

3rd World Conference on Learning, Teaching and Educational Leadership (WCLTA-2012)

Internal audit in Italian universities: An empirical study

Marika Arena^a *

^a*Politecnico di Milano, Piazza Leonardo da Vinci 32, Milano, 20133, Italy*

Abstract

During the last decade the higher education system in several European and non-European countries has been under strong pressure to use resources more effectively and efficiently, fostering the diffusion of accountability and control instruments typical of the private sector. This paper explores the adoption and characteristics of a specific control mechanism – internal auditing – that is becoming increasingly common in public sector organizations. The data collection is carried out through a survey of Italian universities. The data analysis provides evidence of similarities and differences that characterize internal auditing in higher education compared to private organizations.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Selection and peer review under responsibility of Prof. Dr. Ferhan Odabaşı

Keywords: Internal auditing; universities; survey; Italy

1. Introduction

Since the early 1990s, there have been several changes in higher education systems throughout the world. These changes are part of a wider reform process of public sector known as New Public Management (Hood, 1991). One of the major characteristics of these reforms is the devolution of power and increased autonomy (Kreysing, 2002; Arnaboldi & Azzone, 2005). In higher education, this decentralisation of power can be witnessed at several levels: autonomy in teaching decision-making; autonomy in management and allocation of financial resources; autonomy in recruitment and setting of personnel remuneration (McDaniel, 1996).

In spite of this greater decentralisation, the increasing amount of national expenses for higher education has put pressure on central government authorities to control public budgets, to steer universities policies and to monitor their achievements (Bleiklie & Kogan, 2007). This situation has been exacerbated by the worldwide financial crisis, that has reduced the possibility of government spending and, in turn, the budget for many public services, including higher education. The reduction of funding has increased the competition between universities, while at the same time they are required to be publicly accountable and demonstrate their value for money not only in teaching and research activities, but also in administrative services (Casu & Thanassoulis, 2006; Brown & Brignall, 2007; Arena, Arnaboldi, Azzone, & Carlucci, 2009; Arena, Arnaboldi, & Azzone, 2010a; Garavaglia, Lettieri, Agasisti, & Lopez, 2011; Zanaboni & Lettieri, 2011). In many national settings, the need to ‘control autonomy’ has been translated by introducing accountability devices, aimed at both evaluating past performances and allocating future resources, attracting the interest of policy makers and scholars. However, the focus of researchers has been in particular on planning and control devices such as budgeting, performance measurement and performance management

* Marika Arena. Tel.: +39-02-23994070

E-mail address: marika.arena@polimi.it

(Arnaboldi & Azzone, 2004; 2010; Brown & Brignall, 2007). Only limited attention, instead, has been dedicated to internal auditing and risk management systems, whose diffusion in higher education is somehow more recent if compared to other control mechanisms. In addition, the development of internal auditing (IA) in the public sector is pretty jeopardised and heterogeneous, with a high variability from country to country (Shand & Anand, 1996; OECD, 2005). In this context, this paper aims to explore the adoption and characteristics of IA in higher education in Italy. To this aim, data were collected through a survey among Italian universities, with a response rate of 37.6%.

2. Literature review

IA is defined as 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). Traditionally, IA has been viewed as a monitoring and compliance function aimed at helping to ensure reliable accounting information and to safeguard company assets. More recently, the role of IA has evolved, undergoing two major changes (Dittenhofer, 2001; Van Gansberghe, 2005; Arena et al., 2006). On the one hand, the corporate scandals which provoked world-wide 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 (Spira & Page, 2003). On the other hand, IA has developed a stronger operational orientation, expanding its area of involvement beside financial compliance to include risk management (Arena, Arnaboldi, & Azzone, 2010b; Lettieri, Masella, & Radaelli, 2009) and important operational areas, such as technology and projects (IIA UK and Ireland, 2008; KPMG, 2009). Internal auditors started to challenge management and act as a catalyst for improvement, using their knowledge of risk and control to enhance business practices (IIA UK and Ireland, 2008; Arena & Azzone, 2009).

