A Proposed Framework for Internal Audit Governance to rationalize Sticky Cost Behavior: With A Field Study

إطار مقترح لحوكمة المراجعة الداخلية لترشيد سلوك التكلفة اللزجة: دراسة ميدانية

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Abstract:

This research aims to proposed framework for internal audit governance to rationalize the sticky cost behavior. Using a sample of 174 usable questionnaires were collected from a number of internal auditors, members of board of director (BOD), audit committee members, cost accountants in the Egyptian listed firm, and members of teaching staff and academics in Egyptian universities. The statistical techniques used to test the hypotheses of this research are Mann-Whitney and Chi-Square test.

The research revealed that internal audit competence has a significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment. Internal audit organizational independence and internal audit individual objectivity have a significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment. Due professional care by internal auditors has a significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment. Internal audit quality control assurance level has a significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.

Keywords: Sticky cost behavior, internal audit competence, internal audit organizational independence, and internal audit individual objectivity, due professional care by internal auditors, and internal audit quality control assurance level.

ملخص البحث:

يتمثل الهدف الرئيسي للبحث في اقتراح إطار لحوكمة المراجعة الداخلية لترشيد سلوك التكلفة اللزجة في بيئة الأعمال المصرية وذلك من خلال استطلاع آراء عينة من المراجعين الداخليين، أعضاء مجلس الإدارة، أعضاء لجان المراجعة، ومحاسبي التكاليف في الشركات المساهمة المقيدة ببورصة الأوراق المالية المصرية بالإضافة إلي أعضاء هيئة التدريس في الجامعات المصرية. ولقد إستخدم الباحثون إختبار Mann-Whitney وإختبار Chi-Square لاختبار فروض البحث.

ولقد توصل البحث إلي وجود أثر معنوي طردي بين كل من الكفاءة المهنية للمراجع الداخلي والاستقلالية التنظيمية للمراجع الداخلي والموضوعية الفردية للمراجع الداخلي وبذل العناية المهنية الملائمة بواسطة المراجع الداخلي ومستوي مراقبة جودة المراجعة الداخلية وترشيد سلوك التكلفة اللزجة في بيئة الأعمال المصرية.

الكلمات المفتاحية: سلوك التكلفة اللزجة، الكفاءة المهنية للمراجع الداخلي، الاستقلالية التنظيمية للمراجع الداخلي، الموضوعية الفردية للمراجع الداخلي، بذل العناية المهنية الواجبة بواسطة المراجع الداخلي، ومستوي مراقبة جودة المراجعة الداخلية.

1. The General Framework of research.

1.1 Introduction.

Asymmetric cost is relatively a new research topic, which does not apply the same logic as the traditional cost system. Traditional activity-based cost system links costs with activities and generates the concept of fixed costs and variable costs. Fixed and variable costs are allocated to products based on different cost drivers. From the perspective of a traditional cost system, costs change automatically with the changes in activity volume. The changes in costs are symmetric with the changes in activity volume. Thus, in the traditional cost system, variable costs change proportionally with the changes in activity volume (Hartlieb *et al*., 2020).

However, some researchers (e.g. Anderson *et al*., 2003; Chen *et al*., 2012; Da Silva Zonatto *et al*., 2018) found that costs increase more when activity volume increases but costs decrease less when activity volume decreases. Recently, Anderson *et al*., (2003) support by empirical research that the magnitude of a change in costs depends not only on the extent of a change in the level of activity but also on the direction of the change; where they found that selling, general and administration costs increase more when sales revenue increases but decrease less when sales revenue decreases.

The asymmetric behavior of costs appears as a result of managers' decisions about resource adjustment; where sticky costs occur because there are asymmetric frictions in making resource adjustments forces acting to restrain or slow the downward adjustment process more than the upward adjustment process'. A missing downward adjustment of the committed resources in a period of lower activity leads to costs of holding unused capacity during this period (Anderson *et al*., 2003).

There is no doubt that these decisions must be taken in light of the appropriate information related to the determinants of the change in the volume of activity, which enables the management to form a comprehensive and logical view of the permanence of this change in activity in the coming periods, if the decision is made based on logical assumptions imposed by the appropriate information related to the determinants of change in demand, with the devoid of these assumptions from the effects of personal incentives of management and these decisions resulted in the emergence of asymmetric cost behavior, it is not possible in this case to claim that this behavior has negative effects on the firm. But if the decision is based on assumptions whose primary source is the interests and opportunistic motives of the management, then the cost behavior resulting from this decision will definitely negatively affect the value of the company, especially in the long term.

The Internal Audit (IA) has long been recognized in the literature as a key component of corporate governance with an important monitoring role, and models of corporate governance have long included the IA; where the IIA's model of corporate governance suggests that the IA is one of four cornerstones of high-quality corporate governance, together with the audit committee, the external auditor, and management. It is noteworthy that of these four cornerstones, only management and the IA typically have day-to-day, year-round dealings with the company. A significant body of previous researches also suggests that management is often willing to act opportunistically to the detriment of key stakeholders leaving the IA in many situations as the party primarily responsible for the day-to-day implementation, testing, and monitoring of management's actions, including those relating to external financial reporting (Prawitt *et al*., 2009).

Lin *et al*., (2011) and Ege, (2015) demonstrate that internal auditing can play a role in mitigating aggressive accounting behavior by management; where the management is less biased when their bias is likely to be perceived by others and when there is greater transparency.

1.2 Research Problem:

Internal audit plays a mediator between shareholders and managers in a condition of conflict of interest; where internal audit reflects the internal auditor's ability to reduce manager's opportunities as a result of information asymmetry. Shareholders have a lack of understanding of the company's operations and there is a possibility of decision-making risks: while management attaches importance to operational risks and prevents losses, it may ignore internal regulatory risks and Audit risk: For potential investors, the company's comprehensive development capabilities and operating performance are more important. Internal audit has found a way to solve these problems. Through the independent and objective review, it can evaluate the company's operating conditions and effectively supervise the company's resources. Compared with external auditing, it is more familiar with the status quo of the enterprise and can provide professional and objective audit evaluation for the demander, so as to make more accurate decisions (Drogalas *et al*., 2018).

Liang *et al*., (2014) points out that the managers' opportunistic behavior is considered to be the main cause of the occurrence of cost stickiness and empirical evidence is relatively abundant.

Many studies have provided practical evidence for sticky cost behavior and they focus more on the causes of cost stickiness. Among these causes, managers' opportunistic behavior is considered to be crucial; there have been many studies on the impact of managers' opportunistic behavior on cost stickiness. However, these studies mainly focus on the effect of internal corporate governance mechanisms (board of directors' efficiency, institutional ownership, and audit committees' effectiveness) and external corporate governance mechanisms [external audit and audit quality through external audit (Liang *et al*., 2014; Muluk *et al*., 2019; Agwa, 2019)] rather than internal audit governance

In light of the lack of focus of previous studies on internal audit governance as an independent variable that affects the sticky cost behavior, the main question could be stated as follows:

Does proposed framework for internal audit governance rationalize the sticky cost behavior?

The researchs will attempt to answer this research question by answering the following sub-research questions:

1. Does internal audit competence rationalize the sticky cost behavior?
2. Does internal audit organizational independence rationalize the sticky cost behavior?
3. Does internal audit individual objectivity rationalize the sticky cost behavior?
4. Does due professional care by internal auditors rationalize the sticky cost behavior?
5. Does internal audit quality control assurance level rationalize the sticky cost behavior?

1.3 Reseaech Objectives:

The main objective of this research is to proposed framework for internal auditing governance to rationalize the sticky cost behavior

The main objective can be achieved through the following:

1. Investigate the impact of internal audit competence on rationalizing the sticky cost behavior.
2. Investigate the impact of internal audit organizational independence on rationalizing the sticky cost behavior.
3. Investigate the impact of internal audit individual objectivity on rationalizing the sticky cost behavior.
4. Investigate the impact of due professional care by internal auditors on rationalizing the sticky cost behavior.
5. Investigate the impact of internal Audit quality control assurance level on rationalizing the sticky cost behavior.

1.4 Research Importance:

By reviewing the previous literature in internal audit governance and sticky cost behavior, the researchers recognized that the importance of this research is related to:

1.4.1 The Scientific Importance of the Research:

1. It is considered one of the first studies dealing with the relation between internal audit governance variables and sticky cost behavior.
2. Contribution to rationalize the sticky cost behavior; where sticky cost behavior will definitely negatively affect the value of the company, especially in the long term.
3. Identify the impact of proposed framework for internal audit governance on rationalizing the sticky cost behavior.

1.4.2 The Practical Importance of the Research:

The practical importance of this research is represented in providing practical evidence of a link between internal audit governance and sticky cost behavior, determining the role of internal audit governance variables on rationalizing sticky cost behavior, as well as shedding light on the most important variables that can affect sticky cost behavior.

1.5 Research Hypotheses:

Based on the research problem and objectives, the main hypothesis can be stated in its null form as follows:

There is no significant impact of proposed framework for internal audit governance on rationalizing sticky cost behavior.

