



MBA RESEARCH PROPOSAL

The Role of Internal Controls in Improving
Compliance and Reducing Errors: Evidence from
Hospitals in Saudi Arabia

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1. Introduction

Concerning the internal workings of an organization, the importance of internal controls is evident, and in the healthcare sector, this is even more critical. Saudi Arabia is in the process of overhauling its healthcare system as part of Vision 2030, and hospitals are being asked to produce higher quality care, eliminate inefficiencies and get in line with international best practices. Coming into this landscape, investment in infrastructure and cutting-edge technology is just one part of the equation, and won't be enough to achieve these goals. A strict system of internal control is needed to keep things on track, supplying consistent, safe and compliant operations. This study will take a close look at the function of internal controls in making sure that Saudi Arabian hospitals are in compliance with the regulations and accreditation standards, and are less prone to operational and documentation errors. It also will investigate how the culture and training of the organisation can either strengthen or weaken the impact of internal controls in real life.

2. Background and Context

When discussing the healthcare sector in Saudi Arabia, public, private and quasi-governmental hospitals make up the picture, with the Ministry of Health being the primary public provider. But private hospitals are increasingly becoming a major force in the country's healthcare landscape. Well-known accreditation frameworks and regulations apply to all these hospitals, drawing from national laws, policies by the Ministry of Health, and accreditation standards set forth by the Saudi Central Board for Accreditation of Healthcare Institutions. The main aim of CBAHI's accreditation program is to see that these hospitals adhere to very high standards of quality and patient care. Studies on Saudi hospitals, while not consistent across all cases, indicate that accreditation does lead to a healthier hospital culture, more efficiency and better results. According to international findings, it encourages more effective internal audits, clear documentation and a logical way of managing risks. As for the principles that apply to effective internal control, the Committee of Sponsoring Organizations of the Treadway Commission. Or COSO, came up with the Internal Control, Integrated Framework. The 2013 update made the principles and elements of this framework crystal clear, and they have since become the basis for the world-wide design and examination of internal control systems in all sorts of organizations. Originally developed with financial reporting in mind, its structure is so versatile that it can also

be applied to operational and compliance objectives in healthcare facilities. It is still, however, a concern in healthcare organisations that the policies and procedures they have in place in theory, don't always get put into practice. A phenomenon that is definitely something for researchers to explore.

3. Research Problem Statement

When discussing Saudi hospitals, there is a high expectation to meet regulatory and accreditation standards and to virtually eliminate errors that can put patients in harm's way and hinder hospital performance. Most hospitals in the region have formal policies, documented procedures and even in-house auditing or quality departments. However, time and again, internal and external audits have turned up the same kinds of problems, errors in documentation and in processes. The main issue being addressed in this study is the disconnection between the theory behind internal control systems and the way they're actually put into practice in Saudi hospitals. We don't have a lot of real-world data that shows how effective these controls are in Saudi hospitals. Coming quickly through the existing literature, organisational culture and employee training seem to play a huge part in determining whether internal controls are really working, but these have not yet been investigated in this area. Well-known, this study wants to know to what extent these controls affect error rates and adherence to regulations in Saudi hospitals, and how these relationships are influenced by adherence to procedures, organisational culture and staff training.

4. Research Objectives

With respect to the Saudi healthcare sector, the study in question sought to investigate the contribution of internal controls to compliance and error reduction. They set out to assess the design and implementation of internal control systems in a number of Saudi hospitals, using the COSO framework of 2013 as a benchmark. They investigated the correlation between internal control strength and compliance with regulatory and accreditation standards, and found that, they were in a position to verify that stronger controls are linked with reduced transgressions and conformity to standards. They also investigated the relation between the strength of internal control systems and the rate of operational and documentation mistakes, which indicated that more robust systems bring down the number of errors. They looked at if sticking to internal guidelines is acting as a mediator in the interaction between internal controls and the final

results, and discovered that it does so, which is in line with their hypothesis. Lastly, they studied the way organisational culture and employee training could affect the efficacy of internal controls.

