

The Use of Lean Thinking Towards Improving the Effectiveness of the Internal Auditor: An applied study in a group of banks in Iraq

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The research aims to study the entrance of lean thinking and its role in improving the effectiveness of the internal auditor of the views of a sample of employees of Iraqi banks, By measuring the impact and testing the relationship between lean thinking and the effectiveness of the internal auditor, the analytical descriptive approach was adopted, As well as the selection of a sample of gentlemen in the banks and the number (62) individuals, using the questionnaire, which included (42) paragraph. The results were extracted through the statistical program (SPSS) to validate the research hypotheses related to the correlation and impact between the two research variables. A number of results have been reached, the most important of which is a positive correlation between the lean thinking and the effectiveness of the internal auditor, and then formulating a number of recommendations related to the results of the research. The most important work is to spread awareness in the Iraqi banks on the importance of lean thinking and ways and methods. her job.

Key words: *Lean Thinking, Effectiveness of Internal Auditor, Iraqi Banks.*

Introduction

Lean thinking is not a way to reduce costs in the short term, it is a method and method of work that needs to work continuously and in the long term. The term "Lean transformation" is often used to describe banks that move from the old way of thinking to lean thinking. This transition requires a long-term perspective and perseverance that would lead to a comprehensive revolution in how the bank does its work.

There are many problems that the internal auditor faces, as well as problems that cannot be found in the financial statements. Because of these and other problems, the traditional methods of management accounting systems related to internal auditing have become ineffective.

As traditional accounting systems related to internal audit have created many distortions in financial reports that can hinder progress in banking, as a result banks should search for modern methods to enhance the effectiveness of the internal auditor, and this can be achieved by adopting the concept of 'lean thinking', which focusses on removing obstacles in banking operations.

In order to maintain the lean transformation, senior executives of banks and financial institutions must learn how to convert routine accounting practices into a new system to support lean practices, and thus improve the effectiveness of internal audit.

Research Methodology

Research Problem

In light of developments in modern accounting systems and technological development in the banking field, it has become necessary for banks to work to raise the efficiency of their auditors to improve the quality of financial reports and reduce costs.

The research problem crystallises into identifying the role that lean thinking plays in improving the effectiveness of the internal auditor in the banks under study. Therefore, asking the following questions can contribute to clarifying the contents of the research problem:

- 1) How much contribution can lean thinking make in enhancing the effectiveness of the internal auditor in the banks under study?
- 2) What is the nature of the relationship between lean thinking and the effectiveness of the internal auditor in the banks under study?
- 3) What is the impact of lean thinking on the effectiveness of the internal auditor in the banks under study?

Research Importance

This research acquires its importance from the importance of the variables under discussion, the subject it deals with and the chosen field, as this research contributes by presenting the theoretical frameworks for the variables represented by lean thinking and the effectiveness of the internal audit, as the importance of the research is demonstrated by:

- 1) The fact that a research is based on the descriptive analytical approach by adopting a survey of the opinions of the sample members, and that the problem may need such studies, as it provides information about capabilities that can be employed in the service of future orientation to improve the effectiveness of the internal auditor, especially in the Iraqi environment that was discussed.
- 2) Starting with the importance and role of the variables under study, the importance of which was derived from the field problem that addresses them, as the research focussed on important variables represented by (thinking lean, internal auditor).

Research Objectives

By identifying the research problem and its importance, the main objective of this research can be clarified, which is to define the banks under study with the role that lean thinking plays in improving the effectiveness of the internal auditor. In addition there are the sub-goals, which are as follows:

- 1) Knowing the extent to which banks under study adopt the lean thinking philosophy in order to achieve high levels of effectiveness of internal audit.
- 2) Learn about the philosophy and importance of realised and appropriate lean thinking for managing the banks under study within the Iraqi environment.
- 3) Provide a practical vision of the nature of the relationship and the impact of lean thinking in improving the effectiveness of internal audit.

Research Hypotheses

In light of the details of the above study model, the study hypotheses that were based on formulating them are consistent with the research questions referred to, and in order to answer and prove this statistical relationship and its ramifications, the overall study hypotheses were defined as follows:

- 1) The first hypothesis: Lean thinking contributes to enhancing the effectiveness of internal audit in the banks under study.

- 2) The second hypothesis: There is a significant correlation between lean thinking and the effectiveness of internal audit in the banks under study.
- 3) The third hypothesis: Lean thinking affects the enhancement of the effectiveness of internal auditing in the banks under study.

