

## **AN EMPIRICAL EXAMINATION OF THE STATUS OF OPERATIONAL AUDITING AT COLLEGES AND UNIVERSITIES: CASE OF THE GCC COUNTRIES**

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### **Abstract**

*This study, the first of its kind, examines the status of operational auditing at colleges and universities. The first objective of the study is to ascertain whether the operational auditing recommendations are implemented, and if not, to ascertain the reasons. The second objective of the study is to examine the perceptions of both college and university administrators and the university internal auditors concerning the prerequisite credentials of internal auditors for conducting operational audit of colleges and universities. Last, the study attempts to prioritize the services provided by the internal auditors. To achieve the study's objectives, 92 administrators and 87 internal auditors serving 75 colleges and universities in the GCC countries were surveyed. The results of data analysis revealed that over 70 percent of those surveyed either partially implement or ignore operational auditing recommendations. The college and university administrators cited the "irrelevance" as the reason for lack of implementation of operational auditing recommendations. As for the areas of audit priority, results of ANOVA revealed that the college and university administrators and internal auditors agree on four out of eight audit areas.*

*Keywords: College and University Auditing, Operational Auditing, Internal Auditing Colleges and Universities, GCC countries*

## INTRODUCTION

Internal audit function (IAF) for colleges and universities in North America has been in existence for over half of century. In general, internal auditing typically provides three types of auditing: financial, compliance and operational as well as some non-auditing services such as risk assessment and the design of internal control system. As for the former, the main objective of financial auditing is to provide reasonable assurance that colleges and universities have followed applicable Generally Accepted Accounting Principles in recording and reporting financial information. In contrast, the main aim of the compliance auditing is to assess the degree of compliance of institutions of higher education with applicable laws, regulations, and polices. Last, the objective of operational auditing is to offer recommendations aimed at improving the efficiency and effectiveness of operation (Petrascu, 2010).

Over the past two decades, and in view of proliferating budgeting constraints, an increasing number of colleges and universities in the Middle East have followed the practice of utilizing operational auditing as a means to improve efficiency and effectiveness (Petrascu, 2010). The process of operational auditing starts with a systematic evaluation of administrative controls aimed at optimal use of resources and its end product is series of recommendations for improving the same. Thus, it can be argued that the first measure of success of operational auditing is the implementation of its recommendations.

What constitutes optimal use of resources for colleges and universities have long been subject of disagreement between the academic administrators (administrators) and college and university internal auditors (auditors). The underlying reason for the disagreement stems from the principle assumption that higher education is inherently different from typical for-profit entities, and accordingly, it does not lend itself to typical efficiency measures that are used by for-profit entities. To illustrate, the auditors may believe that an optimal utilization of faculty's time requires the adoption of a university-wide standardized students to faculty ratio – a view that is rejected by the administrators. The administrators' position is that the nature of the course should determine the optimal students to faculty ratio even if there was a need for additional resources rather than an arbitrary rule such as uniformity. In short, the administrators believe that auditors' view of efficiency has a "business" perspective with little to no consideration for the qualitative elements of higher education. The administrators argue auditors' "business" orientation results in operational auditing recommendations which are at odds with the missions and objectives of colleges and universities (Azad and Skekel, 1989).

## METHODOLOGY

The current study, the first of its kind, addressed the status of operational auditing at college and university. Specifically, the study provided empirical evidence regarding the college and university administrators' perceptions concerning the prerequisite knowledge of internal auditors to perform operational auditing. In addition, the study provided empirical evidence concerning the audit areas considered important to colleges and universities. Given the sensitive nature of the study, anonymous surveys were used to minimize the possibility of the respondents' reluctance to answer the survey and/or provide inaccurate responses (Otley and Pierce, 1996; McNamara and Liyanarachchi, 2008). The survey used a five-point Likert-type scale to collect data from samples of 198 administrators and 207 auditors from the sample of 75 colleges and universities were randomly selected from a list of all private and public colleges and universities in the GCC countries. To assess the normality of the data, the Skewness and Kurtosis tests were performed and the results indicate the Skewness and Kurtosis measures were close to zero compared to their standard of error. Thus, a normal distribution of the data could be assumed (Cramer 1998; Cramer & Howitt 2004; Doane & Seward 2011).