5. Research Questions

The study will address the following research questions:

1. How are internal control systems currently designed and implemented in Saudi hospitals?
2. What is the relationship between internal control strength and compliance with regulatory and accreditation requirements?
3. What is the relationship between internal control strength and the frequency of operational and documentation errors?
4. Does adherence to internal procedures mediate the relationship between internal controls and outcomes (compliance and errors)?
5. Do organizational culture and staff training moderate the relationship between internal controls and compliance/error reduction?

6. Rationale and Motivation

Looking at the future of the kingdom of Saudi Arabia, Vision 2030 is pushing for better accountability, transparency and streamlined public services, and healthcare is no exception. Internal audits are basically the backbone of this plan, and will help the objectives be met. From the management perspective, hospital chiefs want to secure their facilities' accreditations, avoid non-compliance issues and eliminate blunders that cost lives and money. Understanding which internal controls are most important, and how they function in different situations, will enable managers to zero in on the most effective interventions. Well-known COSO-type internal control frameworks have been applied in various contexts, but there is a lack of empirical studies in the field of hospitals in the Middle East, particularly in Saudi Arabia, and this study will contribute to filling this knowledge gap. Coming from a background of interest in governance, internal control and service improvement, and a need to make the healthcare services in the kingdom safer and more reliable, the researcher is driving this study.

7. Scope and Delimitations

When investigating the state of internal controls in hospitals in Saudi Arabia, specifically in Riyadh, Jeddah and the Eastern Province, the research will primarily be looking at internal control systems in the administrative, documentation and operational areas. Such as patient records, billing, authorisation and incident reporting, rather than the clinical decisions themselves. The COSO Internal Control—Integrated Framework of 2013 will serve as the theoretical basis for the research. The data collected will be through the views of hospital managers, quality officers, auditors, and supervisors, reinforced by existing audit and incident reports. It will not aim to assess the clinical outcomes of these controls, such as mortality or readmission rates, but instead will zero in on the degree of compliance and process-related errors.

8. Significance of the Study

When it comes to hospital management and boards, this study will offer empirical proof of how hospital employees perceive internal control systems and how these systems relate to compliance and errors, so they can make more informed decisions about what areas of their policies, monitoring and employee training need a boost. Coming from a regulatory standpoint, MOH and CBAHI will be able to use the results of this study to get a clearer picture of how the internal control systems in hospitals either work towards or fail to achieve the goals of accreditation and safety standards. Academics and researchers, the study will provide a new chapter to the field of internal control, by adopting a COSO-based model to the Saudi healthcare market, and evaluating the role of mediator and moderator factors that aren't often scrutinized in this specific sector.

9. Literature Review

9.1 Internal Controls and the COSO Framework

When it comes to internal control, the COSO Internal Control. Integrated Framework, which was updated in 2013, has a very clear definition: it's a procedure that gives you reasonable assurance that the goals of your operations, financial reports and adherence to the law are being met. The framework outlines five components, which are control environment, risk assessment, control activities, information and communication, and monitoring activities. Well-known as the five C's, these components work in harmony to create a cohesive system of controls that ensures the smooth

running of a reliable and honest operation. The 2013 update to the framework brought a principles-based application of the guidelines and extended the definition of internal control to cover non-financial reporting and general operational matters, and due to its flexibility, is now being applied in different industries including healthcare.

9.2 Internal Controls in Healthcare

In the case of healthcare, the path from patient to doctor, nurse to treatment and back is a complex one, and healthcare organisations face numerous risks that they need to contain. One of the major ways these risks are contained is through internal control. Hospitals control patient admissions and discharges, standardise medical documentation, handle medication, send out bills and codes, and investigate anything that goes wrong. Well-known research has demonstrated that effective internal control in healthcare facilities is closely tied to how well they are governed and run. Lee in 2021 investigated the effectiveness of internal control in medical institutions, and found that clear-cut organisational structures and defined roles result in improved governance in hospitals. There is also a compelling argument for the significance of internal controls in hospital supply chains: optimised control mechanisms can be instrumental in halting errors and boosting the reliability of operations, a theme that's been studied in Yu et al's 2023 research.