Study Methodology

The researchers relied on the descriptive analytical approach for the purpose of testing the research hypotheses, by studying and determining the relationship and impact between its variables by collecting data related to the banks under study and analysing them. The following are methods of collecting information and data in order to achieve the goals of the research and test their hypotheses, and two types of tools and methods were adopted, namely:

- 1) Initial data: For the purpose of obtaining primary data related to the practical aspect of the research, the questionnaire tool was used to collect data from the field.
- 2) Secondary data: For the purpose of obtaining secondary data for the theoretical aspect of the research, reliance was placed on the available contributions of specialised researchers after the research, which are: theses related to two dimensions of research, periodicals and university articles, and discrete books and literature).

Literature Review

First: Lean Thinking

Lean Thinking Concept

Lean thinking is a newly developed intellectual model in banks, as banks seek to apply it to reduce obstacles and waste in calculations and audits and to be the fastest in responding to the needs and desires of customers and beneficiaries. This is why many banks tend to embrace lean thought by changing methods of work and applying new methods in calculations and audits based on lean business philosophy (Al-Janabi, 2018).

Lean thinking gives management and employees a practical toolkit to reduce costs and raise the level of performance. There is a widespread misconception that lean thinking applies only to manufacturing operations within large diverse companies – this is simply not the case because lean thinking can be applied in the field of management and accounting, and in the field of marketing (Jones & Mitchell, 2006).

Lean thinking is involved in all aspects of business administration and other sciences, and is related to the discipline of all businesses and the size of the process and sharing in creating more value with fewer resources in a work environment that calls for the participation of all, and focus on customers (Wang & Huzzard, 2012).

Lean thinking is something different from "lean practice", Although the two are necessary to complement one another, the most important thing is that the mind should not be separated from the method as in Figure (1), and therefore "lean thinking" is defined in this way:

Figure 1. Defined lean thinking



Source: (Al-Janabi, 2018)

The basic idea of lean thinking is the constant struggle to maximise value while minimising waste, simply signifying the constant pursuit of creating more value with less resources. Consequently, it requires continuous understanding and work towards the customer's value and focus on all banking operations, the ultimate goal being to provide the ideal value to the customer through the process of creating the ideal value that has "zero waste".

To achieve this, a set of lean tools is applied and thinking about issues that will give sustainability to improvement: 'lean's' journey requires continuous training and education, as 70% of the banks that applied it have achieved great successes.

The Importance of Lean Thinking

Lean is a methodology that aims to eliminate waste in bank calculations through continuous improvement and respect for people. It is a positive way to think about how to do business with less resources and less energy and work towards achieving the highest performance. Toyota experts emphasised that the essence of lean thinking is "building people, then building products" and "spreading a culture challenging the current situation", by continuous improvement and respect for workers and consequently, the result is the elimination of waste in calculations. This can be expressed in Figure (2).

Figure 2. Essence of Lean thinking



Source: (Al-Janabi, 2018)

Lean is a methodology that provides new ways of thinking about how events are organised in order to achieve the benefits to banks and the value to customers by eliminating waste. Thinking lean directs the bank to focus on activities that add value and work to maintain it, excluding activities that do not add value, establishing a situation that makes individuals and officials working in banks feel the need to improve. This situation will help to detect problems and waste areas, and giving the role to these individuals in the work to get rid of these problems and eliminate waste will lead to improving the performance of operations and increase the level of organisational learning, in addition to improving the capabilities of working individuals (Nauman, 2015).

Lean is a comprehensive cover for a broader set of tools and methods, as thinking lean works to achieve dynamic gains instead of constant efficiency, and is constantly evolving as it seeks to better understand the possibilities and methods followed by Toyota and work to develop it in various directions. Lean thinking is much more than just a tool like kanban, visual management, or just eliminating waste as was seen in Toyota – it is an institutional system based on the pillars of respect for people and continuous improvement, and its successful introduction will take years and requires education and training on a large scale (Muhammad Saeed, 2012).