## ANALYSIS

As shown in Table 1, the study generated a total of usable response rate of over 44 percent (92 and 87 sets of responses from the college and university administrators and internal auditors, respectively).

Table 1. Usable response rate

Description	Frequency	Percent	Valid %	Cumulative %
Administrator	92	51.4	51.4	51.4
Valid Internal Auditor	87	48.6	48.6	100.0
Total	179	100.0	100.0	----

For the first objective of the study, the survey solicited information from the administrators as to whether the recommendations contained in the operational auditing report were implemented. The study also sought to ascertain the reasons, in the event that the recommendations were not implemented (please see Table 2 and 3). As shown in Table 2, only 25 percent of administrators fully implement the operational auditing recommendations; another 50 percents of the respondents implement the recommendations partially; and 18 percent do not implement the recommendations. When asked to identify the reasons for the lack of full-implementations of the recommendations, the most frequently cited reason (46 percent) was the absence of relevance

of the recommendations to the mission and objectives of the institutions due to internal auditors' lack of understanding of the attributes of higher education. Adverse impact on the quality of outcome, short-term orientation of the recommendations, and shortage of human resources were the other reasons given for partial or lack of implementation of recommendations

Table 2. Status of implementation of the recommendations of Operational Auditing

In your opinion, does your department implement the recommendations contained in Operational Audit Report?		
	No.	%
a. Yes, partially.	49	54
b. Yes, fully.	25	26
c. No.	18	20
Total	92	100%

Table 3. The Reasons for Lack of Full Implementation of Operational Auditing recommendations

In your opinion, what is the single most important reason for partial or lack of implementation of operational auditing recommendations?		
	No.	%
a. Irrelevance due to the ignorance of higher education unique attributes.	46	50
b. Adverse impact on the quality of output/function (e.g., education).	25	27
c. Short-term orientation of the recommendations.	10	11
d. Shortage of human resources (faculty and staff).	11	12
Total	92	100%

### Research Hypotheses Testing

Given the absence of relevance of the recommendations due to the auditors' perceived lack of understanding of the attributes of higher education, the study attempted to empirically determine the perceptions of administrators and the auditors concerning the appropriate prerequisite knowledge of the latter to perform operational auditing. For this purpose, a conceptual framework was developed. The conceptual framework identified the following five variables as the ones presumed to offer prerequisite knowledge of higher education for the conduct of operational auditing (please see Figure 1).

1. College degree with emphasis in higher education administration or related field,
2. College degree with emphasis in accounting or related field,
3. College degree with emphasis in both accounting and higher education administration or related field,
4. Prior work experience in higher education institutions, and
5. Completing a formal training program in auditing institutions of higher education.

To ascertain the perceptions of the administrators and auditors regarding the five variables presumed to offer prerequisite knowledge of higher education for the conduct of operational auditing at colleges and universities (second objective of the study), the conceptual framework was used to formulate five hypotheses. The study used one-way ANOVA to test the hypotheses and the results are shown in Table 4 and described below:

1. The administrators perceive that formal education in higher education administration to provide prerequisite knowledge base of higher education of environment.
2. The auditor perceives formal education in accounting to provide prerequisite knowledge base of higher education of environment.
3. The college and university administrators view the formal education in both accounting and higher education to provide prerequisite knowledge base of higher education of environment.
4. The college and university administrators perceive prior work experience in higher education institution to provide knowledge base of higher education of environment.
5. Finally, both college and university administrators and the university internal auditors perceive completing a formal training program in auditing to provide prerequisite knowledge base of higher education of environment.

In short, hypotheses 1 through 4 were rejected suggesting the presence of statistically significant difference between the perceptions of administrators and the auditors concerning the variables that would constitute prerequisite knowledge of higher education environment for the conduct of operational auditing. The result of analysis could not reject hypotheses 5 where the perceptions of both groups converge to form a common ground.