This evolution has been particularly evident in private companies, where the establishment of IA often happened in response to corporate governance scandals. However, there have been significant changes even among public organizations (Shand & Anand, 1996; OECD, 2005). In many countries, public administrations refocused IA from financial and compliance issues to performance issues, though this trend was more jeopardized than in the private sector. IA in higher education is a less explored research area and, more generally, only limited research has been carried out on the development of IA in public organizations (e.g. Brierley, El-Nafabi, & Gwilliam, 2001; Goodwin, 2004; Spanhove, Van Gils, Sarens, & Verhoest, 2008). In particular, Brierley et al. (2001) analyses the problems associated to the establishment of IA in the Sudanese public sector. The specific problems highlighted in this paper are low salary levels, low levels of staff training and expertise, low esteem and motivation of staff, and lack of co-operation and co-ordination between the various parties responsible for IA. Goodwin (2004) explores similarities and differences between public sector IA and its counterpart in the private sector in Australia and New Zealand. The study suggests that there are similarities and differences between the two sectors in relationship to the organizational status of IA and outsourcing choices. Subramaniam, Ng, and Carey (2004) report the results of a study of Queensland public-sector entities, highlighting that outsourcing of IA services is extensive (88%), with 51% of respondent agencies adopting co-sourcing and 37% of the agencies fully outsourcing. This choice is explained by non-financial reasons such as lack of technological know-how and service quality. Finally, Mihret and Yismaw (2007) examine the issue of IA effectiveness based on a case study of a large public sector higher educational institution in Ethiopia. The study highlights that IA effectiveness is strongly influenced by IA quality and management support, whereas organizational setting and auditee attributes do not have a strong impact on audit effectiveness.

3. Research method

The data collection was based on a questionnaire survey. A mail questionnaire was sent to the administrative directors of all Italian universities. The questionnaire was articulated into four sections, concerning (1) descriptive

characteristics of the university; (2) foundation of the IA unit; (3) characteristics of the IA unit; (4) reports produced by the IA unit and their use. The survey design was based on questions that could be easily answered by the target-respondents (the administrative directors of the Italian universities) and limit possible framing effects. Furthermore, the questionnaire was tested in some universities before being distributed to the whole sample; the pilot test led to a few changes to make the questions more understandable. Thirty five questionnaires were collected, with a 37.6% response rate. Table 1 reports the characteristics of the universities that answered to the questionnaire, in term of size and location. Size was measured based on the number of students: small universities have less than 10,000 students; medium universities have between 10,000 and 50,000 students and large universities have more than 50,000 students. As suggested by Oppenheim (1966), the existence of non-response bias was further tested by comparing responses of early and late respondents. The existence of statistical differences between the two groups of companies was tested applying the chi-square test (categorical variables) and t-test (continuous variables). There was no significant evidence of a response bias.

Table 1. Descriptive statistics

Size	N. Universities	% Universities	Location	N. Universities	% Universities
Small	11	31.4%	North	16	45.7%
Medium	17	48.6%	Center	13	37.1%
Large	7	20.0%	South	6	17.1%
	35	100.0%		35	100.0%

4. Results

The following sections present the results of statistical analysis performed on data collected through the survey.

4.1. IA Adoption

The first factor taken into account for characterizing Italian universities' support for IA issues is the existence of IA units. It was found that 42.86% of respondents have an IA team that perform IA activities and 34.29% have a dedicated IA department (Table 2). The introduction of IA in Italian universities is generally quite recent: only three institutions, among the respondents, have established an IA unit more than ten years ago and the mean staff is three full-time equivalents. No statistically significant differences emerged in relationship to university size and location.

Table 2. IA adopters

% Universities	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
IA – Adopters	42.86%	20.00%	46.67%	33.33%	-	40.00%	46.67%	13.33%	-
IA - Non adopters	57.14%	40.00%	50.00%	10.00%	-	50.00%	30.00%	20.00%	-

4.2. IA characteristics

Moving to the characteristics of IA, the analysis addressed three issues: (1) hierarchical position of the IA unit; (2) skills and competences of internal auditors; (3) type of performed activities.

The first element used for characterizing an IA unit was its hierarchical position within the organization, as previous studies have demonstrated the importance of an appropriate reporting line for ensuring IA independence (e.g. Goodwin & Yeo, 2001; Arena & Azzone, 2007). In the responding universities, the IA unit reports to the administrative director in 53% of universities and to other administrative functions in 27% of universities (Table 3). There are no case where the IA reports to the rector hence suggesting a relevant difference compared to the private sector.