The main hypothesis can be divided into five sub-hypotheses:

1. There is no significant impact of internal audit competence on rationalizing the sticky cost behavior.
2. There is no significant impact of internal audit organizational independence on rationalizing the sticky cost behavior.
3. There is no significant impact of internal audit individual objectivity on rationalizing the sticky cost behavior.
4. There is no significant impact of due professional care by internal auditors on rationalizing the sticky cost behavior.
5. There is no significant impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

1.6 Research Methodology:

The current research relied on deductive and inductive approach as follows:

1.6.1 Deductive Approach:

The current research presents a combination of theoretical and empirical work. The theoretical part of this thesis used the deductive approach to study and analyze the impact of proposed framework for internal audit governance on rationalizing the sticky cost behavior. A deductive approach has been used to develop the research hypotheses to be investigated in the field study.

1.6.2 Inductive Approach:

The empirical part of this study used the inductive approach for carrying out a field study using a self-administered questionnaire to collect the opinions of academics, internal auditors, cost accountants, audit committee, and the heads of the board of directors to test hypotheses, and test the impact of proposed framework for internal audit governance on rationalizing the sticky cost behavior.

1.7 Resarch Scope:

The scope of this research is limited to study the internal audit governance variables (independence and objectivity of IA, competence of IA, due professional care by IA, and internal audit quality control assurance level), and thus the impact of any other variables of corporate governance is outside the scope of the study.

The field study is also limited to academics, internal auditors, cost accountants, the audit committee, and the heads of the board of directors in the Egyptian listed firms.

The remainder of this reaserch is organized as follows. Section 2 reviews the literature and formulates the reaserch hypotheses. Section 3 discusses the theoretical framework for the research. Section 4 presents the Field Study. Section 5 presents the research's conclusions, recommendations, and suggestions for future research.

2. Literature Review.

Many previous studies have addressed the issue of cost behavior since it was first raised by Anderson *et al*., (2003) (sticky cost behavior) from different aspects. Despite evidence to suggest the existence of sticky cost behavior, few studies seek to investigate the impact of internal audit governance variables on rationalizing the sticky cost behavior. Therefore, it is beneficial to analyze previous studies to find out and understand the relationship between internal auditing governance and the sticky cost behavior.

2.1 Studies about Sticky Cost Behavior.

Reviewing of literature indicates academic interest in exploring whether cost behavior is sticky, and understanding the reasons, implications, and determinants of such behavior. This area of research is considered relatively new when prior studies such as, the study of Anderson *et al.* (2003). This study label costs as sticky when they increase more than they decrease for equivalent change inactivity. It examined the behavior of selling, General & administrative cost (SG&A) using data for 7,629 listed firms in the US during the period 1979–1998. Specifically, they found that some SG&A expenses decrease by a smaller amount when the corresponding sales decrease but increase by a larger amount when the sales increase. Further, cost stickiness increases during the economic growth periods because managers are optimistic about the demand change. They also find that the larger the assets and labor intensity, the greater is the cost stickiness.

As the same, a study by Dos Santos *et al*., (2017) entitled " Sticky costs: An Empirical Study in Brazilian and the North American Companies of the Energy Sector" aims to determine the presence of sticky costs (sticky costs) in Brazilian and US power companies, using data revenues, sold merchandise cost and taxes of 33 Brazilian power companies that are listed on the BM & FBOVESPA and 25 American companies of the same sector that trade their shares on the NASDAQ and the NYSE during the years 2004 to 2013. The study found that the sticky costs can be verified in the Brazilian context, since for every percentage increase of 1% of the revenue the variable costs increased 1.32%, while for a 1% decrease in revenues, expenses 0.78% decrease variables. Since, in the American context, there has been the presence of sticky costs, given the linearity of the increase and decrease of the variable costs due to increased or decreased revenue. These results showed the differences in the management of Brazilian and North American power companies.

Using a data sample of 1,852 observations of Greek municipalities for the period 2002-2008, the study of Cohen *et al*., (2017) entitled "The Sticky Cost Phenomenon at the local government level: empirical evidence from Greece" found that local government managers adjust resources related to administrative services faster when revenues decrease than when they rise (anti-stickiness cost behavior). On the contrary, the study adjusted costs of service provision which are associated with core activities asymmetrically; more quickly for upward than for downward activity changes (cost stickiness behavior).

A new line of research was advanced according to the Anderson et al. (2003) cost stickiness phenomenon. The literature attributes this behavior to different reasons, one of the main questions in the study of Pichetkun, (2012) entitled "The determinants of sticky cost behavior on political costs, agency costs, and corporate governance perspectives" is whether cost stickiness is associated with CG. The study examined data on 160 firms listed on the Stock Exchange of Thailand covering 2001 to 2009. The study found that political and agency costs were the main determinants of cost stickiness for firms in the weak CG group but were statistically insignificant for those in the strong group and the weak CG group had high-cost stickiness while the strong group had none.

In (2013) the study of Blue *et al*., entitled "The Relation between Perspective Managers and "Sticky Cost": in the Tehran Stock Exchange" tested comments of conscious decisions using predict management from sales in the future. Based on firms listed in Tehran Stock Exchange for the 5 years from 2005 to 2009, the study found that when managers are optimistic about future sales the stickiness of cost increased.

In Egypt, the study of Ibrahim and Ezat, (2017) entitled "Sticky cost behavior: Evidence from Egypt" analyzed the behavior of selling, general, and administrative costs (SG&A) and cost of goods sold (CGS) individually and jointly using total costs (TC) for the period 2004-2011 for Egyptian-listed firms. In addition, the study compared the cost behavior three years before and after the application of the corporate governance code in Egypt in 2007. The study indicated that asymmetric cost behavior is common among Egyptian-listed firms as their SG&A, CGS, and TC were found to be sticky during the study period. The application of the corporate governance code in Egypt was found to affect the nature of SG&A – the behavior of these costs changed from sticky before the code to anti-sticky after the application of the code. Moreover, the code was found to affect the magnitude of the stickiness of both CGS and TC.

On the relationship of earnings management to sticky cost behavior, the study of Mojdehi, (2017) entitled "Real Earning Management in organization and the Behavior of Cost Stickiness: Empirical Evidence from Iranian Companies" aimed to investigate the association between real earnings management and the stickiness of selling, general and administrative (SG&A) costs. Using data sample consists of 2,552 firm-year observations of Tehran Stock Exchange firms for the period 2003–2013. The study found that the three-level of REM variable (sales manipulation, overproduction, and the abnormal reduction of discretionary expenditures) increased the degree of cost stickiness. ROA, ROE, Leverage, and EM consider as control variables. EM, like REM variables, increases the degree of cost stickiness, and return on assets (ROA) shows an anti-stickiness behavior.

Then few studies addressed the implication of the sticky cost behavior. Using a sample of 72 companies listed on the Egyptian stock exchange during the period 2013-2017, the study of Mahmoud, (2021) entitled "The Impact of Asymmetric Cost Behavior on Firm Value – An Empirical Study" aimed to examine the impact of asymmetric cost behavior on the firm value. The study showed a positive and significant relationship between cost stickiness and firm value. While there is a negative and significant relationship between the anti-stickiness cost and firm value. These results indicate that cost stickiness results from the economic and social motives, while the anti-stickiness of cost results from the motives of earnings management.

2.2 Studies about Internal Auditing Governance:

A number of studies have reported significant changes in the role of the internal audit function as a result of recent regulatory reforms in the USA, the UK, and Australia (e.g., Sarbanes-Oxley Act in the USA in 2002), for example, the study of Alrawashdeh, (2013) entitled "Corporate Governance and the Role of Internal Auditing" aimed to clarify the foundations of corporate governance and the role of internal audit about it as one of the key elements. The study found that it is clear from the displayed importance of internal audit (internal audit) as a key element of the work of the audit committee within the various facilities, which in turn formed the basis of the board members is full-time and it should the following: definition members of the internal audit to the principles of corporate governance, insert review of the company's commitment to the principles of corporate governance within the internal audit programs, set artistic elements within the internal audit departments to ensure the good functioning of the financially and technically, rehabilitation scientific and practical for members of internal audit departments including accommodate the foundations and principles of corporate governance policies and their intended developments, and the work of the various professional organizations to develop an awareness of the importance of the principles of corporate governance and the importance of the role of internal audit on them.

The study of Ege, (2015) entitled "Does Internal Audit Function Quality Deter Management Misconduct?" aimed to examine the relationship between internal audit function (IAF) quality, as defined by standard-setters, and the likelihood of management misconduct, such as financial reporting fraud, bribery, and misleading disclosure practices, using a data sample of 1,398 firm-years, representing 617 unique firms from 2000 through 2009. The study found a negative relation between IAF quality and management misconduct, even after controlling for other determinants of misconduct, including the board of directors, audit committee, and external auditor quality, further analysis revealed that IAF competence, but not objectivity, is negatively related to the likelihood of management misconduct, found that IAF competence is important in deterring management misconduct, misconduct firms have low IAF quality and IAF competence during misconduct years as compared to a matched sample of firms. Then, in post-misconduct years, misconduct firms increase IAF quality through IAF competence, this increase in competence is due to hiring more certified internal auditors and increasing training. However, misconduct firms do not appear to have lower IAF objectivity during or after misconduct years compared to a matched sample. These results were consistent with the proposition from standard-setters that IAFs serve as a key resource for audit committees in monitoring management, and the findings suggest that high-quality IAFs are effective at deterring both types of management misconduct. Disclosures related to IAF quality would assist stakeholders in predicting accounting-related management misconduct.