Figure 1: Conceptual Framework

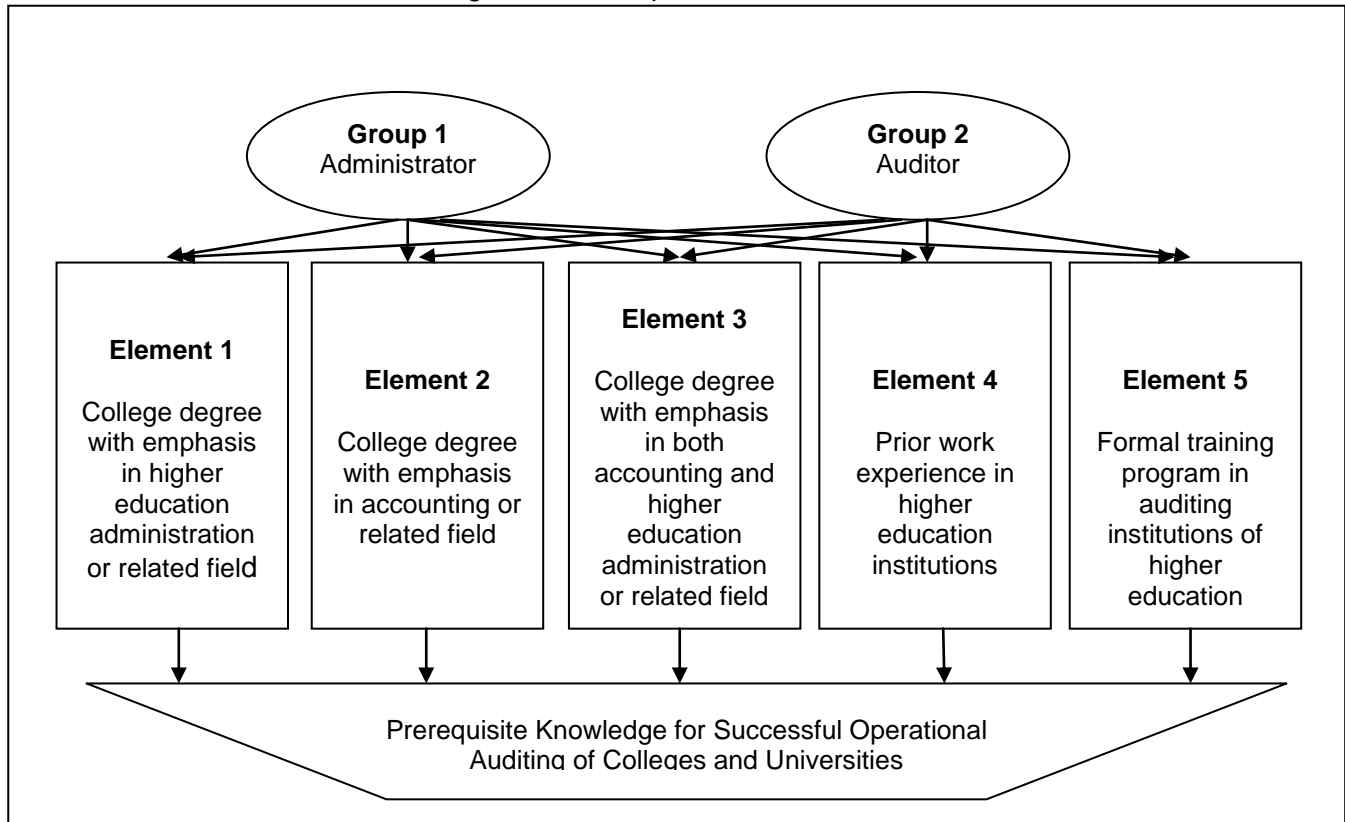


Table 4: One-Way Analysis of Variance (ANOVA)

Hypothesis		Sum of Squares	Df	Mean Square	F	p-value	Accept	Reject
H1	Between Groups	408.019	1	408.019	1254.033	.000		
	Within Groups	57.590	177	.325				✓
	Total	465.609	178					
H2	Between Groups	329.943	1	329.943	645.593	.000		
	Within Groups	90.459	177	.511				✓
	Total	420.402	178					
H3	Between Groups	125.216	1	125.216	192.115	.000		
	Within Groups	115.365	177	.652				✓
	Total	240.581	178					
H4	Between Groups	6.510	1	6.510	5.902	.016		
	Within Groups	195.222	177	1.103				✓
	Total	201.732	178					
H5	Between Groups	.255	1	.255	.375	.541		
	Within Groups	120.293	177	.680			✓	
	Total	120.547	178					

\* at the significance level of 5%.