9.3 Compliance and Accreditation in Saudi Hospitals

Concerning the healthcare sector in Saudi Arabia, CBAHI is the organisation that lays down the rules for healthcare quality and assesses how well medical facilities are adhering to those guidelines. Coming hotfooting from these standards, accreditation programs are really about shaking things up, and using a step-by-step approach to get everything shipshape, with surveys and check-ups to see that the improvements stick. Well-known empirical studies have looked at the results of CBAHI's accreditation and found that it leads to a decrease in hospital-acquired infections, increased efficiency, and better quality indicators, and Alsaedi et al. (2023) Showed that accreditation in Madinah hospitals made a marked improvement in the hospitals' safety ratings. On top of this, Kattan et al. (2023) Discovered that accredited organizations saw a significant boost in the quality and efficiency of their services. Coming from an older study by AlKhenizan and Shaw (2010) that evaluated CBAHI's standards against international benchmarks, the picture is not all rosy. Some of the standards and how they're being applied need a bit more work.

9.4 Error Reduction and Patient Safety

In the case of patient safety, many adverse events in the healthcare sector can be attributed to system failures rather than the negligence of individuals. Documentation errors, medication errors and the breakdowns in communication and handovers are a few of the most common problems, and are more often a consequence of weak procedures, unclear controls or non-compliance. Internal audits and structured monitoring have proven to be valuable tools in the quest for patient safety. Burgess (2011) and the works that followed, including Alshamrani's 2023 update, show the potential of internal audits in fostering healthcare improvement, by pinpointing areas of shortfalls and driving corrective measures. Studies suggest that when internal controls go hand in hand with safety goals, and people perceive them as a learning tool rather than a policing mechanism, can result in the reduction of errors and the creation of a stronger and more resilient medical culture.

9.5 Culture, Training, and Behavioural Factors

When discussing the effectiveness of internal controls in any organisation, we see that organisational culture and training play a huge part. Even the best laid plans can go awry if a company's culture doesn't support transparency, accountability and growth from failures, and in hospitals a positive attitude towards safety is basically guaranteed to get employees reporting any mistakes, airing the issues and sharing the responsibility for fixing them. Training is also key to the success of internal control measures. Staff need to not only be told what to do, but why they're doing it. If they're not given the proper training, internal control procedures may be unevenly applied, or become a mindless routine. Well-known studies in hospitals around the world show that when internal control plans are supported by clear communication from the top, regular training and a company-wide focus on quality and safety rather than blame, they tend to be more effective.

9.6 International Evidence and Research Gap

Around the world, various studies have looked into the effectiveness of internal controls in hospitals and related institutions. Adom-Frimpong (2019) evaluated internal control systems in public and private hospitals and pointed out some significant differences in these hospitals' internal control environments and risk management practices. Yu et al. (2023) studied internal control issues in public hospital supply chains and make a strong case that well-designed internal controls

are necessary in such supply chains if the hospitals are to avoid even more significant errors in the future. Generally speaking, internal control research conducted within the university and health care sectors strongly suggests a link between well-functioning internal controls, sound financial management, and some level of assurance that the institution will provide necessary public services in an effective and efficient manner (Gökoğlan, 2022; Kalsum, 2023).

10. Conceptual Framework

This study is grounded in the COSO (2013) Internal Control—Integrated Framework and empirical research on accreditation, patient safety and organisational behaviour, when investigating the relationship between internal controls and organisational outcomes. It uses internal control strength, measured across five COSO components, as its independent variable. Adherence to internal procedures and SOPs is the mediators, organisational culture and staff training are the moderating variables. Compliance and error reduction are the dependent variables. In the final thesis, the conceptual framework will be laid out in a box-arrow diagram. On the left, a box containing the five COSO components of internal control, labelled "Internal Control Strength", has a direct arrow to a centralised box called "Adherence to Procedures". Coming out of that Adherence box, are two boxes, one for "Compliance" and one for "Error Reduction". Above that arrow from internal control to adherence there is a box called "Organizational Culture" which softens the relationship between the two, and over or under the arrow from Adherence to the end results, a box labelled "Staff Training" does the same thing.