And on the role of internal audit function (IAF) on real earnings management (REM) practices, the study of Ghaleb *et al*., (2020) entitled "Internal audit function and real earnings management practices in an emerging market" examined the effect of investment in IAF (IIAF) and IAF sourcing arrangements on REM. The study used a sample of 1,056 observations from an emerging market, Malaysia, between 2013 and 2016. They found that IIAF has a significant negative relationship with REM practices. Further, in-house IAF sourcing has a significant negative association with REM. High-quality IAF impairs managers' ability to manage earnings in their own interests.

The study of Oladejo *et al*., (2021) entitled "Internal Audit Practice and Financial Reporting Quality: Perspective from Nigerian Quoted Foods and Beverages Firms" also evaluated the attributes of internal audit practice and its influence on reporting quality of selected firms. By using data of four food and beverages firms listed on the Nigeria Stock Exchange from 2010 to 2019. The study found that all the identified internal quality attributes (Internal Audit fee, Technical Training Proficiency, and Firm Size) were significantly related to internal audit practice and positively influence the financial reporting quality and performance of selected sampled food and beverages firms in Nigeria.

2.3 Analysis of literature review

1. The phenomenon of sticky cost is clearly present and increasing in companies in the modern business environment.
2. Prior studies also found that the sticky cost behavior implies for investors and analysts; where firms with stickier cost behavior have less accurate analysts' earnings predictions than firms with less sticky cost behavior and those investors seem to consider the sticky cost behavior when forming their beliefs about the firms' value, especially with respect to total cost rather than the stickiness of cost components.
3. The main driver of the sticky cost phenomenon seemed to be managerial behavior (manager's opportunistic behavior); where the degree of cost stickiness is subject to managerial expectations, managerial incentives, and various other agency and behavioral factors. The internal audit focused on improving the financial reporting process will discover and prevent opportunities for manipulation by management and then can rationalize the sticky cost behavior.
4. prior studies suggested that high-quality IAFs are effective at deterring both types of management misconduct. Disclosures related to IAF quality would assist stakeholders in predicting accounting-related management misconduct.
5. From the above, the researchers proposed that the proposed framework for internal audit governance can rationalize the sticky cost behavior by deterring both types of management misconduct.

2.4 Research Gap:

1. previous studies indicated that internal audit played an important role in reducing manager's opportunistic conditions. The researchers proposed that the proposed framework for internal audit governance can rationalize the sticky cost behavior by activating an effective internal control system and applying effective corporate governance rules to reduce the administrative motivation of this behavior and increasing the quality of information, which leads to increase competitiveness and increase the value of the company.

2. So, the research gap is in the absence of literature that addressed the impact of the proposed framework for internal auditing governance on rationalizing the sticky cost.

3. The Theoretical framework for the research.

3.1 Sticky Cost Behavior

According to the traditional cost model the relationship between cost and changes in the volume of activity is a symmetrical proportional relationship with upward or downward changes in activity, which implies that if the activity increases or decreases by a certain amount, costs must react symmetrically and increase or decrease by an equal amount, so the cost behavior varies according to the change in the volume of the activity, and not according to the direction of these changes in activity up or down, or according to management decisions.

Nevertheless, some studies argue that the traditional cost assumption is not always valid, and the relationship between costs and activity is not always linear; where these studies discovered that some costs are sticky or asymmetric: that is, costs increase more when activity rises than they decrease when activity falls by an equivalent amount (Anderson et al., 2003). Thus, the cost stickiness phenomenon rejects the traditional view of cost behavior and provides opportunities to investigate the drivers and influences of sticky costs. Thus, in applying cost estimation methods that are based on the traditional model of cost behavior in cost analysis, it is necessary to consider whether costs behave mechanistically or sticky.

3.1.1 The concept of asymmetric cost behavior and its reasons:

Anderson et al. (2003) define sticky costs as the costs fall with the decline in the volume of activity by less than percentage increase when volume of activity increase in the equivalent ratio; in other words, the rise or fall as a result of increase or decreases in the volume of activity in the same proportion is Asymmetric.

While, Weiss, (2010) introduced another type of asymmetric behavior (Anti-Sticky Cost) and stated that costs are termed anti-sticky if the costs fall more with decreases in activity volume than they rise with increases of the same amount.

Anderson *et al.*, (2003) identify two major reasons why managers may be reluctant to cut redundant resourceswhen activity declines and thus respond asymmetrically to increases and decreases in activity, namely: adjustment costs and personal considerations by self-interested managers.

A) Adjustment costs:

Adjustment costs are a potential cause of cost stickiness, because, when demand declines, managers are faced with a trade-off between the costs of retaining redundant resources (Retention Cost) on the one hand, and resource-adjustment costs (Adjustment Cost) on the other. Managers who expect a decrease in activity to be temporary may be hesitant to adjust resources, believing that the adjustment costs of cutting slack resources will be higher than the costs of retaining them during the short period. Therefore, managers prefer to wait until they are sure about the permanent demand decline, and then adjust the resources downward. Thus, cost stickiness may be attributed to the manager's intentions to maximize long-term firm value by avoiding unnecessarily high future adjustment costs.

Retaining Redundant Resources (Retention Cost): costs incurred if firm resources are maintained at a higher level than would be necessary to meet the current level of demand (e.g. keeping machines that are not used in the production process, and retaining idle labor).

Adjustment Costs: cost of cutting slack resources currently and then restore them again in the future when demand flourishes. Adjustment costs may include the following costs:

1. **Monetary Costs**, such as the selling costs of firm-specific assets, severance payments to dismissed employees, and further penalties resulting from a breach of contract.
2. **Indirect Costs**, such as a decline in morale or loyalty among the remaining workforce.
3. **Adjustment costs also include** those associated with adding resources when demand recovers, such as customization costs for new firm-specific assets, search and training costs for new employees, or negotiation costs for future contracts.

B) Personal considerations by self-interested managers:

Sticky cost behavior may be also caused by personal considerations that result in agency problems, because previous research shows that self-interested managers strive to maximize their personal utility, instead of making decisions that lead to the best outcome for the firm’s shareholders. This problem is referred to as managerial "empire building". These personal considerations result in agency costs when self-interested managers omit necessary resource reductions, in order to avoid a loss of status, compensation, prestige, and power or the anguish of dismissing familiar employees.

Thus, it is cleared from the above that the stickiness behavior may be due to the deliberate decision taken by the management when activity declines; where the deliberate decision and hesitancy of managers to cut slack resources are the key reasons for cost stickiness; where some managers are hesitant to cut slack resources when demand declines, thereby implying that firms bear the costs of unutilized resources that they should not bear. However, when demand flourishes, managers expand resources normally, and thus the related costs increase. Therefore, the costs' decrease when demand declines will be lower than the costs' increase when demand increases, resulting in sticky cost behavior. Hence, the sticky cost behavior is mainly due to a number of economic considerations such as adjustment costs and in addition to agency considerations.

Hence, it is cleared to the researchers that the differences between the traditional view of cost behavior and cost stickiness phenomenon depend on whether the decisions of managers are taken into account; where in the traditional cost classification model, managers' choices do not play an explicit role, as it assumes a mechanical relation between change in costs and change in activity, whereas the sticky cost framework represents a different way of thinking about cost behavior in relation to the volume of activity; where it gives concern to the managers' decisions that affect the level of costs, and the speed of costs decline or growth in relation to change in the volume of activity.

3.1.2 The Factors Affecting the Nature and Extent of the Sticky Cost Response

There are a set of factors that may affect the nature and extent of the stickiness cost response and these factors can be addressed as follows:

3.1.2.1 Prevailing Economic Conditions

Economic growth is an influential factor in the degree of the stickiness of the costs. Cost stickiness may increase during economic prosperity; where during prosperous times, the increase in demand is more likely to continue, and the decline in demand is more likely to discontinue. This induces managers to delay the decision on downward resource adjustment and causes more cost stickiness; as managers are optimistic about demand levels compared to the crisis period and managers face more rigidity in reducing committed resources in periods of macroeconomic growth than in other periods, resulting in more stickiness. Also, shortages of labor in periods of economic growth increase the cost of replacing separated employees, reinforcing this stickiness (Anderson *et al.*, 2003; Bugeja *et al.*, 2015).

3.1.2.2 Characteristics of the Company:

There are several characteristics of the company that affects the stickiness of the costs, the most important of these factors:

A. Labor Intensive (Density of Employees)

The degree of stickiness increases with the employee intensity (ratio of several employees to sales revenue) of the company; where when the company's sales less, it is difficult for them to separate their employees as a way to modify the costs because the company's management believes that demand conditions will improve in the near term and that the process becomes costly to exclude workers because of monetary factors such as severance payments for dismissed employees or integration costs such as training for those newly hired. In addition to out-of-pocket costs; where particularly in the long-term, managers also consider non-pecuniary, indirect costs such as lower staff morale or the loss of reputation (Zulfiati *et al.*, 2020; p. 144).

