

***Management accounting in Portuguese hotel enterprises:
the influence of organizational and cultural factors.***

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ABSTRACT

Nowadays the increase in competition within the hotel and lodging industry is becoming more notorious. Management accounting has evolved in order to respond to the increasing challenges imposed by the management and the competitive economy. So, the interest in management accounting within the lodging industry is growing and it is considered useful to support the decision making process.

In the literature, there may be found several studies that refer determinants that influence management accounting, supported by the contingency theory. Contingency theories of management accounting have produced new results. Analyzing the contingency theory from a functionalism perspective, management accounting is influenced by external environment, technology, organization structure, organization size, organization strategy and national culture.

The present research project has selected as object of study the hotels in Portugal. We opted for the development of a questionnaire at several hotels. The data was subjected to statistical analysis.

This study as the objective of characterizing management accounting in the Portuguese lodging industry, particularly in hotels, identifying the techniques adopted, the deepness of their use, the degree of satisfaction of management with these techniques and their adequacy for the decision-making process, understand the extent to which the industry adopts and use the Uniform System of Accounts for the Lodging Industry (USALI) and identify the factors that influence management accounting. In relation to this last point, we used contingency theory to examine if there are some factors that influence the Portuguese hotels in its management accounting. We focused our study on the organizational structure and culture factors.

According to the results obtained, we have concluded that management accounting in hotel and lodging industry is essentially to make decision and to prepare budgets. Management accounting in Portuguese hotels provides adequate information to hotel managers and it is influenced by factors supported by the contingency theory.

INTRODUCTION

Management accounting techniques have evolved in order to respond to the complexity of the organizations environment. Nevertheless, the traditional techniques have been the ones with vastest use and adoption, with the contemporary techniques being adopted at a slower rate (Adler et al., 2000; Jones, 2008; Slessor, 2010).

This study as the objective of characterizing management accounting in the Portuguese lodging industry, particularly in hotels, identifying the techniques adopted, the deepness of their use, the degree of satisfaction of management with these techniques and their adequacy for the decision-making process, understand the extent to which the industry adopts and use the Uniform System of Accounts for the Lodging Industry (USALI). It is also objective of this work identify the factors that influence management accounting. We are going to use the contingency theory to support this study. We focused our study on the organizational structure and culture factors. Particular, we are going to study the vertical differentiation, decentralization, formalization, standardization and organizational culture. These factors have been widely discussed by several authors in relation to various types of businesses.

The present research project as selected as object of the study hotels in Portugal. The sample includes 35 hotels, which were analyzed in the years 2009 and 2010, equally distributed in the sub categories of hotels, apartment-hotels and hostels.

LITERATURE REVIEW

Management accounting is a highly complex activity in a strategic context. However, the management accounting techniques related with strategy are underdeveloped in organizations (Tillmann and Goddard, 2008). In New Zealand, the management accounting has a slow progress (Slessor, 2010). The environment of the organizations has become much more complex. There is an increased in competition, changes in technology and the competition is global. However, in New Zealand, the adopted management accounting techniques are not related to organization strategy (Slessor, 2010).

According to Pavlatos and Paggios (2009), there is a growing desire to understand the practice of management accounting in hotels, because the management accounting techniques have an important role in their decision making process (Oliveira et al., 2008). The organizations make decisions based on information provided. It is important the use of management accounting information to allow the optimization of the decision making processes by hotel managers, due to the fact of them facing a big competition (Downie, 1997).

As a consequence of several specificities of the hotels, the information required by managers to make decisions is different from other industries. Hotel units face direct and indirect competition (Mia and Patiar, 2001). Hotels have two sources of information: market research and accounting information. The ideal is that this information could be aligned and coordinated thus supporting the managers (Downie, 1997).