Table 3. Hierarchical position

% Universities	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
Administrative director	53.33%	6.67%	33.33%	13.33%	-	13.33%	33.33%	6.67%	-
Other administrative functions	26.67%	6.67%	6.67%	13.33%	-	13.33%	13.33%	0.00%	-

Management control office	20.00%	6.67%	0.00%	13.33%	-	13.33%	6.67%	0.00%	-
Other control bodies	6.67%	0.00%	6.67%	0.00%	-	0.00%	0.00%	6.67%	-

The second element analysed concerns internal auditors' competences, since they are key to assure the capability of auditors to advise on improving the internal control system, conduct audits, find consistent solutions based on previous experience, and handle complex or conflicting situations (Arena & Jeppesen, 2009; Colicchia, Melacini, & Perotti, 2011). The data indicate a prevalence of operational competences among the respondents and there are only limited differences depending on the size of the university (Table 4). In particular, the respondents in larger universities consider economic and financial competences more relevant than the respondents in small organizations. This evidence confirms that the trend of development that characterized IA in the private sector (the shift from financial and compliance audit to operational audit) is taking place even in higher education.

Table 4. Internal auditors' competences

Mean score (1-5)	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
Operational /Processes	3.80	3.33	3.63	4.50		2.60	4.63	3.50	(*)
Economic	3.77	2.33	4.33	4.00	(*)	3.75	3.57	4.50	
Law	3.31	3.00	3.00	4.00		3.25	3.00	4.50	
Other	3.33	1.00	4.00	5.00		1.00	5.00	4.00	
Statistical	3.17	2.50	3.43	3.00		3.67	3.13	2.00	

Finally, to explore IA activities, attention was focused on mapping the processes that were subject to audit and the type of audit performed (Table 5, Panel 1). Financial and human resource processes have been audited more frequently; IT and construction processes have been audited less frequently. Moving to the type of audit performed (Table 5, Panel 2), higher relevance was given to operational audit (4.23) and compliance audit (3.54). Even in this case, only few relationships were highlighted with the type of activities performed and the university size, though it is worthy of mentioning that larger universities assign higher importance to risk management than smaller ones.

Table 5. Audited processes

Panel 1 - % Universities	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
Financial	66.67%	6.67%	40.00%	20.00%		40.00%	13.33%	13.33%	(*)
Teaching	53.33%	20.00%	26.67%	6.67%		20.00%	20.00%	13.33%	
Purchasing	53.33%	6.67%	26.67%	20.00%		26.67%	13.33%	13.33%	
Human resource	46.67%	20.00%	20.00%	6.67%	(*)	20.00%	20.00%	6.67%	
Research	40.00%	0.00%	33.33%	6.67%	(*)	20.00%	13.33%	6.67%	
IT	33.33%	6.67%	20.00%	6.67%		6.67%	20.00%	6.67%	
Construction	33.33%	6.67%	6.67%	20.00%		20.00%	6.67%	6.67%	
Other	66.67%	20.00%	26.67%	20.00%		20.00%	40.00%	6.67%	
Panel 2 – Mean score (1-5)	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
Operational	4,23	5,00	3,83	4,25	-	3,80	4,71	3,00	-
Compliance	3,54	4,00	3,17	3,75	-	3,40	3,83	3,00	-
Risk management	3,18	2,50	2,50	5,00	(*)	4,25	3,00	1,50	-
Financial	3,15	2,00	3,50	3,50	-	3,60	3,00	2,50	-
Other	1,07	1,67	0,86	1,00	-	1,00	1,43	0,00	-

4.3. Use of IA reports

Third, the purpose of use of IA reports was investigated to achieve a more comprehensive understanding of the role of IA in Italian higher education. The data collected provide evidence that process analysis and reengineering are the most common purposes of use of IA reports with a mean score of 4.00 and 3.75 respectively (Table 6). Performance evaluation and cost reduction are instead at the bottom of the reported objectives. This picture is coherent with the evolutionary path that characterized IA in the private sector, with internal auditors' focus shifting from financial and compliance auditing to operational audit and, afterward, to risk management and corporate governance processes (Arena, Arnaboldi, & Azzone, 2011).

Table 6. Purposes of use of IA reports

Mean score (1-5)	Overall	Small	Medium	Large	Sign	North	Center	South	Sign
Process analysis	4.00	3.67	4.17	4.00		3.50	4.43	4.00	
Process reengineering	3.75	3.67	3.80	3.75		3.75	3.86	3.00	
Financial control	3.38	2.50	3.25	4.50		4.50	3.50	2.00	
Risk Assessment	3.20	4.00	1.75	4.25		4.33	3.40	1.00	
Efficiency of operations	2.82	2.33	2.50	3.50		2.50	3.00	3.00	
Performance evaluation	2.13	2.00	1.67	2.67		2.00	2.40	1.00	

Finally, the level of implementation of IA recommendations was explored. On average 75% of the corrective actions suggested by the internal auditors are actually implemented. This data is quite high when compared to private sector organizations (Arena & Azzone, 2009).