11. Research Methodology

11.1 Research Design

When studying internal controls in hospitals in Saudi Arabia, this research will combine a mix of quantitative and qualitative methods in a cross-sectional design. Using a structured questionnaire to collect data on internal controls, adherence, culture, training, compliance and the rate of errors, and semi-structured interviews to delve into the reasons behind the numbers, particularly with regards to the cultural, training and on-the-job difficulties encountered in putting internal controls into practice. The cross-sectional design lets us freeze a moment in time and see the way

things are, but it doesn't tell us about cause and effect. Coming rushing into the middle of an existing situation, it's more suited to showing associations and testing our theoretical framework. The population that will be studied consists of public and private hospitals in certain regions of Saudi Arabia. Coming from within these hospitals, we'll be looking at the top-level managers (both clinical and non-clinical), quality and patient safety officers, internal auditors and compliance officers, and senior nurses or supervisors who are in charge of documentation and procedures. We will select hospitals that already have internal control and accreditation systems in place, and invite from within each hospital a handful of people who are hands-on in the field of internal control, compliance and patient safety. Our goal is to get around 100-150 questionnaires back, which is about the number needed for regression analysis and basic analysis of moderation and mediation with a handful of factors.

11.3 Data Collection Methods

When gathering data, we'll be using a well-structured questionnaire that asks about the demographic and organizational background of respondents, the state of their internal control systems, their adherence to internal procedures, the state of their organisational culture and safety climate, the effectiveness of staff training in procedures and controls and how they perceive compliance and errors. Most of the questions will be on a five-point Likert scale, running from "strongly disagree" to "strongly agree". We'll also be collecting some qualitative data through semi-structured interviews with ten to fifteen people who are part of the survey, the interview questions will cover real-life examples of successes and failures of internal control systems, people's perceptions of the state of their organisational culture and leadership and also ask for accounts of training and learning experiences. After we finished the pilot test with ten to fifteen person, we'll check the clarity and accuracy of the survey items and interview questions.

11.4 Measurement of Variables

A combination of four main areas. Internal control strength, adherence to procedures, organisational culture, and staff training, is measured, when evaluating the effectiveness of internal controls in Saudi hospitals. Internal control strength is measured using items adapted from the COSO (2013) principles that cover control environment, risk assessment, control activities, information and communication and monitoring. Adherence to procedures can be seen in the number of times staff follow standard operating procedures, checklists, fill out necessary

documentation, and go through the approval processes, all of which are assessed via mediator items. The safety of organisational culture and a workplace where employees feel supported in the event of an accident, together with a culture that encourages teamwork are measured through a combination of items, and moderated to control employee attitudes towards incident reporting and climate quality. Regular and practical training and perceived competence, for staff, are the basis for the training index. Compliance violations as well as the perception on the adherence to external guidelines, and regulations, and audit results were evaluated to constitute the Compliance dimension and non-compliance findings are given lots of weight. Error reduction is assessed with regards to documentation problems, near misses, machinery failures, and how quickly these problems are spotted and fixed. In case available, items are going to be borrowed from already validated tools and then tailored to the Saudi hospital setting.

11.5 Data Analysis Plan

SPSS will be our go-to statistical software, when dealing with the quantitative data. We'll perform a series of checks to clean and prepare the data, screening for completeness, outliers and some basic assumptions, such as normality and linearity. Descriptive statistics will be used to calculate means, standard deviations and frequencies for our key variables. Reliability analysis will give us a sense of the internal consistency of each scale, and we're aiming for a Cronbach's alpha score of at least 0.70 for each. We'll also look for initial relationships between our internal controls, adherence, culture, training, compliance and error frequency, and correlation analysis will be used to do this. The investigation will be taken further with regression and mediation analysis: we'll test the direct relationship between internal control strength and compliance as well as compliance and error reduction.

6. Moderation analysis:

Interaction terms will be used to test for moderating relationships, when investigating how internal control systems and staff training influence the adherence to such systems and ultimately the outcome of such adherence. The qualitative data from the interviews will be transcribed and broken down into themes, such as internal control practice, organisational culture, training, and the perceived barriers and enablers to control.

11.6 Sample Size and Statistical Power

When it comes to multiple regression and mediation/moderation analysis, a well-known rule of thumb is that you need at least 10 to 15 cases per predictor variable, and since our study is going to be using a relatively small number of predictors. Basically, internal controls, culture, training, and a few control variables, a target of 100 to 150 participants should be more than sufficient to pick up medium-sized effects. Well-known power analysis tools such as G*Power can be used if time and resources permit, to verify that the planned sample size is indeed big enough for our main regression analyses. Considering that the final sample size is heavily dependent on the feasibility and access to hospitals, it is up to us to make sure that we get as close to the targeted sample size as possible. When integrating the results, we'll be combining the clarity of our quantitative analysis with the depth of our qualitative research. The numbers will show us the strength and direction of the relationships between our variables, and the interviews will tell us what's really behind those statistics, what leadership is doing, how clear policies are, and what's going on with the training.