## INTERNAL AUDIT PRIORITIES AT COLLEGES AND UNIVERSITIES

As noted earlier, the second objective of this study was to determine the audit priorities at colleges and universities from the perspectives of both administrators and the auditors. To that end, eight most common audit areas were selected and the respondents were asked to indicate their perceived priority for each item using a five point Likert-type scale. The results of data analyses are presented in Table 5 which shows low standard deviations for each set of response for both groups indicating a relatively high degree of consensus among the respondents. In addition, the study used a second set of hypotheses to ascertain statistically significant differences between the administrators and auditors concerning their perceived priority of eight common areas of auditing services performed by the auditors. As shown in Table 6, the results of one-way ANOVA indicate an absence of statistically significant differences between the two groups concerning the priority of items 1, 5, 6, and 7. As for the remaining four areas (items 2, 3, 4, and 8), statistically significant differences between the responses of the two groups were observed (see Table 6). The following section describes, and offer explanations, for the four audit areas where the perceptions of the audit priority significantly differed between the college and university administrators and the internal auditors.

Table 5. Internal Audit Priority at Colleges and Universities

In your professional opinion, what should be the audit priority at colleges and universities?				
Description	College and University Administrators*		College and University Internal Auditors*	
	Mean	Std. Deviation	Mean	Std. Deviation
	1. Providing compliance auditing (e.g., auditing the level of compliance with internal policies and procedures, external laws, regulations, and regulatory mandates).	3.739	0.863	3.782
2. Performing financial auditing (e.g., auditing of financial statements, accounting records, or elements of financial statements (e.g., cash).	3.576	0.880	2.287	0.761
3. Conducting operational auditing (e.g., auditing efficiency and effectiveness of operation).	2.902	1.080	3.172	0.879

4.	Carrying out system auditing (e.g., audit of e-systems).	2.641	0.846	3.207	0.823
5.	Providing consulting services.	2.880	1.025	2.563	0.985
6.	Detecting fraud and irregularities.	3.815	0.783	3.540	0.804
7.	Assessing risk (e.g., financial risk, operational risk and alike).	3.967	0.818	3.851	0.656
8.	Assisting other departments as need arises.	3.793	0.621	1.747	0.575
Total Observations		92		87	

Table 5...

\* Likert-type scale where 1 = Strongly Disagree and 5 = strongly agree

1. Performing financial auditing: Financial auditing is virtually always perceived as the most important function of independent (i.e., external) auditors. For internal auditors, however, this is not the case. That being said, it is speculated that non-internal audit professionals (in this case, college and university administrators) are not aware of the difference between the role and function of the two types of auditors – i.e., independent vs. internal auditors. This lack of familiarity, most likely, explains the difference between the perceived priorities between the two groups.

2. Conducting operational auditing: The significant difference between the perception of the administrators and the internal auditors on the issue of operational auditing is understandable as the former group is typically of the fundamental belief that internal auditors lack the requisite credentials (i.e., understanding of the attributes of higher education) to engage in operational auditing of college and universities. In contrast, internal auditors believe that they audit business aspects of the operation to improve efficiency and effectiveness (Azad and Skekel, 1989).

3. Providing consulting services: There was a statistically significant difference in the perceived priority of this item between the administrators and the auditors. This difference can be explained by the deeply held views of the former regarding the university internal auditors' lack of knowledge of intricacies of the higher education environment, and thus, dubious value of any consulting services they may offer.

4. Assisting other departments as need arises: The statistically significant difference between the perceptions of administrators and auditors most likely originates from the insufficient understanding of the former group concerning the requirement of organizational independence of internal auditors mandated by the International Standards of Internal Auditing (Standard). While the college and university administrators see an opportunity for internal auditors to assist



in the operational activities, this involvement might compromise the organizational independence and objectivity of internal auditors in current and future internal auditing assignments independence (Interpretation of section 1120 of International Standards for the Professional Practice of Internal Auditing, 2013).

