicating flexible membership to a set, modeling and quantifying the meaning of symbols. They can represent a subjective notion of a vague class, such as chairs in a room, size of people, and performance among others (Ponce-Cruz and Ramirez-Figueroa, 2010). Furthermore, when linguistic variables are used, these degrees may be managed by specific functions. Irrationality can be described in terms of what is known as the fuzzjective (Thabit *et al.*, 2012).

4.2.2 Lean Diagnosis Tool

The best way to understand the Lean progress is to measure it using an audit system. Many organizations have developed the Lean Diagnostic Tool to cover all aspects of a Lean Production System. The audit has been developed across a large group of companies to manufacture best practice criteria. The Lean Diagnostic Tool takes a snapshot of the lean manufacturing culture and kaizen initiatives across a specific site. In order to achieve this, the tool gauges the level of implementation and improvement observed in a number of key lean components which include (<http://txm.com.au/blog/using-a-lean-diagnostic-tool>):

- Leadership
- Organization and human resources
- Culture
- Quality
- Operational basics
- Lean plant layout

- Supply chain
- Safety and environment
- Financial systems
- Innovation

The Lean Diagnostic Tool will tell us how Lean Systems are developing and assist in planning next steps. This measurement is critical in developing a lean culture and the skills to sustain the hard-earned improvements. In simple terms, it is difficult to live PCDA (Plan-do-check-act) without measuring its results.

The Lean Diagnostic results are represented on a spider diagram to show the score progression in each component as well as an overall total representing the site lean score. The Lean Diagnostic is a great place to start benchmarking each year results and then have an annual planning day to outline your top level plan and increase the pace of lean improvements across the business.

4.3 Measuring the effectiveness of COSO framework in evaluating internal control system for Kurdistan companies

The researchers distributed randomly a refereed questionnaire to 50 managers, and accountants in companies of Kurdistan. The questionnaires are analyzed by the two statistical tools to get reliable information about the effectiveness of COSO framework in evaluating internal control system in company.

The researchers collected professional opinions on the role of COSO framework in enhancing the management, the audit committee, and the external auditors in internal control of the Kurdistan companies by the questionnaire, and analyzed them by Fuzzy Logic and LDT. Table (1) shows the main components, and subcomponents of COSO framework

Table 1. COSO Framework Components

Code	Component	Subcomponent
C ₁	Control environment	
C ₁₋₁		Integrity and ethical values
C ₁₋₂		Commitment to competence
C ₁₋₃		Board of director or audit committee participation
C ₁₋₄		Management's philosophy and operating style
C ₁₋₅		Organizational structure
C ₁₋₆		Human resource policies and practices
C ₂	Risk assessment	
C ₂₋₁		Risk assessment processes
C ₂₋₂		Categories of management assertions
C ₃	Control activities	
C ₃₋₁		Adequate separation of duties
C ₃₋₂		Proper authorization of trans. and activities
C ₃₋₃		Adequate documents and records
C ₃₋₄		Physical control over assets and records
C ₃₋₅		Independent checks on performance
C ₄	Information and communication	
C ₄₋₁		Occurrence
C ₄₋₂		Completeness
C ₄₋₃		Accuracy
C ₄₋₄		Posting and summarization
C ₄₋₅		Classification
C ₄₋₆		Timing

C ₅	Monitoring	
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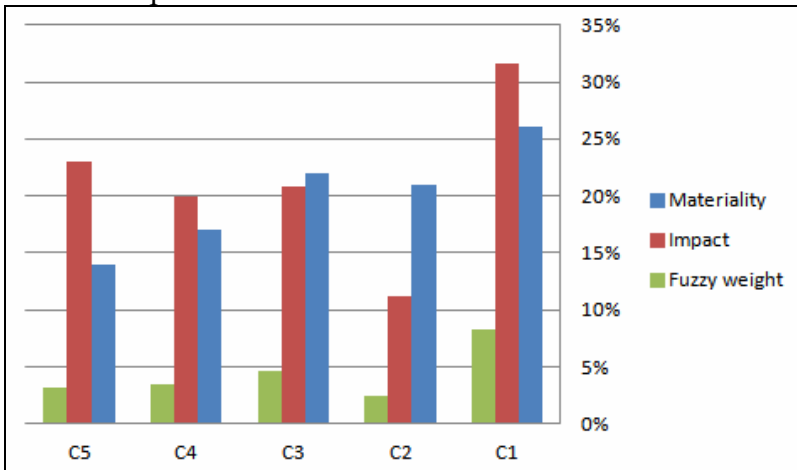
The questionnaire has two parts. The first part polls the opinions of selected respondents about the effectiveness of COSO framework in evaluating the internal control system in Kurdistan companies according, and the second one polls the opinions of selected respondents about the materiality of COSO framework components and subcomponents. Table (2) shows the result of analyzing the questionnaire outcomes by Fuzzy Logic.