B. Asset Intensity

Asset intensity Calculated as a percentage of the total value of the assets to generate sales revenue during a certain period, a measure of the company's efficiency in the deployment of assets. The degree of stickiness increases with the asset intensity; where adjustment costs are likely to be higher when cost activities rely more on assets owned and people employed by a company than materials and services purchased by the company. unless long-term contracts exist, it is relatively easy to scale down purchased resources when demand drops, but disposing of assets is costly because the company must pay selling costs and lose firm-specific investments (installation and customization costs) (Anderson *et al*., 2003, p. 51; Abu-Serdaneh 2014). Also, Magheed, (2016) found that the fixed assets to total assets ratio affect the degree of the sticky costs, the larger the proportion of fixed assets, the larger the disposal more difficult, and this leads to a greater stickiness in costs.

3.1.2.3 Behavioral Factors:

A. Deliberate Resource Adjustments by Self-Interested Managers

Cost stickiness is affected by deliberate resource adjustments by self-interested managers, motivated by agency driven incentives; where if the agency's motivation is management empire-building, this will lead to increase cost stickiness, the desire of manager's to build an empire (avoid a loss of status, compensation, prestige, and power or the anguish of dismissing familiar employees or managements' incentives) affect the degree of asymmetric cost behavior; where cost asymmetry increases with a firm's free cash flow (FCF), chief executive officer (CEO) horizon, CEO tenure, and the percentage of at-risk pay in CEO compensation (Chen *et al*., 2012).

But if the agency's motivation to meet earnings targets is to avoid losses or avoid earnings decreases or to meet financial analysts' earnings forecasts (Kama and Weiss, 2013) or obtain loan financing (Banker et al., 2013) in the current period, likely, managers will more often engage in real earnings management such as cutting slack resources excessively when sales decrease, this would be optimal from the perspective of maximizing firm value, thus delaying the acquisition of needed resources when sales increase, to improve financial performance. This will reduce cost stickiness.

B. Corporate Governance

Corporate Governance is an influential factor in the degree of the stickiness of the costs; where Chen *et al*., (2012) found that strong corporate governance will reduce the level of cost stickiness closer to the optimal level of cost response and corporate governance mechanisms play an effective role in mitigating the effect of the agency problem on manager's cost adjustment decisions in response to exogenous shocks to demand.

3.1.2.4 Internal Control System:

The internal control system is an influential factor in the degree of the stickiness of the costs; where the internal control weakness (ICW) affects a firm's cost behavior in at least two ways. First, weak internal controls deteriorate internal information quality by yielding inaccurate, incomplete, and untimely internal management reports and this aggravates uncertainty about future sales volume, thus managers delay to reduce committed resources in response to a demand decline until they obtain more precise information to assess the permanence of the decline, therefore this leads to an increase in the sticky cost. Second, self-serving managers have greater opportunities to engage in opportunistic behaviors when a company lacks effective internal controls, such as diverting corporate resources for raising their own competition beyond the normal level and for spending excessively on entertainment, travel, and other perks consumption activities, all of these increases the cost stickiness (Kim *et al*., 2019).

3.1.2.5 High-Quality Auditing

Audit quality plays an important role in reducing cost stickiness; where audit quality measured through external audits is an important method in corporate governance that can improve monitoring and play an important role in reducing manager's opportunistic conditions which then helps reduce stickiness costs; where the audit quality has a large influence on the company to improve information transparency and reduce fraud that occurs within the company (Liang *et al*., 2014; Muluk *et al*., 2019).

The researchers concludes from the above, that many recent studies related to cost stickiness show the stickiness of cost as a complex issue driven by many determinants and factors, in addition to the decisions that managers make to settle the cost level.

The existence of firm cost stickiness, to some extent, reflects its operations conditions and operating risks, increasing the level of firm risk. When an enterprise's risk increases, it will affect the company's financing costs and other aspects, thereby future increasing its operational risk and making it more likely for the company to lose money. Therefore, it is necessary to control sticky costs. The researcher proposed that the internal auditing governance will help to reduce the sticky cost behavior.

The main driver of the sticky cost phenomenon seemed to be managerial behavior (manager's opportunistic behavior); where the degree of cost stickiness is subject to managerial expectations, managerial incentives, and various other agency and behavioral factors. Since managers to achieve their desire profit select intended accounting's evaluation methods, and put an effect on cost and revenue (Chen *et al*., 2012; Mortazavi *et al*., 2020). The internal audit is a daily review of the decisions and actions of the administration. Therefore, its activities and the efficiency of its procedures limit the ability of the administration to interfere in preparing financial statements and reports, such as intervention in setting accounting estimates and choosing between alternatives and accounting policies, and thus facing the opportunistic behavior of management; where since executive incentive contracts cannot completely reconcile shareholder's and manager's interests, managers pervasively have an "empire building" incentive. Managers tend to overextend firm size and spend a great number of resources on personal gains instead of improving company value. Therefore, the researcher proposes that internal audit governance can decrease managers’ opportunistic behavior and further help decrease cost stickiness.

3.2 Internal Audit Governance.

IA has traditionally been a function of assurance, financial audits, and compliance Mechanisms; where traditionally, the internal audit function was designed to safeguard a firm’s assets and assist in the production of reliable accounting information for decision-making purposes. More recently, the role of IA has evolved, undergoing two major changes (Vadasi et al., 2019; Mexmonov, 2020). On the one hand, the corporate scandals which provoked worldwide concern with corporate governance, focused new attention on IA, as one of the mechanisms designed to secure accountability. In this respect, boards and audit committees (AC) started to look at internal auditors as a possible answer to external demands to ensure the alignment of the interests of management with other stakeholders. On the other hand, IA has developed a stronger operational orientation, expanding its area of involvement besides financial compliance to include risk management and important operational areas, such as technology and projects. Internal auditors started to challenge management and act as a catalyst for improvement, using their knowledge of risk and control to enhance business practices (Arens, 2013).

3.2.1 The development of internal auditing over time

In 1947, the IIA first defined internal auditing as "an independent appraisal activity within an organization for the review of accounting, financial, and other operations as a basis for protection and constructive service to management". The unique organizational position of internal auditing- reporting directly to the board or its audit committee – makes it the primary mechanism for the provision of timely and objective risk assurance regarding the identification and the monitoring of risks, as well as on the effectiveness and efficiency of controls and organizational processes (Sarens and DE Beelde, 2006). These responsibilities are part of today’s generally accepted definition of internal auditing, which has remained unchanged since its revision in 1999 (Lenz and Sarens, 2012) The IIA defines internal auditing as follows:

Internal audit is an independent, objective assurance and consulting activity designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes (IIA, 1999).

One of the most important changes in the definition since its previous version from 1978, when the first global standards for the profession of internal auditing were published, is the use of the term activity instead of function. This reflects the broadened scope of internal auditing from being an appraisal function to an "indispensable management assistant or internal business partner" (Zou, 2019). In combination with the omission of the wording within the organization, this also entails the legitimization of outsourcing arrangements.

Thus, it is cleared to the researchers that, internal auditing is clearly more than compliance testing or evaluating internal controls. This definition squarely puts internal auditing into both the assurance and consulting arena. The emphasis on risk management, control, and corporate governance expands the internal audit role beyond accounting controls to both understanding and evaluating the effectiveness of controls in managing business risk. Internal auditing is challenged to add value to improve operations. Internal auditors have been challenged to work with management to recommend solutions, not just to report on problems.

The Institute of Internal Auditors IIA, (2017) defines Assurance and consulting services as:

Assurance Services: An objective examination of the evidence to provide an independent assessment on governance, risk management, and control processes for the organization. Examples may include financial, performance, compliance, system security, and due diligence engagements.

Consulting Services: Advisory and related client service activities, the nature and scope of which are agreed with the client, are intended to add value and improve an organization's governance, risk management, and control processes without the internal auditor assuming management responsibility.

Also, this new definition of internal auditing presents a new image of the profession in six significant ways: Chapman and Anderson, (2002)

1. As an **objective activity**, not necessarily established within the organization where the revised definition permits internal auditing services to be provided by "outsiders", in effect acknowledging that quality internal audit services can now be obtained through outsourcing.
2. By emphasizing that the scope of internal auditing encompasses **assurance and consulting activities**; where the new definition projects internal auditing as proactive and customer-focused and concerned with key issues in control, risk management, and governance.
3. By explicitly stating that internal auditing is **designed to add value and improve an organization's operations**; where the new definition underscores the significant contribution that internal auditing makes for any organization.

4. By **considering the whole organization**; where the new definition perceives internal auditing's mandate much more broadly, charging it with helping the organization accomplish overall objectives.
5. The new definition assumes that controls only exist to help the organization manage its risk and promote effective governance; where such a perspective considerably **broadens the horizons** of internal auditing and expands its working domain to include risk management, control, and governance processes.
6. The new definition accepts that the internal auditing profession's legacy, consisting of its unique franchise in being a standards-based profession, may well be its **most enduring and valuable asset**; where rigorous standards provide the basis for crafting a document, disciplined, and systematic process that assures quality performance on internal audit engagements.