Table 6. One-Way ANOVA of Internal Audit Priority

Audit Priority Areas		Sum of Squares	DF	Mean Square	F	p-value	Accept	Reject
Item 1. (Compliance Auditing)	Between Groups	.081	1	.08	.09	.75		
	Within Groups	148.59	177	.83			✓	
	Total	148.67	178					
Item 2. (Financial Auditing)	Between Groups	74.26	1	74.26	109.28	.00		
	Within Groups	120.28	177	.68				✓
	Total	194.54	178					
Item 3. (Operational Auditing)	Between Groups	3.26	1	3.26	3.35	.06		
	Within Groups	172.53	177	.97			✓	
	Total	175.90	178					
Item 4. (System Auditing)	Between Groups	14.30	1	14.30	20.51	.00		
	Within Groups	123.44	177	.69				✓
	Total	137.74	178					
Item 5. (Consulting Services)	Between Groups	4.50	1	4.50	4.44	.03		
	Within Groups	179.08	177	1.01				✓
	Total	183.58	178					
Item 6. (Detecting Fraud & Irregularities)	Between Groups	3.38	1	3.38	5.36	.20		
	Within Groups	111.46	177	.63			✓	
	Total	114.84	178					
Item 7. (Assessing Risk)	Between Groups	.61	1	.61	1.10	.29		
	Within Groups	97.96	177	.55			✓	
	Total	98.57	178					
Item 8. (Assisting Other Departments)	Between Groups	187.24	1	187.24	521.82	.00		
	Within Groups	63.51	177	.359				✓
	Total	250.76	178					

\* Likert-type scale where 1 = Strongly Disagree and 5 = strongly agree

\*\* The tests of significance were conducted at %5 significant

## Demographics

The demographic information is presented in Tables 7 for college and university administrators and Table 8 for university internal auditors. An examination of Table 8 and 9 show cross-sectional representation of the population dispelling any presumed systematic bias in the results emanating from the respondents' background.

Table 7. Demographics of College and University Administrators

Years of administrative experience in college and university settings		
	No.	%
a. Less than 3 years.	35	38
b. Three years but less than 5 years.	25	27
c. Five years but less than 10 years.	14	15
d. Ten years or more.	18	20
Total	92	100%

Level of education		
	No.	%
a. Master degree.	--	--
b. Ph.D. degree or equivalent.	92	100
c. Others, please identify.	--	--
Total	92	100%

What is your position title?		
	No.	%
a. Chancellor/President (or equivalent).	12	13
b. Vice Chancellor/Vice President for Finance and Administration (or equivalent).	16	17
c. Vice Chancellor/Vice President for Academic Affairs/Provost (or equivalent).	10	11
d. Deans/Directors (or equivalent).	54	59
Total	92	100%

Other features of direct relevance to this study discernable from the demographic information of internal auditors are the following:

1. Almost all of them had a degree in accounting or related fields,
2. Overwhelming majority did not have any formal training in conducting operational auditing of colleges and universities,

3. Years of experience in college and university settings, for the most part, did not exceed five,
4. Virtually none had non-audit work experience in higher education setting, and
5. Overwhelming majority did not have any work prior experience in non-for-profit organizations.

Table 8. Demographics of Internal Auditors

Level of education		No.	%
a.	Four-year undergraduate degree or equivalent.	56	65
b.	Master degree.	30	35
Total		87	100%

Area of degree specialization		No.	%
a.	Accounting or similar field.	80	93
b.	Higher education or similar field.	--	--
c.	Both accounting and higher education.	--	--
d.	Finance or similar field.	06	7
Total		87	100%

Years of audit experience		No.	%
a.	Less than 3 years.	20	25
b.	Three years but less than 5 years.	35	41
c.	Five years but less than 10 years.	12	13
d.	Ten years or more.	20	21
Total		87	100%

Years of audit experience in college and university settings		No.	%
a.	Less than 3 years.	30	35
b.	Three years but less than 5 years.	35	41
c.	Five years but less than 10 years.	12	14
d.	Ten years or more.	09	10
Total		87	100%

Table 8...