Kaplan and Cooper (1998) have developed the design of systems costs and performance measures model, which describes the four stages that a company has to go since the traditional costing to the activity-based costing. The stage I is characterized by the existence of an inadequate system for preparing financial reports. The companies spend too much time and resources in the consolidation of different reports. There are unexpected variations in the valuation of stocks. In stage II, it is possible to prepare financial reports, distorted cost product reports and to accumulate costs by responsibility centers, but not by activity, processes and customers. The managers' feedback obtained is late and too aggregated.

In stage III, there is a traditional financial system working fine, and this system elaborates the financial accounting and prepares reports for short periods of time where it is showed the cost of sales and stock valuation. The activity-based costing is used to remove information from financial documents and allocate it to products, services, customers and processes. There is already a system of performance measures that provides to managers a timely feedback.

In stage IV, there is integration of accounting with financial reporting. The activity-based costing systems and operational feedback are integrated, providing information to prepare financial documents. The activity-based costing becomes the basis for the company's budget. So the activity-based budget is used to make comparisons with the real information of the year. The feedback obtained through the operating system, also provides.

This model characterizes the way that companies go from the traditional management accounting techniques to the contemporary management accounting techniques.

The management accounting techniques, according Ferreira (2002) may be divided into traditional and contemporary (Table 1).

Table 1 – Traditional versus contemporary management accounting techniques

Traditional techniques	Contemporary techniques
<ul style="list-style-type: none"> • Budgeting; • Budget deviation analysis; • Product costing; • Product profitability; • Return on investment; • Sales break-even; • Strategic Planning; • Tableau de bord. 	<ul style="list-style-type: none"> • Activity-based budget; • Activity-based costing; • Balanced Scorecard; • Benchmarking; • Customer profitability analysis; • Economic Value Added; • Product life cycle costing; • Target costing;

According to Fowler (2010), the organizations give more importance to traditional management accounting techniques than to contemporary management accounting techniques. It doesn't mean that the contemporary techniques are irrelevant, because in several cases they are not adopted due their high costs of implementation.

Phillips (1996) concludes that *Strategic Planning* is widely mentioned in the field of hotel management, as well as performance evaluation. He remarks that the *Strategic Planning* existent in hotels is quite incomplete since it is commonly an expansion of the financial budget with less emphasis on strategic issues.

Jones (2008) confirms this idea concluding that the *Budgeting* is the commonly wide technique used by hotels, as Uyar and Bilgins (2011) regarding to Turkish hotels. Cruz (2007) concludes that budgets are a valid tool to the budgeting control process within a hotel, thus remarks that budgets used in hotels have some specific aspects when compared to the budgets elaborated to other industries. Vaughn *et al.* (2010) refer that activity-based costing was implemented with success in a kitchen in a Las Vegas casino. The activity-based costing is important in the hospitality industry, since it allows understand a hotel's cost structure.

The Greek hotels use more traditional management accounting techniques than contemporary management accounting techniques (Pavlatos and Paggion, 2008). Jones (2008), Phillips (1996) and Pavalatos and Paggion (2008) refer that *Budgeting* and *Budget deviation analysis* are the management accounting techniques more used in the lodging industry.

Santos et al. (2010b) analyzed the management accounting techniques used by hotels in the western region of Portugal, and concluded that management accounting is widely used by management, being the traditional techniques more widespread. Concerning the use of USALI, there are evidences of a progressive knowledge and use of this framework to support and simplification of information processing.

USALI as a framework is also gaining support particularly among multinational hotel chains. However, Faria (2007) presents that less than a half of hotels use the USALI. Pavalatos and Paggion (2007) found few national hotels utilizing de USALI in Greece.