5. Conclusions

This paper presents the findings of a study carried among Italian universities and aimed at investigating IA adoption patterns and characteristics of IA units in higher education. The empirical findings present a diversified picture. The paper shows a still limited diffusion of IA among Italian universities, but IA trend of development is similar to the trend that characterized IA in private sector organizations in the past decades (Arena & Azzone, 2007). In private sector organizations, originally, IA focused on financial auditing and compliance; then, it gradually broadened its scope covering operational auditing and, more recently, risk management and corporate governance issues (Spira & Page, 2003; Arena et al., 2006). In the analysed universities, operational auditing represents the core of IA activities, though much effort is still dedicated to financial auditing and compliance. A few universities are dedicating increasing attention to risk management too. This is indicative of the change of the context in which universities compete. Higher education institutions, similar to other public and private organizations, have to deal with an complex and uncertain context (Colicchia, Dallari, & Melacini, 2010; Lettieri & Masella, 2009).

Compared to the prior literature, this paper brings some original elements. First, there is still limited empirical evidence dealing with IA in higher education. The focus of policy makers and researchers has been mostly on research and teaching activities, though, since the middle of the nineties, there have been studies that claim the importance of accountability for administrative services (Arnaboldi & Azzone, 2004; Brown & Brignall, 2007). However, IA in public sector has been widely overlooked as a research field, probably because it is still in its origin. Second, the present study provides additional insights about IA in Europe through the case of Italy, where this research was carried out. Even though in Europe the situation is still diversified, there are several signs of the IA attempting to extend its area of involvement even in public sector organizations, following the shift which has already occurred in the USA and Australia. Finally, some limitations of the research are noted. First, the use of a mailed questionnaire may have caused some misunderstanding: this instrument prevents the possibility of explaining and detailing questions to respondents. Further, there is no direct control over the actual respondent: the Administrative director may have delegated other employees to complete the questionnaire; this is a common limitation caused by this research instrument. The second limitation concerns the generalizability of the results to other countries. The study provides a picture of IA in Italy; the results reflect the specificities of Italian higher education system, though the reform process that characterized Italy is similar to many other EU and non EU countries.

References

- Arena, M., Arnaboldi, M., & Azzone, G. (2006). Internal audit in Italian organizations: a multiple case study. *Managerial Auditing Journal*, 21, 275-292.
- Arena, M., Arnaboldi, M., & Azzone, G. (2010a). Student perception and central administrative services: The case of higher education in Italy. *Studies in Higher Education*, 35, 941-959.
- Arena, M., Arnaboldi, M., & Azzone, G. (2010b). The organizational dynamics of enterprise risk management. *Accounting Organization and Society*, 35, 659-675.