Have you had any prior non-audit work experience at colleges and universities?			No.	%
a.	Yes.		10	12
b.	No.		77	88
Total			87	100%

Have you had any prior auditing experience for non-for-profit organizations other than colleges and universities?			No.	%
a.	Yes.		20	23
b.	No.		67	77
Total			87	100%

Have you had any formal training program for operational auditing at colleges and universities?			No.	%
a.	Yes.		12	14
b.	No.		75	86
Total			87	100%

What is your position title?			No.	%
a.	Staff auditor (or equivalent).		13	15
b.	Supervisor/Senior (or equivalent).		49	56
c.	Manager (or equivalent).		15	17
d.	Director (or equivalent).		10	12
Total			87	100%

Do you hold any professional certification (e.g., CPA, CMS, CIA, etc.)?			No.	%
a.	Yes.		30	34
b.	No.		57	66
Total			87	100%

## SUMMARY AND CONCLUDING REMARKS

Over the past two decades, the institutions of higher education have been facing budgetary constraints. As a response to these challenges, the colleges and universities have embraced operational auditing to enhance efficiency and effectiveness. The anecdotal evidence supports the deeply rooted reluctance of college and university administrators to implement operational auditing recommendations for the following two distinct, but related reasons:

1. University internal auditors lack the prerequisite knowledge of higher education environment to understand, appreciate, and respect its intrinsic attributes, and
2. Operational auditing uses tools designed for-profit entities, and accordingly, is incapable of capturing the intangible essence of higher education.

In light of the above, this study for the first time, attempted to ascertain the perceived prerequisite knowledge of internal auditors to conduct successful operational auditing. For the purpose of this study, the success of operational auditing is defined as the implementation of recommendations of operational auditing. This measure of success is self-evident, as without it, the whole issue of enhancing operational effectiveness and efficiency becomes a moot point. In addition, the study attempted to empirically determine whether the college and university administrators implement the operational auditing recommendations. Last, to empirically determine the priority of the types of audit and/or services that university auditors offer.

As for the first objective, the results obtained from the survey of 92 administrators serving 75 colleges and universities in the GCC countries revealed that while some of the colleges and universities fully implemented the operational auditing recommendations, overwhelming majority did not (or did partially) for the reason that the operational auditing recommendations were perceived to adversely effect either the quality of education or the effectiveness of operation. In that light, the study proposed five hypotheses consisting of different types of backgrounds that were presumed to offer general understanding of higher education environment. One-way ANOVA was used to test the hypotheses and the results indicated that both administrators and university auditors agreed on formal training program for operational auditing at colleges and universities to constitute the only avenue for internal auditors' acquisition of the prerequisite knowledge of higher education. For the following reasons, this finding should be of particular interest to colleges and universities:

1. Formal training in operational auditing was a single point of agreement between the two groups vis-à-vis meeting the prerequisite credentials for successful operational auditing,
2. An overwhelming majority of surveyed internal auditors did not have any formal training in operational auditing at colleges and universities, and
3. Formal training in operational auditing is both inexpensive and flexible.

The second objective of the study sought to identify audit priorities by both administrators and the university auditors. Again, one-way ANOVA was used to analyze the data, and according to the results, both groups agreed on the priority of four out of eight types of audit. The areas of agreement between the two groups is a welcome opportunity for college and universities as it paves the way for a closer cooperation between the college and university administrators and the university auditors. As for the remaining four areas, any disagreements were most likely rooted in the limited familiarities of college and university administrators with the technical aspects of internal auditing.

### LIMITATIONS OF THE STUDY

The current research suffers from certain limitations that are unique to surveys and well documented in the literature. One of these limitations is non-response bias which refers to the impact on the results of the survey, if there were some respondents who did not participate in the survey. While there is no accurate way to measure this phenomenon, the cross section representation of the respondents could mitigate this limitation. This study is no exception and suffers from the same limitations. On the positive side, however, GCC nations' overwhelming similarities (e.g., cultural, social, economic, and business practices) with the UAE could pave the way for generalizability of these results to the GCC and other countries in the region that share common characteristics.

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