In the literature there may be found several studies that refer the determinants that make one company adopt for some management accounting techniques, supported by the theory of contingency. The contingency theory is base on the premise that the management accounting techniques are not used equally by all organizations (Haldma and Laats, 2002). These techniques depend upon the specific characteristics of an organization, like as organizational context and structure. The contingency theory helps to explain the impact of factors in management accounting. Several authors use this theory when examined divers factors (Haldma and Laats, 2002; Cadez e Guilding, 2008). According to Hayes (1977), there are three subgroups factors that influence the organization management, such as internal factors, interdependency factors and environment factors. Haldma and Laats (2002) subdivided into two general groups: external and internal factors. The internal factors are organizational aspects, technology and strategy. The fact of company being in a highly competitive market (Tayles and Walley, 1997), organizational variables such as communication, coordination, decentralization and formalization (Elmore, 1990; Luft and Shields, 2003) and business strategy and market orientation (Cadez and Guilding, 2008) influence management accounting techniques adopted by companies worldwide. According to Tamina and Bates (2010) the organizational structure can be mechanistic or organic. The mechanistic organization is related to a stable environment and a organic organization is related to an unstable environment. This can influence the usage rates of management accounting techniques. Uyar and Bilgin (2011) refer that the differences in management accounting were attributable to hotels sizes, complexity of operations, uncertainties, coordination and communication among departments.

The firm size (measured through sales volume or number of employees) is also a factor that influences the management accounting techniques in a company (Clarke et al., 1999; Adler et al., 2000; Cadez and Guilding, 2008). Cadez and Guilding (2008) refer that a large company implies an increase of complexity and sophistication in management accounting techniques. Such as, there are a positive association between the size of a company and the use of strategic management accounting.

Schmidgall et al. (1996) analyzed if culture influence the use of management accounting techniques but they didn't arrive an affirmative answer for the Budgets, but they verified this for Strategic planning. A majority of hotel chains in both the USA and Scandinavia use budgets and budget variance analyze. The budgets are elaborated by a bottom up approach. However, USA hotels prepared budgets for five or more years but

Scandinavia not. The USA hotels have a tighter control over food costs and beverages costs, while Scandinavia has got a tighter control over other costs. According to Libby and Waterhouse (1996), Gosselin (1997), Granlund and Lukka (1998), Anderson e Young (1999), Chenhall (2003) and Baird et al. (2004), the organization culture influences the management accounting practices.

Gomes (2007) verified that management accounting of large Portuguese companies was influenced by their team work and their managerial decision-making style.

Santos et al. (2010a) verified that there is a moderate association between variables that characterize the competition within the sector and the degree of adoption management accounting techniques. They confirm that competitiveness within the industry as a positive influence the management accounting practices adopted by hotels.

In this study we opted to analyze the organizational and cultural factors. Particular, we are going to study the vertical differentiation, decentralization, formalization, standardization and organizational culture.

Damanpour (1991) noted that de vertical differentiation has a positive association with managerial innovations.

The centralization/decentralization is a factor indicated by many authors (Elmore, 1990; Libby and Waterhouse, 1996; Luft and Shields, 2003; Chenhall, 2003). However, there are different opinions. The rate of use of management accounting techniques increases with decentralization or centralization? The same happens with formalization. However the most of the authors refer that bureaucracy and formalization influence the implementation of new techniques (Elmore, 1990; Luft and Shields, 2003).

According to standardization, Drury and Tayles (2005) refer that higher is standardization, higher is the utilization rate of management accounting techniques.

Development of hypotheses

In this light, the following hypotheses were developed.

Hypothesis 1: *The proportion of use of traditional management accounting techniques is higher than the proportion of use of contemporary management accounting techniques in lodging industry.*

Hypothesis 2: *The most of the Portuguese hotels is located at stage II.*

Hypothesis 3: *The function chosen by most companies as a main objective of management accounting is the decision making process.*

Hypothesis 4: *Less than fifty percent of hotels use the USALI.*

Hypothesis 5: *The higher the vertical differentiation in the hotels, the higher the rate of utilization of management accounting techniques.*

Hypothesis 6: *The higher the decentralization in the hotels, the higher the rate of utilization of management accounting techniques.*

Hypothesis 7: *The higher the formalization in the hotels, the higher the rate of utilization of management accounting techniques.*

Hypothesis 8: *The higher the degree of standardization in the hotels, the higher the rate of utilization of management accounting techniques.*

Hypothesis 9: *The culture of hotel influence the utilization of management accounting techniques.*

METHODOLOGY

This study deals particularly with questions of the type Who? What? Where? How many? According to Yin (2003), all these types of questions can be answered by the method of questionnaire.