In addition, from the beginning of the 2000s to the present, IA is associated with the development of strategic planning and the need to increase the competitiveness of the organization by identifying and implementing internal reserves in financial and economic activities, to reduce the cost of production or services and achieving the strategic goals of the organization.

Thus, it is cleared to the researchers that, the internal auditor is a forward-looking individual, who knows and understands business systems and ensures the management that they operate rightly and achieve firm goals. Internal auditors also play a key role in businesses; where internal auditors review organizational goals, processes, and operations and provide professional advice to the management. So, this new definition marks a significant shift away from the old definition that regarded IA as primarily an appraisal function that examined and evaluated activities; where recently IA must add value and improve operations by providing assurance and consulting services to the board of directors, executive management, middle management, and front-line management across all levels and the entire organization, Thus IA functions must operate at the process, management, and strategic level. So, this scope has provided opportunities to IA that go beyond the traditional role of IA that does not work at all levels of the organization and the focus of internal audit has shifted from an operations-based approach to risks-based approach. This new definition of IA signifies a broad role and field of works that require multi-skills and discipline of knowledge from IA practitioners.

3.2.2 Role of internal auditing:

The new definition shifts the focus of the (IA) from one of assurance to that of value-added and attempts to move the profession toward a standards-driven approach with a heightened identity (Vadasi *et al*., 2019, p. 2).

To add value to the organization, management should take into consideration the five components of an adequate internal control defined in the COSO report, these five components are (McNally, 2013, p. 4): Control environment, risk management, control activities, information, and communication, monitoring. (IA) plays a catalytic role in this environment by providing roles of **Supervision, Prevention, and Protection**; within this framework, internal audit supervises departments and enterprises to comply with state policies, laws, and regulations, prevent asset losses, avoid significant faults and therefore ensure integrity. Role of **Promotion**; where internal audit strengthens enterprise management, advances production technology, reduces production cost, and consecutively improves business economic benefits. Role of Evaluation and Certification; more recently, internal audits evaluate and certify enterprises' production, measure financial revenues and expenditures, finally valuate business economic accountability and other economic activities. Also, **Consultancy** roles; where internal audit provides leaders of enterprises with sufficient, timely, and accurate information, assist them in prior decision-making. Thus, internal auditors move from "controller" to "controller-adviser" as part of the process of professionalization of internal audit (Karagiorgos *et al*., 2010, p. 4-5).

3.3 The Proposed Framework for Internal Audit Governance.

Internal audit is the cornerstone of corporate governance and the mechanism of reference for the other three mechanisms (i.e. the audit committee, external audit, and management) that have developed internal audit function activities, governance role became a priority over other internal audit activities, and the role in promoting appropriate ethics and values within the organization, and ensure effective management of organizational performance accountability and reporting on risk and control information to the competent authorities in the organization and coordination of activities and exchange of information between the Board and the external auditors and the Commission Review and Administration (Vadasi *et al*., 2019, p. 175).

Previous studies indicated that corporate governance plays a vital role in the independence, effective performance of internal auditors, and the extent of internal auditors' compliance with IIA's attribute international standards as an example of what should be required by audit committees (Gramling *et al*., 2004; Egyptian corporate governance code, 2016).

George *et al*., (2015); Tadiwos, (2016) have confirmed that four factors affect the effectiveness of internal audit: The first factor: independence of internal audit, the second factor: competence of internal audit, the third factor: the quality of internal audit, the fourth factor: management support to internal audit.

The Institute of Internal Auditors (IIA) issues the International Professional Practices Framework (IPPF). The professional practice framework contains the basic principles of conducting a profession. The IPPF consists of three sets of standards, all of which are mandatory: A. Attribute standards, B. Performance Standards, and C. Advisories Guidelines (Kontogeorgis and Filos, 2012).

The attribute standards include information about the activities and special areas of a business. The performance standards describe the internal audit activities and provide criteria for the evaluation of the audit process. The standards are designed to provide the basic principles for the implementation of internal audits and help to improve the processes and functions within a company (Kontogeorgis and Filos, 2012; IIA, 2017).

Internal audit to perform its expected role according to IIA standards, internal auditors must meet a set of traits and characteristics, and skills for internal auditors' professional standards established for review interior of the eligibility and measured by competency, independence, due professional care, and quality assurance and improvement program.

From the above, the researchers proposed that the independent internal audit governance variables will be as follows:

1. Competence of internal auditing.
2. Independence and Objectivity of internal auditing.
3. Due professional care by the internal auditor.
4. Internal audit quality control assurance level.

3.4 Impact of proposed framework for internal audit governance on rationalizing the sticky cost behavior: Hypotheses development

Several incentives drive managers to behave self- interestedly at the expense of shareholders in a way that may produce financial scandals. Internal audit is thought to mitigate manager opportunism (Prawitt et al., 2009); where internal audit assists with:

1. Ensure disclosure in financial reports and the absence of any fraud, illegal actions, or any deficiencies in the internal control processes.
2. Studying and understanding management's motives from earning management practices and relying on methods and models that enable these practices to be discovered.
3. Verify the firm's compliance with the rules of governance.
4. Verify that the management does not exploit the flexibility available in accounting standards to achieve their objectives.
5. Examination of extraordinary items and review of accounting estimates made by management to determine the extent of its accuracy and appropriateness of disclosure of these items.
6. Provide warning indicators to the audit committee about the existence of earning management practices.
7. Submit a report to the audit committee on the earning management practices and the extent to which the management has taken the necessary measures to correct these practices.
8. Studying and evaluating the adequacy and effectiveness of internal control systems, verifying the extent of compliance with it, and expressing opinions on it.
9. Testing and evaluating the control tools used in risk management and determining their suitability.

The five major internal audit governance related issues discussed so far are internal audit competence, internal audit Independence, internal audit objectivity, due professional care by internal auditors, and internal audit quality control assurance level.

3.4.1 Internal Audit Competence:

IA team requires a wide range of competencies to improve organizational and department performance with a value-adding role (Cooper, *et al*., 2009). Baharud-din, *et al*., (2014) define competence as the ability of an individual to perform a job or task properly based on the educational level, professional experience, and the effort of the staffs for continuing professional development.

The competence of IA does improve internal control processes and deter fraudulent activity, as confirmed by Alzeban, (2019, p. 5), who explored the considerations of internal auditors in respect of fraudulent financial reporting, finding that they were, indeed, sensitive to the sources of fraud. Moreover, such sensitivity was seen to grow with the experience of doing the job, thereby implying that auditors of long-standing are especially skilled in this respect. (Ghaleb *et al*., 2020) argued that competent IA has a significant negative relationship with REM practices. Competent IA can reduce earnings management practices and boost financial reporting quality (Al-Rassas and Kamardin, 2016; Alzoubi, 2019); where the more competent the internal auditors, the more likely they are to understand the factors leading to management bias or opportunistic and how it can be deterred; where management has less incentive to aggressively manage earnings if they have reason to believe that a competent IA is monitoring their accounting choices. In addition, Lin *et al*., (2011) investigated the role of the IA competence in the disclosure of material deficiencies and found that material weaknesses disclosures are negatively associated with the IA competence.

Sarens et al., (2012) also showed that material weaknesses disclosures are negatively associated with the education level of internal auditors. Moreover, Chen *et al*., (2020, p. 2) argued that IA competence can improve firm operational efficiency in the following ways. First, more competent internal auditors (i.e., those with a higher educational level) are better able to acquire and analyze relevant information (Lai and Liu, 2018).

Hence, they are more likely to identify opportunities to improve firms' operational efficiency by assessing potential risks, enhancing cost savings, or increasing firm operational effectiveness. Second, more competent internal auditors can better respond to the needs of managers and provide constructive recommendations to support their decision-making. In the same context, Johl *et al*.,

(2013) reported that IA competence reduces the level of abnormal accruals, supported the claim that investing more in IA would enhance monitoring ability to constrain managers' opportunistic behavior. Al-Rassas and Kamardin (2016) revealed an association between IA competence and earnings quality (measured by discretionary accruals).

Moreover, Al-Thuneibat *et al*., (2016) argued that IA is a comprehensive monitoring function that is correlated with internal control components and can monitor all activities at different levels of management. These arguments suggest that IA plays an essential role in corporate governance effectiveness and financial reporting quality. Greater investment in resources enables managers to hire more competent internal auditors and improve the quality of IA consulting and assurance activities, which ultimately improves the quality of financial reporting. In other words, investing more in IA indicates more staff in internal audits and, hence, more monitoring.