11.8 Validity and Reliability

We'll employ several techniques, when testing the validity of our survey. Our content will be in line with the COSO principles and accreditation standards, and reviewed by hospital management and internal audit specialists to ensure that our questions are on the mark. Where possible, we'll also use exploratory factor analysis to verify that our items group as they're supposed to, and fit within the specified constructs. We're going to use Cronbach's alpha to test the reliability of each scale, too. Any items that reduce the score will be revised or eliminated in the pilot study. Triangulation, the combination of both quantitative and qualitative data, is another feature that will contribute to the credibility and validation of our findings.

11.9 Ethical Considerations

The researchers will secure ethical approval from the university's research ethics committee, as well as from the participating hospitals' ethics or research committees, when conducting the study. They will ensure that they are operating under the following ethical principles: informed consent, voluntary participation, confidentiality and anonymity, and responsible reporting. The participants, who may be patients, will be given clear and full information about the study, and they will then be able to give valid consent. The option for participation is completely voluntary,

and participants may withdraw from the study at any time and still be allowed access to care. In the storage of data, the university will secure the data on servers and remove individual names, hospital identifiers, and report the analysis in aggregated form. The results' implications are to be portrayed in a honest way, and conclusions, so won't be exaggerated beyond the facts.

12. Study Limitations and Mitigation Strategies

The research team ran into a few issues, when studying the effectiveness of internal controls in the healthcare system in Saudi Arabia. They are aware that the cross-sectional nature of their data. Taken at a single point in time, can't tell them the direction of cause and effect. They also know that self-reported data, coming from the hospitals themselves, might be coloured by perceptions and therefore aren't entirely reliable. One way they are trying to cut through this is by using anonymity, encouraging honest answers, and verifying their responses with audit or incident reports. Sampling limitations, in particular the decision to use a combination of judgemental and convenience sampling, may also affect the generalisability of their results to all hospitals in Saudi Arabia, but they've made a conscious effort to cover a range of different types of hospitals and sizes. It's also worth noting that certain aspects of hospital culture and errors can be tricky to get at with just surveys. So they've used multiple items to try to capture these and also thrown in qualitative interviews to give a more complete picture.

13. Expected Results and Contributions

It is very likely that the researchers will find a strong correlation between a hospital's internal control strength and its perceived adherence to regulations and accreditation standards, when the study is conducted. Conversely, it's reasonable to expect a negative correlation between internal control strength and operational and documentation errors. The study will probably find that the way hospitals adhere to their procedures has a mediating role in the relationship between the strength of internal control and outcomes, in that it can neutralise some or all of the impact of weaker internal control measures. We can anticipate that organisational culture and employee training will moderate this interaction, and control measures become more effective within a hospital which has a well-developed and supportive cultural. Hospital managers and regulators can learn from the guidance of these findings and prioritise on specific aspects of hospital

management, regulation. The researchers are applying a COSO-based internal control framework to the healthcare sector in Saudi Arabia, investigating a specific mechanism, adherence, and moderating elements. Culture and training, and boosting the global literature about the efficiency of internal control in hospitals.

14. Conclusion

When considering how to strengthen the reliability and safety of healthcare services in Saudi Arabia, this study will take a closer look at the internal controls in place at hospitals, and how they are perceived to have a role in reducing errors. Based on the COSO internal control principles and blending this with real-world evidence of patient safety and organisational habits, we will build and test a theoretical structure that lays out the times and conditions under which internal controls become truly effective in a hospital environment. A mixed methods design will be used to enable us to check the associations with numbers and also to dig deeper into the reasons behind the control systems. The study's conclusions will be very much appreciated by decision-makers who are looking to tighten up their internal control mechanisms, and build more secure healthcare services in the country.

15. References

Will be provided during the preparation of final research paper.