Since one of the main disadvantages of the questionnaire method is the low rate of respondents, it was decided to make it through personal interviews, made by groups of students of the Tourism and Hotel management degree at Escola Superior de Turismo e Tecnologia do Mar/ Instituto Politécnico de Leiria, supervised by the teachers of the scientific fields of financial accounting and management accounting. The questionnaire structure was adopted from Gomes (2007).

The data was processed using SPSS (Statistics Packages for Social Sciences). In order to characterize the management accounting at the Portuguese lodging industry we utilized the univariate analysis. The relationships defined in the hypotheses were tested by univariate and bivariate analysis, for example, we have utilized: mean, mode, Spearman's Rho, Mann-Whitney test and Kruskal-Wallis test.

According to Pestana and Gageiro (2003), *Spearman's Rho* measures the intensity of the relation among variables, and is commonly used to describe the relation among two ordinal variables or one ordinal and other scale variable. Due to the fact that this coefficient is not sensitive to asymmetric distributions, it does not require normal populations. This coefficient gives a score between -1 and 1, and the closer to these extremes, the biggest correlation among variables.

In order to reduce the variables related with management accounting and to contemporary management accounting, we conducted a factor analysis. To apply the factor analysis should be a correlation between the variables.

According to all traditional management accounting techniques, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0,627 and the Bartlett test of Sphericity was 97,781, $p < 0,001$. According to contemporary management accounting techniques, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0,8 and the Bartlett test of Sphericity was 98,493, $p < 0,001$. The Cronbach alpha coefficients were 0,756 for the *tectradicional* (traditional management accounting techniques) and 0,849 for the *tecontemporanea* (contemporary management accounting techniques), which indicates satisfactory internal reliability for the two variables. So we can construct two indices, calculated by the arithmetic mean of the eight individual variables that characterize the management accounting techniques, traditional and contemporary, respectively.

EMPIRICAL RESULTS

In this study were analyzed 35 hotels from different categories and regions from Portugal. From these, 11 belong to national chains, 2 are subsidiaries of multinational hotel chains. The annual turnover ranges from 16.000€ to 60.000.000€.

Of the 35 inquiries, 85,7% (30) have implemented and use management accounting processes. The 5 units that do not use this practice are small hotels that are not subsidiaries of either national or multinational hotel chains.

As previously discussed, management accounting has a vast scope of techniques, some of which are considered to be traditional management accounting techniques. From these, the ones that are most used by inquiries are *Budgeting*, *Budget deviation analysis* and *Strategic Planning* (Table 5), with 76,7%, 66,7% and 66,6% respectively.

Table 2 – Traditional management accounting techniques used by inquiries

Techniques Scale: 1 no use... 7 extensive use	Obs.	<4	4	>4	Mean	Mode
Sales break-even	30	33,3	6,7	60	4,33	5
Strategic planning	30	26,7	6,7	66,6	4,7	5
Budgeting	30	10	13,3	76,7	5,5	7
Budget deviation analysis	30	20	13,3	66,7	5,03	7
Product costing techniques	30	43,3	13,3	43,4	3,9	5
Product profitability techniques	30	33,3	16,7	50	4,17	6
Tableau de bord	30	40	6,7	53,3	4,33	7
Return on investment	30	46,7	6,7	46,6	3,67	1

Concerning the contemporary management accounting techniques, the results are opposed to the previous ones, having almost all of the techniques a score with a score of mean use below the null value, except for the *Activity-based budgeting* with an mean of 4,23 (Table 6), followed by *Activity-based costing*, *Customer profitability analysis* and *Benchmarking*.

