

## VALUE-ADDED APPROACH OF INTERNAL AUDIT IN THE HELLENIC POLICE

*Drogalas George\**, *Alampourtsidis Savvas\*\**, *Koutoupis Andreas\*\*\**

### Abstract

Within extremely fluid Greek economic environment phenomena of corruption and squandering of public money are growing significantly. Internal audit, through its integrated amalgam of modern and scientifically documented procedures seems to be the most effective mean for the protection of public property. Using survey data collected from 30 of the 34 Hellenic Police Services, the purpose of the present paper is to record the current situation regarding the extent of internal audit's implementation in Hellenic Police Department. The results of the paper showed that the active role of the Supervisor of Financial Services perform successfully. However, a minority of functions did not comply with best-practice guidelines for achieving internal auditing's theoretical role. The study provides avenues for further research to confirm the findings with other stakeholders.

**Keywords:** Internal audit, Corporate governance, Value-added, Supervisor of Financial Services, Hellenic Police

\* *Lecturer, University of Macedonia*

\*\* *Police Auditor Assistant*

\*\*\* *Adjunct Lecturer, University of the Aegean & Hellenic Open University*

### Introduction

Organizations have encountered rapid changes in economic complexity, expanded regulatory requirements and technological advancements in recent years (Hass *et al.*, 2006). However, every successful administration aims to its efficient financial operation. Unfortunately, facts of irregularities, omissions and errors often are observed, that negatively affect the image of the organization. In this context, internal audit, a corporate control process, by assessing internal control on a regular basis and safeguarding the assets of the organization, helps the unit to improve its efficiency and creates added value that enhances the image of the organization (Leung *et al.*, 2004; Gramling *et al.*, 2004).

Auditing as a service is not something new (Lasser, 1953). Its roots are found in the distant past in Greek, Egyptian and ancient civilizations (Meigs *et al.*, 1977; Basu, 2007). However, internal audit is recognized as an important process (Moeller, 2009), mainly due to the creation of the US Securities and Exchange Commission (SEC) in 1934. A turning point was in 1941 the establishment of the Institute of Internal Auditors (IIA), a global professional association, whose mission is to serve its members, providing guidance in the areas of certification, education, research, and modern control techniques.

In Greece, nowadays, internal audit's role increases remarkably as an indispensable control

mechanism in both public and private organizations (Papastathis, 2014). In this light, in Greek Police, through Economic Supervisor as an internal auditor, special emphasis is given on safeguarding the assets of the Greek government aiming to efficient management of public money. However, the growing importance of internal auditing as an economic factor, in Greece there is no such a study assessing internal audit's performance in Greek Police Department. In this context, the purpose of the present paper is to highlight the importance of internal audit and to investigate the degree of its implementation to the Financial Services of Hellenic Police.

### Literature Review

Auditing, as a branch of economic and administrative sciences, deals with the assessment of internal financial situation and the efficient financial management of an organization (Hayes *et al.*, 2005; Rittenberg *et al.*, 2008; Singleton and Singleton, 2010). For this reason auditing is defined as "the process by which competent independent individuals collect and evaluate evidence to form an opinion and communicate their opinion to the person interested through their audit report (Basu, 2007; Arens *et al.*, 2012).

Auditing includes both internal and external audit (Pickett, 2005; 2010). Committee on Basic Auditing Concepts (1973) defined internal audit as "a systematic process of objectively assessing the data to

verify the degree of correlation between established criteria with the actual results of the company" (Karagiorgos *et al.*, 2011). More specifically, the Institute of Internal Auditors, defined internal auditing as "an independent, objective, secure and consulting activity designed in such a way as to add value and improve the organization's operations. It helps the organization to accomplish its objectives by offering a systematic scientific approach evaluating and improving the effectiveness of risk management, internal controls and management procedures". Staff's experience, competitor interface, alignment with the organizational structure, real-time risk assessment and audit procedures, are the five common elements that best characterized an efficient control system (Roth, 2003; Koutoupis and Tsamis, 2008).