Conditions for Applying Lean Thinking

There are many conditions that must be met in order to apply lean thought. We review it with the following: (Vlachos, 2015)

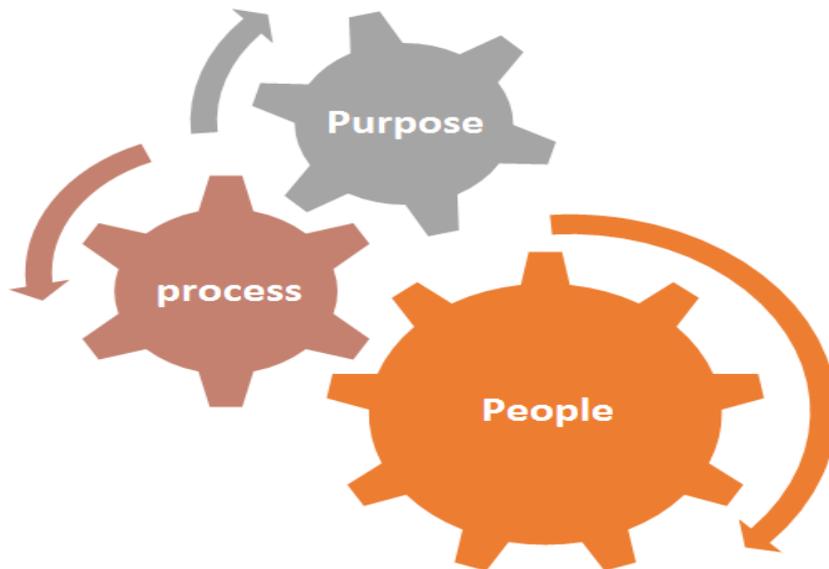
- 1) Adopting a visual management philosophy to avoid hiding any problem.
- 2) That administrative decisions are based on achieving long-term goals, even if they are at the expense of short-term financial goals, and that decisions are made by consensus and working to implement them quickly.
- 3) The need to establish a lean culture among bankers and officials seeking to implement this philosophy in addition to building an organisation that fits with this philosophy that focusses on educating bankers and training them and getting them used to ideas, and operating principles used in the lean approach, so that workers' thinking becomes consistent with the basic rationalisation ideas (adding value to the customer and excluding waste).
- 4) Employee participation in the decision-making process, identifying problems within the limits of their jobs, and proposing appropriate solutions to those problems, because the human component with high and varied skills is one of the main pillars of the lean thinking approach (Andersen & Røvik, 2015).
- 5) Establishing a culture of continuous improvement in all steps and activities, and processes that do not add value while focussing on advanced production technologies and using them effectively.
- 6) Use only reliable technology that is thoroughly tested by workers and operations.

Business Basics of Lean Thinking

Womack and Jones recommended to managers and executives when embarking on a shift towards lean thinking of the three business fundamentals (purpose, process and people), which would guide the bank to shift towards the whole lean system by asking questions: (Willumsen et al,2017)

- 1) **Purpose:** What are the customer problems that the bank will solve to achieve its own purpose?
- 2) **Process:** How will the bank evaluate each major stream of value to ensure that each step is of value, capable, available, sufficient, and flexible, and that all steps are related to flow, withdrawal, and settlement?
- 3) **People:** How can the bank ensure that every important process has a person responsible for the continuous evaluation of its value stream in terms of its business purpose, and how can every person touching the value stream actively participate in its proper and continuous operation? Figure (3) explains the basics of lean thinking.

Figure 3. Business basics of Lean thinking



Source: (Al-Janabi, 2018)

Second: Internal Auditor ***The Concept of Internal Audit***

After the financial scandals and collapses of the global economic units, the internal audit became one of the necessities that occupy banking institutions and scientific bodies, as scientific reports in all countries of the world recommended the need to pay attention to the role that internal audit plays in banks.

The definition of the Institute of Internal Auditors indicates that the internal audit is "an independent evaluation function that arises within the bank, with the aim of assisting the bank's members to effectively implement their responsibilities by providing them with analyses, calendars, recommendations, advice and information relevant to examining activities" (Campbell, 2010).

Internal audit is an independent calendaring device that is located within the organisational structure of the economic unit and is one of the internal controls means; the goal of its establishment is to audit sufficient and applied means according to what was planned. It is an independent and objective insurance and advisory activity that is important for adding value and improving banking operations by helping it achieve its goals by giving the bank an organised mechanism and a disciplinary approach to present and improve the effectiveness of risk management, oversight and the operations of the bank's government (Seetharaman et al, 2008).

The internal audit is defined as an internal body or auditors of the economic unit in order to protect the funds of the economic unit and to achieve the goals of the administration as achieving the largest possible administrative efficiency of the economic unit and encouraging compliance with administrative policies, which is a set of procedures that arise within the economic unit for the purpose of verifying the application of administrative and financial policies.