Table 3 – Contemporary management accounting techniques used by inquiries

Techniques Scale: 1 no use... 7 extensive use	Obs.	<4	4	>4	Mean	Mode
Balanced Scorecard	30	76,7	3,3	20	2,27	1
Activity-based budget	30	33,3	6,7	60	4,23	1
Activity-based costing	30	50	3,3	46,7	3,47	1
Target costing	30	76,7	10	13,3	2,23	1
Customer profitability analysis	30	53,3	20	26,7	3,10	1
Economic Value Added	30	80	10	10	2,03	1
Product life cycle costing	30	73,3	10	16,7	2,53	1
Benchmarking	30	60	0	40	3,23	1

Comparing the both tables we have found that the **Hypothesis 1: *The proportion of use of traditional management accounting techniques is higher than the proportion of use of contemporary management accounting techniques in lodging industry*** is not rejected. The traditional management accounting techniques are more used than contemporary techniques. Both the mean and the mode are higher in the traditional techniques.

Analyzing the Table 4 we verify that none of the Portuguese hotel has reached to the stage IV. It is necessary some further developments in hotel management accounting in order to reach the final stage. The largest proportion of hotels is at stage II and III, which leads us to reject **Hypothesis 2: *The most of the Portuguese hotels is located at stage II*** because we have the same number of hotel units at stage III.

Table 4 – Percentage of hotels by stages in systems costs and performance measures model

Stages	Percentage of hotels
I	26,7% (8)
II	36,7% (11)
III	36,6% (11)
IV	0

The hotels use management accounting mainly with the purpose of supporting their decision making process and the budgeting process too (Table 5).

Table 5 – Purpose of using management accounting

Purpose (by order of importance)	Percentage
Decision making	65,7%
Budgeting	60%
Support management information systems	57,1
Elaboration of Income and loss statement	54,5%
Calculate gross margin per product/service	50%
Estimate cost of products/services	50%
Comply with law obligations	31,4%
Pricing of products/services	31,4%
Others	20%
Performance evaluation of human resources	17,1%

Having present that the information supplied by management accounting is adequate to several management functions (Table 6), we conclude that the functions to which this information is more adequate are Support the decision making process and Estimate cost of products/services, with a score of 5,43 and 5 respectively.

Table 6 – Adequacy of management accounting to management functions

Management functions Scale: 1 Inadequate... 7 Adequate	Obs.	<4	4	>4	Mean
Estimate cost of products/services	30	20%	10%	70%	5
Pricing of products/services	30	23,3%	22,9%	53,8%	4,43
Decision making	30	10%	10%	80%	5,43
Performance evaluation of human resources	30	73,3%	3,3%	23,4%	2,9
Profitability of products and services	30	23,3%	16,7%	60%	4,57
Profitability of customers	30	33,3%	16,7%	50%	3,8
Profitability of markets	30	26,7%	26,7%	46,6%	3,97

So we can say that the **Hypothesis 3: The function chosen by most companies as a main objective of management accounting is the decision making process** is no rejected. The process of decision making is priority.

Concerning the use of USALI, in the Table 7 we observe that only 42.9% of the hotels use. All hotels that use USALI have got implemented management accounting. So, the **Hypothesis 4: Less than fifty percent of hotels use the USALI** is not rejected, since only less than a half use USALI. We have verified that all the subsidiary hotels of foreign enterprises use USALI.

Table 7 – Use of management accounting and USALI

Use	USALI	Management Accounting and USALI
Yes	15 (42.9%)	15 (42.9%)
No	20 (57.1%)	20 (57.1%)

We have chosen the Mann-Whitney test, where we defined the following Hypothesis: Ho: The distribution of turnover is the same across the categories of USALI. Ha: The distribution of turnover is different across the categories of USALI. We rejected the H0 with a significance of 1%. We found that smaller hotels don't use USALI.