The evolution and transformation of internal audit, from traditional aspects that consider internal audit as control of financial statements (Adams, 1994), to modern perspectives that consider internal audit as an essential tool to add organization's value, has increasingly attracted the attention of researchers (Petrascu and Tamas 2013). Thus, there are many studies regarding the value-added approach of internal audit, the results of which highlight the value that it adds to an organization (Kramer *et al.*, 2008). Also, a lot of studies examines the relationship

between internal audit and added value (Nagy and Cenker, 2002; Barac *et al.*, 2009; Wang and Guo, 2009), evaluate the new definition of internal audit (Bou-Raad, 2000; Mihret and Woldeyohannis, 2008) and approach the value-added internal audit function (Bota-Avram, 2008; Ray, 2009). Recent studies also assessed the ability of internal audit to fulfill its role in corporate governance (Sarens, and Christopher, 2010; Turlea *et al.*, 2011; Ebaid, 2011; Bekiaris *et al.*, 2013).

## Results

To achieve paper's scope, questionnaires were sent to 30 of the 34 Hellenic Police Services, where operates "Revenue Service" with the "Level of General Management". Questions, based on five point Likert scale (Jamieson, 2004; Brown, 2011), were used, in order to indicate the respondent's degree of agreement or disagreement (from "Not at all" to "Very much"). From the 30 questionnaires, 24 were returned completed. Firstly, data are checked in order to identify any errors and to address any missing values. Then the results are separated concerning the issues of "internal control" and "added value".

Table 1 presents sample data and in particular the details of the employees, who took part in the survey.

**Table 1.** Description of sample

		Frequency	Percent %
<b>Sex</b>	Female	5	20,8
	Male	19	79,2
<b>Age</b>	20 – 30	6	25,0
	31 – 40	7	29,2
	41 – 50	7	29,2
	> 50	4	16,7
<b>Level of education</b>	Graduate of high school	5	20,8
	Graduate of Higher Education Institutions / Colleges	18	75,0
	Holder of Postgraduate Diploma	1	4,2
<b>Work Experience in Position Responsibility (in years)</b>	0 – 5	16	66,7
	5 – 10	6	25,0
	10 – 20	2	8,3
Total		24	100

As shown in the above table, out of the 24 people who completed the questionnaire, 19 are males and 5 are females, while ages are shared about the same between two categories, "up to 40 years" and "over 40 years". Particular emphasis should be given to the fact that 75% of employees who responded, "graduates universities or colleges", 20% graduates "high school" and only one person holds a "Master's degree". Finally, the majority of respondents, 66.7% seem to have work experience in positions of responsibility "up to 5 years" and only 33.3% "over five years". It should be noted that the

sample consists of employees who holds the position of "Financial Administrator", at the level of General Management.

The implementation of internal control is examined by assessing the procedures that safeguard organization's activities, ensure the assets, prevent fraud, identify any errors and ensure the accuracy of the financial statements (five questions). Alpha value (Cronbach's alpha) as the indicator of internal consistency is 0.949, representing strong internal consistency among the elements of the individual questions (Pallant, 2011).

**Table 2.** Frequency of “Internal Control” (percentages)

	Not at all	On a small scale	In moderate scale	On a large scale	Very much
To what degree control is performed for the existence and agreement of cash and other values in the vault, with the balance shown in the Cash journal	4,2	4,2	8,3	20,8	62,5
To what degree control is performed for the agreement of account books with the legal receipts..	4,2	4,2	8,3	16,7	66,7
To what degree control is performed the existence of the necessary documents to support expenditure.	4,2	4,2	8,3	12,5	70,8
To what degree control is performed the existence of the necessary documents supporting receipts.	4,2	4,2	12,5	20,8	58,3
To what degree control is performed for the timely dispatch of the final costs of current and past financial year.	0	4,2	12,5	45,8	37,5