Some studies report a positive relationship between disclosing internal control weaknesses and REM (Jarvinen and Myllymaki, 2016). These findings are in line with a study conducted by KPMG (2013), which reported that weak internal controls, lack of internal audit teams' skills, and lack of fraud awareness are the three main factors that allow fraud to occur. The studies discussed above support the potential role of IA competence in reducing earnings management practices. Further, IA competence plays a significant role in reducing management misconduct (Ege, 2015). Based on the aforementioned the researchers suggested that Competency of IA may help to rationalize cost stickiness through activating stronger internal control and increase internal auditor's ability to detect or deter management opportunistic behavior. Thus the researchers test the following hypothesis:

H_1: There is no significant impact of internal audit competence on rationalizing the sticky cost behavior.

3.4.2 Internal Audit Organizational Independence and Individual Objectivity:

As early as 1991, Wallace and Kreutzfeldt, (1991, p. 509) pointed out "the premiere importance of internal audit departments' independence as a critical determinant of error deterrence within organizations". Thus, independence is considered to be the source of the value and credibility of internal auditing, and hence represents its central characteristic (Ruud and Friebe, 2013).

Independence is the freedom from conditions that threaten the ability of the internal audit activity to carry out internal audit responsibilities in an unbiased manner (IIA, 2017).

In essence, two factors might influence the independence of IA. Firstly, the organizational independence of IA functions and secondly, the individual independence or individual objectivity of internal auditors (Tadiwos, 2016). Organizational independence can be explained as the relationship between the internal audit activity and the audit committee. Whereas, individual independence of internal auditors is all about individual staffs in internal audit department (IAD) independence and objectivity with look upon the use of IA activity as a ground for top management level (Tadiwos, 2016). To this view, organizational independence can be fulfilled through reporting IA activities to higher bodies in the organization. While, individual independence can be fulfilled through staff impartiality, Unbiasedness, and avoiding conflict of interests (IIA, 2017).

Independence and objectivity are important to an internal auditor’s ability to play a significant role in affecting the quality of a company’s financial reporting and ERM; where Prawitt *et al*., (2009); Ege, (2015) indicated that the more independence and objective the IA, the more able internal audit will be to detect and deter management bias or opportunistic, and the more likely internal audit will be to report evidence of earnings management that should IA be discovered. Johl *et al*. (2013); Kaawaase *et al*., (2021) further noted that internal audit organizational independence, financial focus audit activities, and investment are associated with lower income increasing abnormal accruals. Further, Bananuka *et al*. (2018) found that the internal audit function is significantly associated with the accountability of corporations. Also, Independent and objective IA would be less likely to be “steered” away by management from working in areas in which management was managing earnings through manipulation of accruals. According to SAS No. 65 and relevant IIA standards, the primary organizational aspect of IA Independence and objectivity revolves around the reporting status of the head of the IAF, or chief audit executive (CAE). Thus, the researchers argued that IA Independence and Objectivity rationalize the sticky cost behavior through detecting and deter the management opportunistic behavior and enhance the internal control system efficiency.

The researchers also concluded that the audit committees have a vital role in increasing the independence of the internal auditor and thus limiting the sticky cost behavior by playing a vital role in ensuring the quality of financial reports and increasing confidence in the published information, as well as playing an effective role in reducing fraud, manipulation and illegal financial practices as a result of their establishment by following up and supervising the internal audit processes, and resisting management interference in the audit process. It also works to improve the quality of performance of the internal control system and to verify the adequacy of this system and its effective implementation. Based on the aforementioned the researchers suggested that independence and objectivity of IA may help to rationalize cost stickiness through detecting and deter management bias or opportunism and activate stronger internal control. Thus the researchers test the following hypotheses:

H_2: There is no significant impact of internal auditing organizational independence on rationalizing the sticky cost behavior.

H_3: There is no significant impact of internal audit individual objectivity on rationalizing the sticky cost behavior.

3.4.3 Due Professional Care by Internal Auditors

Internal auditors are expected to perform their work with a degree of care and skill, as would be expected of a reasonably prudent and competent internal auditor (IIA, 2017, p. 6)

When performing audits, the responsibilities of the internal auditor to detect manipulation include that:

A. The internal auditor has sufficient knowledge of the expected manipulations so that the internal auditor can identify the indicators that may point to the commission of a specific manipulation, and this knowledge includes the characteristics, methods, and types of manipulation,
B. The internal auditor be alert to the opportunities that may allow the commission of manipulation such as weaknesses in the control systems,

C. Informing the Director of the Internal Audit Department of any potential cases of manipulation supported by evidence supporting this possibility.

Upon completion of the review process, the internal auditors must evaluate all facts that were established in order to:

A. Determine whether the control procedures must be strengthened to reduce the chances of future manipulation,
B. Design audit tests to help detect the presence of similar manipulating in the future,
C. Helping to develop the capabilities and skills of the internal auditor in being familiar with all future manipulations.

From the above, the researchers concluded that the more internal auditors apply the expected level of care and skill, the greater the monitoring ability of the IA, and the more able it will be to detect and deter management bias or opportunism. Further, the internal auditor's commitment to due professional care, help IA to maintain effective controls by evaluating their effectiveness and efficiency and promoting continuous improvement, thus the researchers concluded that due professional care by IA can rationalize the sticky cost behavior through activating stronger internal control and through deterring and detecting opportunistic behavior of managers. Thus, the researchers test the following hypothesis:

H_4: There is no significant impact of due professional care by internal auditing on rationalizing the sticky cost behavior.

3.4.4 Internal Audit Quality Control Assurance Level:

The ISPPIA requires CAEs to implement and maintain quality assurance and improvement programs (QAIP) to evaluate IAF's conformance with the definition of internal auditing and the ISPPIA and to check compliance with the code of ethics. Both internal and external assessments must be done. Internal assessments involve periodic self-assessments by persons in the organization to contribute to the ongoing monitoring of the IAF's performance (IIA 2017, p. 8). External assessments must be conducted at least once every five years by a qualified, independent external team; these contribute significantly to the quality of work done by internal audit (IIA 2017, p. 8). The results of these assessments must be communicated to senior management and the municipal council. In cases where the results of internal and external assessments suggest that internal audit meets all quality assurance criteria, internal audit can state this fact in reports with the phrase “Conforms with the International Standards for the Professional Practice of Internal Auditing” (IIA 2017, p. 9).

Prior empirical studies provide evidence of a positive relationship between the use of quality assurance techniques and financial reporting quality. Using 214 companies in the GAIN database, Lin *et al*., (2011, p. 288) suggest that the extent to which the IAF incorporates quality assurance techniques into fieldwork helps prevent material deficiencies from occurring.

In a related vein, Sarens *et al*., (2012) found that the existence of the quality assurance and improvement program in place is positively associated with the IAF’s role in corporate governance. In Malaysia, Johl *et al*., (2013) reported that the use of quality assurance techniques reduces opportunistic earnings management and enhances internal control efficiency. Oussii and Taktak, (2018) revealed that internal control quality is significantly and positively associated with IA quality control assurance level. So, the researchers concluded that the use of quality assurance techniques can rationalize the sticky cost behavior stickiness through detect and deter management bias or opportunism and activate stronger internal control. Thus, the researchers test the following hypothesis:

H_5: There is no significant impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