To test the following hypotheses, where we will analyze where are factors that influence the utilization rate of management accounting techniques in hotels, we have chosen *Spearman's Rho* in order to make a correlation analysis, as we are in the presence of ordinal variables. We present only the techniques that have a significant association for $p < 0,05$.

The **Hypothesis 5: The higher the vertical differentiation in the hotels, the higher the rate of utilization of management accounting techniques** is not rejected for *sales break-even*, *strategic planning* and *traditional management accounting* techniques in general (Table 8). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the variable vertical differentiation.

Table 8 – Association between vertical differentiation and the utilization of management accounting techniques

Spearman's Rho		Vertical differentiation
Sales break-even	Correlation coefficient	0,418
	Sig. (2-tailed)	0,021
Strategic planning	Correlation coefficient	0,52
	Sig. (2-tailed)	0,003
Traditional management accounting techniques	Correlation coefficient	0,454
	Sig. (2-tailed)	0,012

Thus we can conclude that the higher the vertical differentiation in the hotels the higher the rate of utilization of traditional management accounting techniques, mainly *sales break-even* and *strategic planning*.

The **Hypothesis 6:** *The higher the decentralization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *budgeting, budget deviation analysis and activity-based budget* (Table 9). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the decentralization.

Table 9 – Association between decentralization and the utilization of management accounting techniques

Spearman's Rho		Decentralization
Budgeting	Correlation coefficient Sig. (2-tailed)	0,449 0,013
Budget deviation analysis	Correlation coefficient Sig. (2-tailed)	0,39 0,033
Activity-based budget	Correlation coefficient Sig. (2-tailed)	0,491 0,006

Thus we can conclude that the higher the decentralization in the hotels the higher the rate of utilization of management accounting techniques related with budgeting, mainly *budgeting, budget deviation analysis and activity-based budget*.

The **Hypothesis 7:** *The higher the formalization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *sales break-even, strategic planning, product profitability techniques, activity-based costing, product life cycle costing, benchmarking, traditional management accounting techniques and contemporary management accounting techniques* (Table 10). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the formalization.

Table 10 – Association between formalization and the utilization of management accounting techniques

Spearman´s Rho		Formalization
Sales break-even	Correlation coefficient Sig. (2-tailed)	0,408 0,025
Strategic planning	Correlation coefficient Sig. (2-tailed)	0,46 0,011
Product profitability techniques	Correlation coefficient Sig. (2-tailed)	0,397 0,03
Activity-based costing	Correlation coefficient Sig. (2-tailed)	0,38 0,038
Product life cycle costing	Correlation coefficient Sig. (2-tailed)	0,418 0,022
Benchmarking	Correlation coefficient Sig. (2-tailed)	0,367 0,046
Traditional management accounting techniques	Correlation coefficient Sig. (2-tailed)	0,495 0,005
Contemporary management accounting techniques	Correlation coefficient Sig. (2-tailed)	0,425 0,019

Thus we can conclude that the higher the formalization in the hotels the higher the rate of utilization of traditional management accounting techniques and contemporary management accounting techniques, mainly *sales break-even, strategic planning, product profitability techniques, activity-based costing, product life cycle costin , benchmarking*.

The **Hypothesis 8:** *The higher the degree of standardization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *sales break-even, strategic planning, budgeting, product costing techniques, product profitability techniques, activity-based budgeting, activity-based costing, target costing, product life cycle costing, benchmarking, traditional management accounting techniques* and *contemporary management accounting techniques* (Table 10). According to Spearman’s rho correlation analysis, there are a significant positive association between the techniques and the standardization.

Table 11 – Association between the degree of standardization and the utilization of management accounting techniques.