As shown in Table 2, the vast majority of the respondents (80%) argue that internal control takes place “on a large scale” up to “very much”. In particular about 80% of respondents agree that “check is made between cash and accounting data” and only 4% disagree. In addition, the results are the same regarding “the check over of account books and legal documents”. Approximately 71% of employees said that “a check takes place for the existence of legal documents regarding expenditure” and about 80% respond that “a check regarding control of legal documents in relation with the proceeds” is made “on a large scale” up to “very much”. Finally, fewer seem to be those who completed the columns “not at all”

up to “in moderate scale” with a percentage that reaches 16.7% concerning “the control for timely dispatch of final expenses”.

The “added value” of internal control is examined by assessing “the sufficiency of regulations, directives and orders”, “the financial supervisor’s contribution” and “the internal audit’s contribution”. Alpha value (Cronbach’s alpha) as the indicator of internal consistency is 0.696. However, the low amount of Cronbach alpha, it is worth to mention that values are quite sensitive to the number of items on the scale, so in this scale of three questions, it is quite common phenomenon of fairly low Cronbach values.

**Table 3.** Frequency of “Added Value” (percentages)

	Not at all	On a small scale	In moderate scale	On a large scale	Very much
To what degree do you consider that regulations - orders - guidance regarding monitoring are sufficient.	0	20,8	45,8	20,8	12,5
To what degree do you consider that Supervisor of Financial Services contributes to the effectiveness of internal control	8,3	12,5	29,2	20,8	29,2
To what degree do you consider that internal control adds value and improves the operation of the Financial Services	4,2	4,2	8,3	50,0	33,3

From the above results, it appears that only 33.3% of respondents believe that “regulations, directives and orders are sufficient”, whereas 66,7% believe that there is obvious weakness in this issue. Then, there is no agreement on Financial Supervisor’s contribution because only 50.0% of employees claim that “Financial Supervisor contributes to the effectiveness of internal control”. Finally, it seems clear that 83.3% of the respondents consider that internal control indeed adds value and improves the operation of Financial Services.

### The effect of age and work experience in position responsibility

At this point it should be noted that for further analysis were created two nominal variables which further categorize the “subjects” of the sample, based on specific grouping criteria:

- “Age\_DownUp” consists of respondents who are classified by age “below 40” or “above 40”, since the age-factor may play an important role on shaping the results and

• “Work experience\_DownUp” consists of respondents who are classified by years of Work Experience “below” or “above five years”, as a “new” employee may tend to respond in a certain way.

Also in this study additional quantitative variables were created, (take numerical values from 1 to 5) as the average of the objects:

• “To what degree work effectively control procedures of internal control” – Scale\_MEAN4\_8 (The variable Scale\_MEAN4\_8 transformed to RInvScale\_MEAN4\_8 in order to satisfy, as have

been shown above the conditions of normality using the formula  $1 / (K - \text{old variable})$  where  $K = \text{maximum value} + 1$ .) and

• “To what degree internal audit adds value to the organization” – Scale\_MEAN20\_22).

To test the normality of the data, Kolmogorov-Smirnov (K-S) test was selected (Sheskin, 2000). At a significance level equal to 0.05  $\hat{=}$  5%, the distribution of the population from which comes our sample is approximately normal.

**Table 4.** Normality test

<b>One-Sample Kolmogorov-Smirnov Test</b>			
		<i>RinvScale_Mean4_8</i>	<i>Scale_MEAN20_22</i>
N		24	24
Normal Parameters <sup>a,b</sup>	Mean	,7171	3,5972
	Std. Deviation	,25644	,85680
Kolmogorov-Smirnov Z		,857	,658
Asymp. Sig. (2-tailed)		,455	,779
Exact Sig. (2-tailed)		,408	,730
Point Probability		,000	,000

a. Test distribution is Normal. b. Calculated from data.