The Importance of Internal Audit

The internal audit function is one of the jobs that characterises the economic unit, where some researchers indicated that one year of internal audit is equivalent to the work of three years of external audit. There is no doubt that the importance of internal audit enables the extent to which this function is able to add value, as the definition clearly described by the Institute of Internal Auditors states that the internal audit role in an advisory and insurance role is aimed at adding values to the economic unit. He described the institute as a final and strategic goal for the internal audit function, and the institute pointed out that adding value is through increasing and improving opportunities to accomplish the goals of the organisation, improving procedures and processes, and reducing risks to acceptable levels (Qaisar & Javid, 2012).

The importance of the internal audit varies from one unit to another because of the different size and structure of the economic unit, as well as the requirements of management. However, the importance of internal audit is practised in all or some of the following areas (Karin. & Nebbel, 2013):

- 1) Study the efficiency and effectiveness of operation, including non-financial control over the bank.
- 2) Evaluating performance at the level of responsibility centres.
- 3) Verify the accuracy of the accounting data.
- 4) Ensuring the appropriateness and effectiveness of the policies and procedures for internal control adopted for the work environment and conditions and investigating their application.

Internal Audit Objectives

The success of any activity depends on setting goals accurately and clearly and specifying the means to achieve the goals taking into account economic effectiveness and efficiency, and this applies to the internal audit activity as the activity of evaluating the systems and the activities of all the company. The development of the internal audit profession has been accompanied by a noticeable development in its objectives, the extent of verification and examination, as well

as the degree of dependence on the internal control system. The American Institute of Internal Auditors has set the objectives of internal audit as follows (Saidu & Zabedah, 2013):

- 1) Ensure that the policies, plans and procedures established by the administration are implemented as they are without any deviation.
- 2) Auditing and evaluating the efficiency and effectiveness of the financial and accounting control methods followed by the bank.
- 3) Ensure that the company has adequate protection against theft, embezzlement and extravagance.
- 4) Verify the reliability of the accounting and statistical data installed in the books and records of the facility.
- 5) Performance evaluation at the level of responsibility centres.

In general, the primary objective of the internal audit is to assist the administration in performing its responsibilities effectively, by providing it with objective reports, recommendations, and constructive observations regarding the unit's activity in general (Abdolmohammadi, 2013).

Types of Internal Audit

Many writers include that there are several types of internal auditing, the most important of which are (Arel, B, 2010):

- 1) Control audit (compliance audit): This type of audit is done in order to confirm the data and instructions laid down by a certain body that have been applied in a fundamental manner.
- 2) Technical audit: It focusses in the research on the establishment of the economic unit and its failure to apply the accepted principles.
- 3) Documentary audit: It focusses on checking formal, substantive and legal aspects.

Third: The Relationship between Lean Thinking and the Effectiveness of Internal Audit

Lean thinking has great benefits in banking institutions, as it focusses mainly on removing all types of waste along the value stream and thus improving the quality of financial reports, which increases the effectiveness of the internal auditor. Other benefits include increasing the bank's ability to respond to changing customer orders, maximising customer value, and improving the quality of financial reports (Al-Janabi, 2018).

The goal of lean thinking is to create a lean organisation, which maintains growth by matching customer satisfaction with employee satisfaction, and offering profitable innovative products

or services while reducing unnecessary extra costs, thereby improving the effectiveness of the internal auditor (Nauman, 2015).

The main vision of lean thinking is that if you train every person to define wasted time and effort in their own work and to work better together to improve accounting processes by eliminating this waste, the bank will provide more value at a lower cost while developing employees, efficiency and ability to work with others. Figure (4) shows the goal of thinking lean.

Figure 4. Shows the goal of thinking lean



Source: Prepared by researchers

The ultimate goal of lean thinking is to reduce waste while maximising customer value, and achieving transformation in accounting business. Employees have learned that by using lean techniques they can standardise operations, eliminate wasted time, effort and supplies, thus simplifying the processes that allow them to provide services to their customers in a way that they want in less time, with less effort and with improved value flows in internal audits.

Practical Results

The First Hypothesis

Table (1) data indicates the mean and standard deviations for the hypothesis of (Does the effect of agile thinking differ on the effectiveness of the internal auditor in Iraqi banks?) Represented by the variables (X50-X36), this came with an arithmetic mean (2.80) and a standard deviation

(0.82), and a coefficient of variation (0.29). The most prominent of these variables was the variable (X2) supported by an arithmetic mean (3.02), a standard deviation (0.46), and a coefficient of variation (0.15). Whereas the lowest contribution paragraphs were the variable (X8), indicated by the mean of the mean (2.58), the standard deviation (1.18), and a coefficient of variation (0.45). And thus, accepts the first hypothesis.