From the above the researchers can propose the following study model

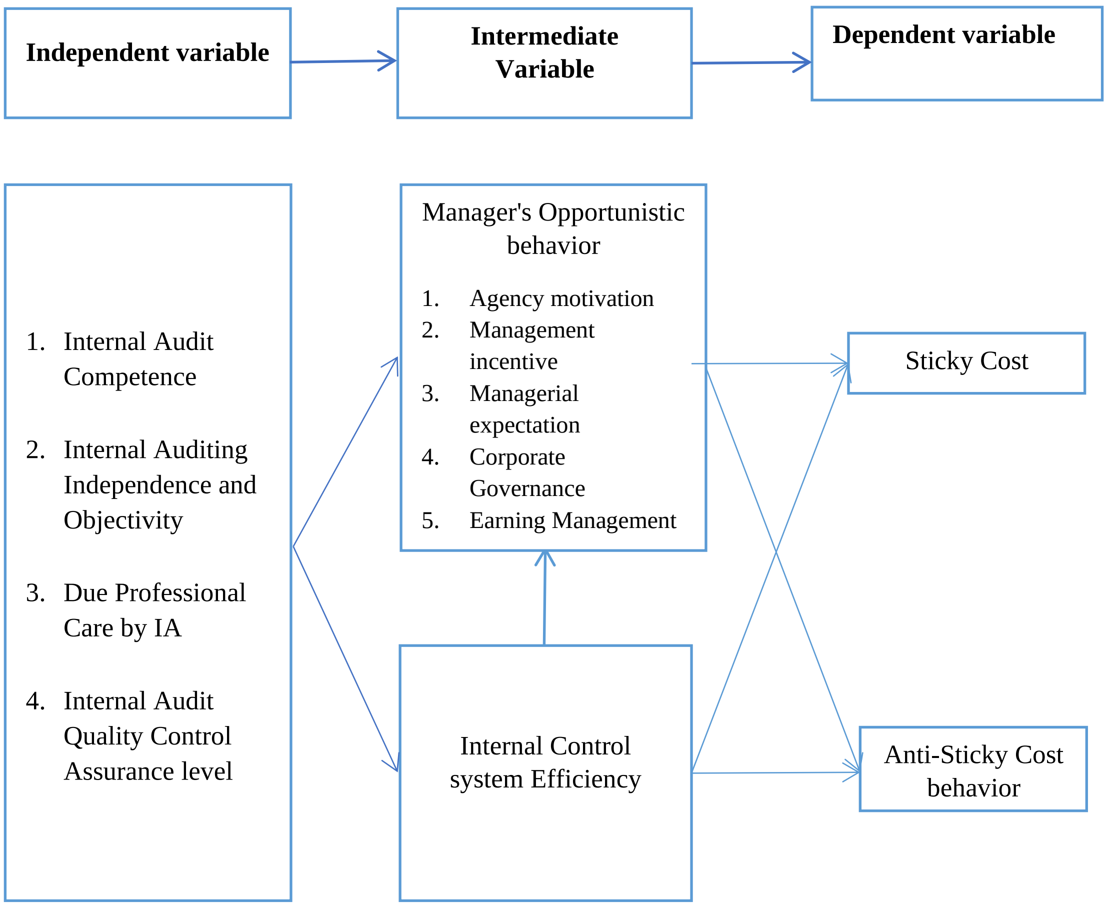

Figure (1): The Proposed Study Model

By: the researchers

It is cleared from the proposed study model that managers' opportunistic behavior is the main cause of the occurrence of stickiness costs. The prior studies indicated that internal audit governance elements have a vital role in detecting and deterring management bias or opportunistics and activating stronger internal control. So, the researchers proposed that the internal audit governance can help to rationalize cost stickiness.

4. The Field Study.

The current study attempted to investigate the impact of internal auditing governance on sticky cost behavior in the Egyptian environment. To achieve this objective, a self-administrated questionnaire as developed to collect the data of research.

4.1 The Research Population and Sample

The research population is represented in two groups. The first group is internal auditors, members of the board of directors (BOD), audit committee, and cost accountants (the researchers called it internal auditor's sample). The second group is members of teaching staff and academics in Egyptian universities (the researchers called it internal auditor's sample universities' samples).

The number of forms received from the first sample reached 75, 3 forms were excluded due to the respondents' selection of the same selection in all paragraphs of the questionnaire. Therefore, the number of valid and usable forms for analysis reached 72 forms for the first sample. While the number of the forms received from the second sample reached 103, only one form was excluded due to the respondent’s selection of the same selection in all paragraphs of the questionnaire. Therefore, the number of valid and usable forms for analysis reached 102 forms for the second sample. The following table demonstrates samples categories, number of received, valid, and usable questionnaires, and percentage of each sample category.

Table (1)

Samples Categories

Samples Categories	Received forms		Excluded Forms	Valid and usable forms	
	Frequency	%		Frequency	%
First Sample (Internal auditors)	75	42.1	3	72	40.4
Second Sample (Universities)	103	57.8	1	102	57.3
Total	178	100	4	174	97.7

Table (1) related to sample categories shows that 102 of the respondents from universities representing 57.3% of the total responses, the reason may be the interest of academics in scientific research. Follow them 72 of the respondents from internal auditors representing 40.4%.

4.2 Normality Distribution Test

Normality distribution tests are used to determine whether a data set is normally distributed, or not. Based on the results of that test, the type of statistical methods used is determined. If data are normally distributed, parametric tests will be used for statistical analysis, if data aren't normally distributed, nonparametric tests will be used for statistical analysis. In this study, data are tested for normality by using Kolmogorov-Smirnov (K-S) test.

Table (2) shows the results of the Kolmogorov-Smirnov test, if significance is more than 0.05, data are normally distributed, if significance is less than 0.05, data aren't normally distributed.

Table (2)
Kolmogorov-Smirnov (K-S) test

Tests of Normality					
	group	Kolmogorov-Smirnov [a]		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
AV_X1	1	0.237	0.000	0.799	0.000
	2	0.169	0.000	0.883	0.000
AV_X2	1	0.345	0.000	0.725	0.000
	2	0.437	0.000	0.604	0.000
AV_X3	1	0.314	0.000	0.711	0.000
	2	0.344	0.000	0.708	0.000
AV_X4	1	0.275	0.000	0.761	0.000

Tests of Normality					
	group	Kolmogorov-Smirnov[a]		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
	2	0.369	0.000	0.696	0.000
AV-X5	1	0.291	0.000	0.752	0.000
	2	0.267	0.000	0.777	0.000

Table (2) indicates that the significance for all variables is less than 0.05; as a result, data don't follow a normal distribution and the null hypothesis was rejected. Therefore, the study relied on nonparametric tests in the statistical analysis.

4.3Statistical Analysis and Testing Hypothesis

4.3.1 Testing the impact of the internal audit competence on rationalizing the sticky cost behavior (X1).

1. Mann-Whitney Test

Table (3) shows the results of the Mann-Whitney test which indicates whether there is a sign between the responses of the respondents of the two samples (internal auditors and universities) about the impact of the internal audit competence on the sticky cost behavior.

Table (3)
Mann-Whitney test results for the impact of the internal audit competence on rationalizing the sticky cost behavior.

Test Statistics	
	AV_X1
Mann-Whitney U	2993.500
Wilcoxon W	5621.500
Z	-.462
Asymp. Sig. (2-tailed)	.114

The result in Table (3) does not reveal any significant differences among different respondent groups at a significant level (α = 0.05). Therefore, the study could accept the null hypothesis which says, there are no significant differences among different respondent groups. Therefore, the two samples can be considered one sample, and subsequent tests can be performed on the two samples as a whole.

2. Chi-Square Test

Table (4) shows the results of the Chi-Square test for the impact of internal audit competence on rationalizing the sticky cost behavior to determine there is a significant difference between observed and expected frequency for all invested variables.

Table (4)
Chi-Square test results for the impact of internal audit competence on rationalizing the sticky cost behavior.

Test Statistics		
X1	Chi-Square	Asymp. Sig.
Availability of competence in internal auditors increases the ability of the internal auditor to detect opportunistic behavior of managers	155.414	0.000
Availability of competence in internal auditors enhances the internal control system efficiency	116.931	0.000

According to the results in Table (4) the significance of all variables (Sig) of the impact of internal audit competence on rationalizing the sticky cost behavior is less than (α = 0.05) which means that there are significant differences between observed frequencies and expected ones. Therefore, the null hypothesis should be rejected and accept the alternative one, which says there is a significant impact of internal audit competence on rationalizing the sticky cost behavior.

4.3.2 Testing the impact of the internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior (X2).

1. Mann-Whitney Test

Table (5) shows the results of the Mann-Whitney test which indicates whether there is a sign between the responses of the respondents of the two samples (internal auditors and universities) about the impact of the internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior.

Table (5)

Mann-Whitney test results for the impact of internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior.

Test Statistics	
	AV_X2
Mann-Whitney U	3280.500
Wilcoxon W	5908.500
Z	-1.329
Asymp. Sig. (2-tailed)	.184

The result in Table (5) does not reveal any significant differences among different respondent groups at a significant level ($\alpha = 0.05$). Therefore, the study could accept the null hypothesis which says, there are no significant differences among different respondent groups. Therefore, the two samples can be considered one sample, and subsequent tests can be performed on the two samples as a whole.

2. Chi-Square Test

Table (6) shows the results of the Chi-Square test for the impact of internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior to determine there is a significant difference between observed and expected frequency for all invested variables.

Table (6)

Chi-Square test results for the impact of internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior.

Test Statistics		
X2	Chi-Square	Asymp. Sig
The independence of the internal auditor increases the ability of the internal auditor to disclose the opportunistic behavior of managers.	44.506	.000
The independence of the internal auditor enhances the efficiency of the internal control system.	136.276	.000
The objectivity of the internal auditor increases the ability of the internal auditor to disclose the opportunistic behavior of managers.	116.931	.000
The objectivity of the internal auditor enhances the efficiency of the internal control system.	149.276	.000

According to the results in Table (6) the significance of all variables (Sig) of the impact of internal audit organizational independence and individual objectivity on rationalizing the sticky cost behavior is less than ($\alpha = 0.05$) which means that there are significant differences between observed frequencies and expected ones. Therefore, the null hypotheses should be rejected and accept the alternative one, which says there is a significant impact of the internal audit organizational independence on rationalizing the sticky cost behavior and there is a significant impact of the internal audit individual objectivity on rationalizing the sticky cost behavior.

4.3.3 Testing the impact of due professional care by internal audit on rationalizing the sticky cost behavior (X3).

1. Mann-Whitney Test

Table (7) shows the results of the Mann-Whitney test which indicates whether there is a sign between the responses of the respondents of the two samples (internal auditors and universities) about the impact of due professional care by internal auditors on rationalizing the sticky cost behavior.

Table (7)

Mann-Whitney test results for the impact of due professional care by internal auditors on rationalizing the sticky cost behavior.

Test Statistics

	AV_X3
Mann-Whitney U	2971.500
Wilcoxon W	5599.500
Z	-1.357
Asymp. Sig. (2-tailed)	.118

The result in Table (7) does not reveal any significant differences among different respondent groups at a significant level ($\alpha = 0.05$). Therefore, the study could accept the null hypothesis which says, there are no significant differences among different respondent groups. Therefore, the two samples can be considered one sample, and subsequent tests can be performed on the two samples as a whole.