The above mentioned groupings are made in order to explore possible differences between groups. Firstly, criterion “t” is used in order to check the averages of independent samples. In conjunction with the above, statistical test is conducted for the “effect size”, which provides an indication of the size of the

differences between the test groups, representing the percentage of variance in the dependent variable explained by the independent (group) variable (Tabachnick and Fidell, 2007). The results of tests are presented as follow.

**Table 5.** T-test (Age below or above 40)

	Levene's Test for Equality of Variances		t-test for Equality of Means				Eta squared	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference		Std. Error Difference
RInvScale_MEAN4_8	1,496	,234	-2,27	22	,033	-,21966	,09667	19,01%

More specifically, the criterion of “Levene” is used in order to test the dispersions (Landau and Everitt, 2004). The value of “ $p = 0.234 > 0.05$ ” for the variable «To what degree work effectively control procedures of internal control» (RInvScale\_MEAN4\_8) means that there is no statistically significant difference in the dispersions of the two samples. Comparing the values of the feature

of internal control» (RInvScale\_MEAN4\_8) with “personnel age”, a statistically significant difference in the average number of persons “Up to 40 years” ( $M = .62$ ,  $std = .26$ ) and personnel “Over 40 years” ( $M = .84$ ,  $std = .21$ ),  $\{t = -2.27, p = .033, \text{two-tailed}\}$  is presented. The effect on the difference of averages (mean difference =  $-0.22$ , 95% CI:  $-0.42$  to  $-0.02$ ) was great (eta squared = 0.19).

**Table 6.** T-test (Years of Work Experience below or above five years)

<b>Independent Samples Test</b>								
	Levene's Test for Equality of Variances		t-test for Equality of Means					Eta squared
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	
RInvScale_MEAN4_8	5,037	,035	-2,814	21,556	,010	-,23803	,08459	26,47%

The criterion of "Levene" is used in order to test the dispersions. The value of " $p = 0.35 < 0.05$ " for the variable «To what degree work effectively control procedures of internal control» (RInvScale\_MEAN4\_8), means that there is a statistically significant difference in the dispersions of the two samples. Comparing the values of the feature "To what degree work effectively control procedures of internal control" (RInvScale\_MEAN4\_8) with "Years of Work Experience", a statistically significant difference in the average number of personnel with work experience "less than 5 years" ( $M = .64$ ,  $std = .27$ ) and personnel with work

experience "more than 5 years" ( $M = .88$ ,  $std = .15$ ), { $t = -2.81$ ,  $p = .01$ , two-tailed} is presented. The effect on the difference of averages (mean difference =  $-.24$ , 95% CI:  $-.41$  to  $-.06$ ) was great (eta squared =  $0.26$ ).

Finally, variance analysis is conducted to explore the variation of scores to the degree that internal audit adds value (in regard with employee age). The respondents were divided into four groups according to their age (1<sup>st</sup> group 20 – 30 years, 2<sup>nd</sup> group 31 – 40 years, 3<sup>rd</sup> group 41 – 50 years, 4<sup>th</sup> group > 50 years).