Table 1: Effect variation between the study variables

question	Arithmetic mean	standard deviation	Coefficient of variation
X1	2.94	0.79	0.26
X2	3.02	0.46	0.15
X3	2.78	0.50	0.17
X4	2.88	0.55	0.19
X5	2.82	0.76	0.26
X6	2.90	0.82	0.28
X7	2.90	0.82	0.28
X8	2.58	1.18	0.45
X9	2.72	0.98	0.36
X10	2.80	0.61	0.21
Total index	2.80	0.82	0.29

Source: Prepared by researchers based on results from the electronic calculator (spss).

The Second Hypothesis

The Second Hypothesis Test: This hypothesis states that there is a significant correlation of lean thinking and internal audit in the banks under study. Table (2) shows the results of the correlation tests related to this hypothesis.

Table 2: Correlations test results

Explanatory variable	lean thinking
Responder variable internal audit	0.609*

*P ≤ 0.05

N=62

Table (2) indicates a positive correlation relationship between lean thinking and the effectiveness of internal audit, as the value of the total index of correlation coefficient (* 0.609) and at the level of significance (0.05) is evidence of the relationship between the two variables.

This result indicates that whenever the banks under study increased their interest in lean thinking, it contributed to improving the effectiveness of the internal auditor; based on the results of the statistical analysis of the correlation between the two variables of study, the second hypothesis is accepted at the level of the banks under study.

The Third Hypothesis

The third hypothesis test: This hypothesis states that there is a significant effect of lean thinking on the effectiveness of internal audit in the banks under study, and Table (3) shows this effect as follows:

Table 3: The effect of lean thinking on the internal audit

Explanatory variable	lean thinking			F
	β_0	β_1	R ²	
Responder variable				
internal audit	0.649	0.531 (7.989)*	0.370	61.184

Indicate a value (T) Calculated D. $F=1.60 * P \leq 0.05 N=62$

Table (3) of regression analysis shows that there is a positive moral effect of lean thinking as explanatory variables in the effectiveness of the internal auditor as a responding variable. As the calculated value of (F) is (61,184), it is greater than the tabular value at (1.60) degrees of freedom and at a significant level (0.05). The determination coefficient (R2) was (0.37), which means that (37%) of the differences explained in the effectiveness of the internal auditor are due to the effect of lean thinking, and the rest is due to random variables that cannot be controlled or that are not included in the regression model at all. From the follow-up of the coefficient (β_1), it becomes clear that the increase in interest in lean thinking in one unit leads to a change of (0.531) in the effectiveness of the internal auditor. As for the coefficient (β_0), it means that the banks under study achieve the effectiveness of the internal auditor, regardless of the effectiveness of the lean thinking, and from the follow-up of the calculated (t) test (* 7.989) we find that it is a moral value and greater than its tabular value, at a significant level (0.05), and two degrees of freedom (1.60). Thus, the third hypothesis which states that: (There is a significant effect of lean thinking on the effectiveness of the internal auditor in the banks under study) is accepted.

Conclusions and Recommendations

Conclusions

1. Adopting and using the philosophy of graceful thinking in Iraqi banks works to remove waste in the audits and enhance the confidence of all parties interested in the work of banks; in addition to that it will work to evaluate the deviations that may get financial reports, and this will reflect on raising the effectiveness of the internal auditor.
2. The application of lean thinking in Iraqi banks makes it imperative that the audit advisory offices be of a high degree of responsibility and integrity.
3. The results of the field study indicated that there is a positive correlation relationship between the philosophy of lean thinking and the effectiveness of the internal auditor in Iraqi banks under study according to the value of the correlation coefficient at the macro level.
4. The results of the field study indicated that there is a positive moral effect of lean thinking on the effectiveness of the internal auditor, which indicates that the interest of banks under study increased.
5. The use of the philosophy of lean thinking leads to achieving the required capabilities of the internal auditor in Iraqi banks.

Recommendations

1. The issue of lean thinking should be given attention – and given the most attention by banks in Iraq because of its importance and impact on the effectiveness of the auditing profession.
2. The need is to focus on the issue of the effectiveness of internal auditing in Iraqi banks under study as it represents the basis for the success of the banks' work and ensuring their credibility and reliability.
3. Identify the main weaknesses of the internal auditors by removing obstacles and working to address them.
4. Continue to conduct more future research in the field of the current study, as it can contribute to enriching this topic.
5. Paying attention to raising the efficiency of auditors, by setting programs and policies related to training and continuing vocational education, and holding conferences and training courses in the field of auditing in general by those interested in the auditing profession in Iraq.



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