Table 2. The Analyzed Results

Code	Materiality	Impact	Fuzzy weight
C ₁	26%	31.6%	8.22%
C ₁₋₁	4%	25%	1.00%
C ₁₋₂	3%	35%	1.05%
C ₁₋₃	12%	58%	6.96%
C ₁₋₄	3%	13%	0.39%
C ₁₋₅	1%	5%	0.05%
C ₁₋₆	3%	22%	0.66%
C ₂	21%	11.2%	2.35%
C ₂₋₁	14%	24%	3.36%
C ₂₋₂	7%	32%	2.24%
C ₃	22%	20.8%	4.58%
C ₃₋₁	8%	17%	1.36%
C ₃₋₂	4%	22%	0.88%
C ₃₋₃	5%	31%	1.55%
C ₃₋₄	2%	14%	0.28%
C ₃₋₅	3%	20%	0.60%
C ₄	17%	20%	3.40%
C ₄₋₁	4%	16%	0.64%
C ₄₋₂	3%	19%	0.57%
C ₄₋₃	5%	17%	0.85%
C ₄₋₄	2%	12%	0.24%
C ₄₋₅	1%	15%	0.15%
C ₄₋₆	2%	21%	0.42%
C ₅	14%	23%	3.22%

Figure (2) shows the materiality, the effectiveness of COSO framework, and the fuzzy weight of internal control components.

Figure 2. The materiality, the effectiveness of COSO framework, and fuzzy weight of internal control components



To measure the level of deviation of applying COSO framework in internal control system of Kurdistan companies by examining the financial statements and audit reports of 5 companies in Kurdistan, the researchers use LDT. Table (3) shows the values of key lean components, and figure (3) illustrates the values by radar chart.

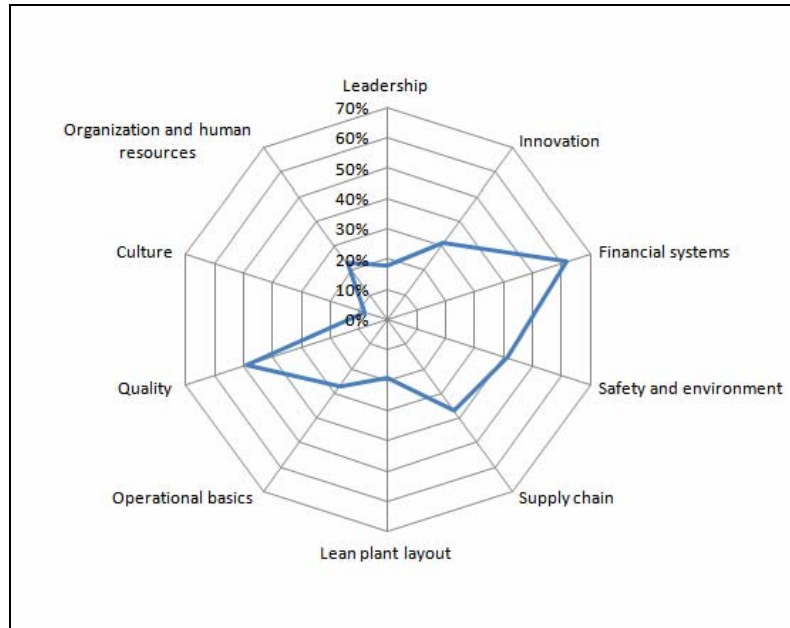
Table 3. The values of key lean components

Key Lean Components	Values
Leadership	18%
Organization and human resources	23%
Culture	8%
Quality	49%
Operational basics	27%
Lean plant layout	19%
Supply chain	37%
Safety and environment	41%
Financial systems	62%
Innovation	31%

Whereas:

- 0-20% is very low and would be a concern. Organization should focus on the area of concern to improve its score.
- 20-40% is low and needs attention. Understand the requirements of the question and put remedial actions in place.
- 40-60% is typical but by no means good enough to be a Lean organization.
- 60-80% is good organization is well on its way to being Lean in this category.
- 80-100% is excellent with 90%+ being world class. Don't rest now - continuous improvement is the name of the game

Fig. 3. The Radar Chart of LDT



4.4 RESULTS

- COSO framework effects on control environment (C1) larger than other components.
- Risk assessment (C2) is affected by COSO framework less than other components.
- The most important component in COSO framework is control environment (C1), while monitoring (C5) is the less important component.
- The range of fuzzy weight of internal control components is (8.22% – 2.35%).
- The deviations of leadership, culture, and lean plant layout are very high, so organization should focus on the area of concern to improve them.
- The deviations of organization and human resources, operational basics, supply chain, and innovation are high and need attention.
- The deviations of quality, and safety and environment are typical but by no means good enough.
- The deviation of financial systems is good but organization needs to improve it.

5.0 CONCLUSION

Depending on the results in this paper, the researchers concluded that COSO framework will play a very poor role to enhance the internal control system in Kurdistan companies because of a huge gap between international internal control culture and that of Kurdistan. This gap can be appeared clearly in LDT analysis that clarifies high level of deviation in the most components of key lean. The role of COSO framework can be more effective, and the gap can be smaller, if Kurdistan companies get benefit from and implement previous experiences of developed countries.

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