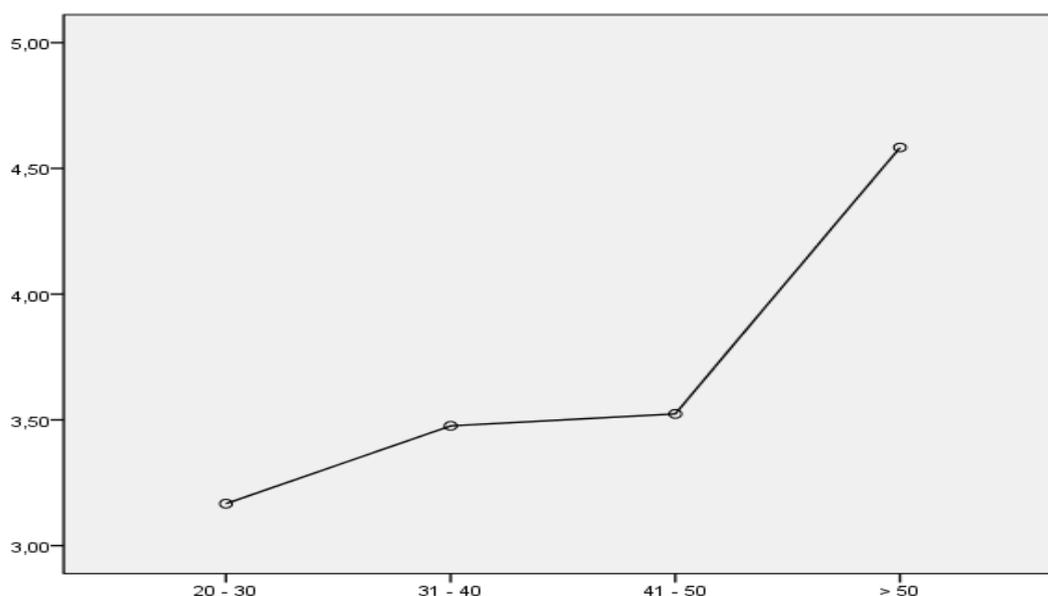
**Table 7.** One-way ANOVA Analysis (Value-Added role of internal audit \* Age)

<b>Multiple Comparisons</b>					
Tukey HSD					
Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.
To what degree internal audit adds value to the organization	20 - 30	31 - 40	-0,310	0,426	0,886
		41 - 50	-0,357	0,426	0,836
		> 50	-1,41667*	0,495	0,044
	> 50	20 - 30	1,41667*	0,495	0,044
		31 - 40	1,107	0,480	0,130
		41 - 50	1,060	0,480	0,156

\*. The mean difference is significant at the 0.05 level.

From the Table, significant statistically difference was observed for the variable Scale\_MEAN20\_22 ( $F(3,20) = 2.92$ ,  $p = .059$ ). However, the actual difference in mean scores between the groups was relatively small. The effect size is calculated using the Eta squared, was  $0.3$ .

Meta-analytical comparison with the criterion of Tukey HSD showed that the average of the first group (Ages 20 - 30) ( $M = 3.17$ ,  $std = .41$ ) differed significantly from the average of the fourth group (Age >50) ( $M = 4.58$ ,  $std = .83$ ). This variation is illustrated in the following diagram.

**Figure 1.** One-way ANOVA Analysis (Value-Added role of internal audit \* Age)

## Conclusions

As mentioned above, public organizations play a central role in the economic vitality of the state. On the one hand public organizations are in constant confrontation with improving their performance in an environment that provides them with all the guarantees (Botez, 2012). On the other hand, internal auditing has undergone dramatic changes that have expanded its scope in a way that allows it to make greater contributions to the organization it serves (Alzeban and Gwilliam, 2014). In this context, there are many researchers who consider internal audit as an urgent need for the effective management in Greek economic environment, where phenomena of corruption, wasting public money and mismanagement are increasing. Unfortunately, there is no such a study for the case of Greece and in particular for Hellenic Police Department, which is of great importance in Greece

Particular interesting are the results referred to the internal control, showing that the internal audit's procedures actually safeguard organization's activities, ensure the assets, prevent fraud, detect errors and ensure the accuracy of the financial statements. Regarding the section that examined the adequacy of internal audit's regulations, the respondents claim that there is enough room for improvement. At this point, it should be noted that it is rather recommended the updating of current orders – instructions, because the existing regulatory framework covers a fairly widened scope. Concerning to the financial supervisor's contribution, opinions are divided. In conclusion, it is worth noting that overwhelmingly, 83.3% of respondents consider that internal control adds value to the organization.

Further research with the participation of Financial Supervisors would be an excellent

opportunity in order to compare the individual results and conclusions. Finally, a study that will compare the results before and after the internal audit's implementation would be a crucial point for the recognition of effective management, targeting at a modern internal audit function that can add value.

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