- Arena, M., Arnaboldi, M., & Azzone, G., (2011). Is enterprise risk management real?. *Journal of Risk Research*, 17, 779-797.
- Arena, M., Arnaboldi, M., Azzone, G., & Carlucci, P. (2009). Developing a performance measurement system for university central administrative services. *Higher Education Quarterly*, 63, 237-263.
- Arena, M., & Azzone, G. (2007). Internal audit departments: Adoption and characteristics in Italian companies. *International Journal of Auditing*, 11, 91-114.
- Arena, M., & Azzone, G. (2009). Identifying organizational drivers of internal audit effectiveness. *International Journal of Auditing*, 13, 43-60.
- Arena, M., & Jeppesen, K.K. (2009). Internal auditings' jurisdiction and the quest for professionalization: The Danish case. *International Journal of Auditing*, 14, 111-129.
- Arnaboldi, M., & Azzone, G. (2004). Benchmarking university activities: an Italian case study. *Financial Accountability and Management*, 20, 205-220.
- Arnaboldi M., & Azzone G. (2005). Incrementalism and strategic change: A university's experience. *International Journal of Educational Management*, 19, 552-563.
- Arnaboldi, M., & Azzone, G. (2010). Constructing performance measurement in the public sector. *Critical Perspectives on Accounting*, 21, 266-282.
- Bleiklie, I., & Kogan, M. (2007). Organization and governance of universities. *Higher Education Policy*, 20, 477-493.
- Brierley, J.A., El-Nafabi, H.M., & Gwilliam, D.R. (2001). Problems establishing internal audit in the sudanese public sector. *International Journal of Auditing*, 5, 73-87.
- Brown, R., & Brignall, S. (2007). Reflections on the use of a dual-methodology research design to evaluate accounting and management practice in UK university central administrative services. *Management Accounting Research*, 18, 32-48.
- Casu, B., & Thanassoulis, B. (2006). Evaluating cost efficiency in central administrative services in UK universities. *Omega*, 34, 417-426.
- Colicchia, C, Melacini, M., Perotti, C. (2011). Benchmarking supply chain sustainability: Insights from a field study. *Benchmarking: an international journal*, 18, 705 – 732.
- Colicchia C., Dallari, F., Melacini, M. (2010). Increasing supply chain resilience in a global sourcing context. *Production Planning & Control*, 21, 680-694.
- Dittenhofer, M. (2001). Internal audit effectiveness: an expansion of present methods. *Managerial Auditing Journal*, 16, 443-50.
- Garavaglia, G., Lettieri, E., Agasisti, T., & Lopez, S. (2011). Efficiency and quality of care in nursing homes: An Italian case study. *Health Care Management Science*, 14, 22-35
- Goodwin, J. (2004). A comparison of internal audit in the private and public sectors. *Managerial Auditing Journal*, 19, 640-650.
- Goodwin, J., & Yeo T.Y. (2001). Two factors affecting internal audit independence and objectivity: Evidence from Singapore. *International Journal of Auditing*, 5, 107-125.
- Hood, C. (1991). A public management for all seasons?. *Public Administration*, 69, 3-19.
- KPMG (2009). *The Audit Committee Journey*. On line available: <http://www.kpmg.com>.
- Kreysing, M. (2002). Autonomy, accountability, and organizational complexity in higher education: the Goettingen model of university reform. *Journal of Educational Administration*, 40, 552-560.
- Lettieri, E., Masella, C., & Radaelli, G. (2009). Disaster Management: Findings from a systematic review. *Disaster Prevention and Management*, 18, 117-136.
- Lettieri, E., & Masella, C. (2009). Priority setting for technology adoption at a hospital level: relevant issues from the literature. *Health Policy*, 90, 81-88.
- McDaniel, O. (1996). The paradigms of governance in higher education systems. *Higher Education Policy*, 9, 137-158.
- Mihret, D.G., Yismaw, A.W. (2007). Internal audit effectiveness: an Ethiopian public sector case study. *Managerial Auditing Journal*, 22, 470-484.
- OECD (2005). Public sector modernization: Modernising accountability and control. Policy brief. Paris: OECD.
- Oppenheim, A. N. (1966). *Questionnaire design and attitude measurement*. London: Heinemann.
- Shand, D., & Anand, P. (1996). Performance auditing in the public sector: Approaches and issues in OECD member countries. In OECD (Ed.) *Performance Auditing and the Modernization of Government*. Paris: OECD.
- Spanhove, J., Van Gils, D., Sarens, G., & Verhoest, K. (2008). Internal audit as a new instrument of Government Governance: An analysis of internal audit activities and the independent position within the Belgian public sector. 5th International Conference on Accounting, Auditing & Management in Public sector reforms (EIASM). Nederland: Amsterdam. 3-5 September 2008.
- Spira, L.F., & Page, M. (2003). Risk management: the reinvention of internal control and the changing role of internal audit. *Accounting, Auditing and Accountability Journal*, 16, 640-661.
- Subramaniam, N., Ng, C., & Carey, P. (2004). Outsourcing internal audit services: An empirical study on queensland public-sector entities. *Australian Accounting Review*, 14, 86-95.
- The Institute of Internal Auditors (IIA) (1999). *Definition of internal auditing*. Altamonte Springs, FL: The Institute of Internal Auditors.
- The Institute of Internal Auditors (IIA) UK and Ireland (2008). *Towards a blueprint for the internal audit profession*. On line available: <http://www.iaa.org.uk/>
- Van Gansberghe, C.N. (2005). Internal auditing in the public sector: a consultative forum in Nairobi, Kenya, shores up best practices for government audit professionals in developing nations. *Internal Auditor*, 62: 69-73.
- Zanaboni P, & Lettieri E (2011). Institutionalizing telemedicine applications: The challenge of legitimizing decision-making. *Journal of Medical Internet Research* 13, e72