2. Chi-Square Test

Table (8) shows the results of the Chi-Square test for the impact of due professional care by internal auditors on rationalizing the sticky cost behavior to determine there is a significant difference between observed and expected frequency for all invested variables.

Table (8)
Chi-Square test results for the impact of due professional care by internal auditors on rationalizing the sticky cost behavior.

Test Statistics		
X3	Chi-Square	Asymp. Sig.
Due professional care by internal auditors increases the ability of the internal auditor to detect opportunistic behavior of managers.	114.655	0.000
Due professional care by internal auditor improves the ability of the internal auditor to report to the audit committee any opportunistic behavior of managers and to provide warning indicators about the existence of earning management practices.	120.448	0.000
Due professional care by internal auditor increases the efficiency of the internal control system.	20.690	0.000

According to the results in Table (8) the significance of all variables (Sig) of the impact of due professional care by internal auditors on rationalizing the sticky cost behavior is less than ($\alpha = 0.05$) which means that there are significant differences between observed frequencies and expected ones. Therefore, the null hypotheses should be rejected and accept the alternative one, which says there is a significant impact of due professional care by internal auditors on rationalizing the sticky cost behavior.

4.3.4 Testing the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior (X4).

1. Mann-Whitney Test

Table (9) shows the results of the Mann-Whitney test which indicates whether there is a sign between the responses of the respondents of the two samples (internal auditors and universities) about the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

Table (9)
Mann-Whitney test results for the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

Test Statistics

	AV_X4
Mann-Whitney U	3531.000
Wilcoxon W	8784.000
Z	-.459
Asymp. Sig. (2-tailed)	.646

The result in Table (9) does not reveal any significant differences among different respondent groups at a significant level ($\alpha = 0.05$). Therefore, the study could accept the null hypothesis which says, there are no significant differences among different respondent groups. Therefore, the two samples can be considered one sample, and subsequent tests can be performed on the two samples as a whole.

3. Chi-Square Test

Table (10) shows the results of the Chi-Square test for the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior to determine there is a significant difference between observed and expected frequency for all invested variables.

Table (10)

Chi-Square test results for the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

	Test Statistics	
X4	Chi-Square	Asymp. Sig.
Internal audit quality control assurance level increases the ability of the internal auditor to detect opportunistic behavior of managers.	93.414	0.000
Internal audit quality control assurance level improves the ability of the internal auditor to report to the audit committee any opportunistic behavior of managers and to provide warning indicators about the existence of earning management practices.	86.517	0.000
Internal audit quality control assurance level enhances the efficiency of the internal control system.	87.138	0.000

According to the results in Table (10) the significance of all variables (Sig) of the impact of internal audit quality control assurance level on rationalizing the sticky cost behavior is less than ($\alpha = 0.05$) which means that there are significant differences between observed frequencies and expected ones. Therefore, the null hypotheses should be rejected and accept the alternative one, which says there is a significant impact of internal audit quality control assurance level on rationalizing the sticky cost behavior.

4.3.5 Testing the impact of the internal control system on rationalizing the sticky cost behavior (X5).

1. Mann-Whitney Test

Table (11) shows the results of the Mann-Whitney test which indicates whether there is a sign between the responses of the respondents of the two samples (internal auditors and universities) about the impact of the internal control system on rationalizing the sticky cost behavior.

Table (11)
Mann-Whitney test results for the impact of the internal control system on rationalizing the sticky cost behavior.

Test Statistics

	AV_X5
Mann-Whitney U	3498.000
Wilcoxon W	6126.000
Z	-.555
Asymp. Sig. (2-tailed)	.579

The result in Table (11) does not reveal any significant differences among different respondent groups at a significant level ($\alpha = 0.05$). Therefore, the study could accept the null hypothesis which says, there are no significant differences among different respondent groups. Therefore, the two samples can be considered one sample, and subsequent tests can be performed on the two samples as a whole.

2. Chi-Square Test

Table (12) shows the results of the Chi-Square test for the impact of the internal control system on rationalizing the sticky cost behavior to determine there is a significant difference between observed and expected frequency for all invested variables.

Table (12)
Chi-Square test results for the impact of the internal control system on rationalizing the sticky cost behavior.

Test Statistics		
X5	Chi-Square	Asymp. Sig
Raising the level of the internal control system efficiency improves the ability of the internal auditor to detect the opportunistic behavior of managers.	87.621	0.000
Raising the level of the internal control system efficiency improves the ability of the internal auditor to	85.379	0.000

Test Statistics		
X5	Chi-Square	Asymp. Sig
report to the audit committee any opportunistic behavior of managers and to provide warning indicators about the existence of earning management practices.		
Detecting the opportunistic behavior of managers helps to rationalize the sticky cost behavior.	125.793	0.000
Detecting the opportunistic behavior of managers helps to rationalize anti-sticky cost behavior.	112.966	0.000
Reporting opportunistic behavior of managers helps to rationalize sticky cost behavior.	132.517	0.000
Reporting opportunistic behavior of managers helps to rationalize anti-sticky cost behavior.	143.483	0.000

According to the results in Table (12) the significance of all variables (Sig) of the impact of the internal control system on rationalizing the sticky cost behavior is less than ($\alpha = 0.05$) which means that there is a significant difference between observed frequencies and expected ones.

4.4Comments on the main results:

The main results show that:

1. There is a significant impact of internal audit competence on rationalizing the sticky cost behavior.
2. There is a significant impact of the internal audit organizational independence on rationalizing the sticky cost behavior and there is a significant impact of the internal audit individual objectivity on rationalizing the sticky cost behavior.
3. There is a significant impact of due professional care by internal auditors on rationalizing the sticky cost behavior.
4. There is a significant impact of internal audit quality control assurance level on rationalizing sticky cost behavior.

5 The research's conclusions, recommendations, and Suggestions for future research

This research aims to examine the impact of the proposed framework for internal audit governance with particular reference to (internal audit competence, internal audit organizational independence, internal audit individual objectivity, due professional care by internal auditors, and internal audit quality control assurance level) on rationalizing the sticky cost behavior. Relying on the deductive approach in the research, the study reached, in its theoretical aspect, through revewing and analyzing of previous studies related to the subject of the research, to a set of theoretical results summarized in the following points:

1. The sticky cost framework represents a different way of thinking about cost behavior in relation to the volume of activity. It gives concern to the managers' decisions that affect the level of costs.
2. The sticky cost behavior is driven by many determinants and factors; the main driver for it is managerial opportunistic behavior.
3. The implication of the asymmetric behavior of the cost cannot be determined, as this behavior cannot always be considered a negative indicator, nor cannot always be considered a positive indicator, where the asymmetric behavior of the cost may reflect the high efficiency of the management in managing the firm's operations and acheive firm objectives, this behavior may also reflect the aggravation of the agency problem and management's desire to achieve their objectives instead of the firm's objectives.
4. The asymmetric cost behavior can have negative effects on the value of the company, especially in the long run, in two cases: when this behavior appears as a result of opportunistic decisions by management, and when this behavior is not taken into account when estimating cost functions.

While for the role of internal audit governance on rationalizing the sticky cost behavior, using a sample of 174 usable questionnaires were collected from a number of internal auditors, members of board of director (BOD), audit committee members, cost accountants in the Egyptian listed firm, and members of teaching staff and academics in Egyptian universities. The statistical techniques used to test the hypotheses of this research are Mann-Whitney and Chi-Square test. The researchs revealed that:

1. Internal audit competence has significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.
2. Internal audit organizational independence has significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.
3. Internal audit individual objectivity has significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.
4. Due professional care by internal auditors has significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.
5. Internal audit quality control assurance level has significant positive impact on rationalizing the sticky cost behavior in the Egyptian environment.

Based on the findings and conclusion reached, it is recommended that:

1. The need to provide expertise and specific skills required in the people who perform the internal audit profession and the need to provide professional and application of a range of scientific and technical methods that are difficult to be absorbed and applied without the availability of this qualification, to increases the ability of the internal auditor to detect opportunistic behavior of managers and enhance the internal control system efficiency
2. The need to provide financial and administrative independence required for the internal auditor so he can perform his duties without any pressure in any form increases the ability of the internal auditor to disclose the opportunistic behavior of managers and enhance the internal control system efficiency.
3. Give the internal audit an appropriate regulatory position and not be tied financially and administratively lonely being audited granted independence and increase their effectiveness.
4. The IA has assumed a more central position and as such, internal auditors should at all times exercise their duties with professionalism, objectivity, and fair play.
5. The internal auditor is required to do the necessary professional care by developing work procedures that allow him to detect opportunistic behavior of managers and enhances the internal control system efficiency.

Finally, future researchers should investigate the prevalence of sticky cost behavior and its implications under the COVID-19 crisis to understand and predict managers' behavior in similar future global pandemics particularly managers' decisions concerning dismissing employees which affects the unemployment rate.

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