Spearman's Rho		Standardization of work process	Standardization of skills	Standardization of results
Sales break-even	Correlation coefficient Sig. (2-tailed)	0,592 0,001	0,595 0,001	0,565 0,001
Strategic planning	Correlation coefficient Sig. (2-tailed)		0,482 0,007	0,441 0,015
Budgeting	Correlation coefficient Sig. (2-tailed)		0,397 0,03	0,367 0,046
Product costing techniques	Correlation coefficient Sig. (2-tailed)			0,416 0,022
Product profitability techniques	Correlation coefficient Sig. (2-tailed)	0,382 0,037	0,566 0,001	0,487 0,006
Activity-based budget	Correlation coefficient Sig. (2-tailed)		0,485 0,007	
Activity-based costing	Correlation coefficient Sig. (2-tailed)		0,4 0,028	0,42 0,021
Target costing	Correlation coefficient Sig. (2-tailed)		0,362 0,049	0,509 0,004
Product life cycle costing	Correlation coefficient Sig. (2-tailed)		0,577 0,001	0,573 0,001
Benchmarking	Correlation coefficient Sig. (2-tailed)		0,505 0,004	0,513 0,004
Traditional management accounting techniques	Correlation coefficient Sig. (2-tailed)	0,434 0,017	0,613 0,000	0,662 0,000
Contemporary management accounting techniques	Correlation coefficient Sig. (2-tailed)	0,426 0,019	0,577 0,001	0,585 0,001

Thus we can conclude that the higher the standardization of work process in the hotels the higher the rate of utilization of traditional management accounting techniques and contemporary management accounting techniques, mainly *sales break-even and product profitability techniques*. The higher the standardization of skills in the hotels the higher the rate of utilization of traditional management accounting techniques and contemporary management accounting techniques, mainly *sales break-even, product profitability techniques, budgeting, activity-based budget, activity-based costing, target costing, product life cycle costing and benchmarking*. The higher the standardization of results in the hotels the higher the rate of utilization of traditional management accounting techniques and contemporary management accounting techniques, mainly *sales break-even, product profitability techniques, product costing techniques, budgeting, product profitability techniques, activity-based costing, target costing, product life cycle costing and benchmarking*.

To test the **Hypothesis 9: The culture of the hotel influence the utilization of management accounting techniques**, we analyzed a set of variables that characterize the organizational culture. The ordinal variables are “hesitation in expressing disagreement with their superiors”, “hierarchical level that makes decisions”, “attitude towards risk” and “teamwork”. The nominal variable characterizes the decision making of top management.

In relation to “hesitation in expressing disagreement with their superiors” we cannot find a significant association to management accounting techniques (Table 12). According to the nominal variable we realized the Kruskal-Wallis test, but we cannot draw conclusions.

Table 12 – Association between the culture of the hotel and the utilization of management accounting techniques

Spearman´s Rho		4.12	4.13	4.17	4.18
Sales break-even	Correlation coefficient Sig. (2-tailed)			0,568 0,001	
Strategic planning	Correlation coefficient Sig. (2-tailed)			0,386 0,035	
Budgeting	Correlation coefficient Sig. (2-tailed)		-0,451 0,012		
Product costing techniques	Correlation coefficient Sig. (2-tailed)			0,449 0,005	
Product profitability techniques	Correlation coefficient Sig. (2-tailed)				0,449 0,013
Tableau de bord	Correlation coefficient Sig. (2-tailed)				0,371 0,044
Activity-based budget	Correlation coefficient Sig. (2-tailed)		-0,432 0,017		
Activity-based costing	Correlation coefficient Sig. (2-tailed)		-0,378 0,039		
Benchmarking	Correlation coefficient Sig. (2-tailed)		-0,364 0,048		
Traditional management accounting techniques	Correlation coefficient Sig. (2-tailed)			0,553 0,002	
Contemporary management accounting techniques	Correlation coefficient Sig. (2-tailed)		-0,373 0,042		

4.12 hesitation in expressing disagreement to their superior; 4.13 hierarchical level that makes decisions; 4.17 attitude towards risk; 4.18 teamwork.

According to Table 12, we find a significant negative association between the contemporary management techniques and the *budgeting* with “hierarchical level that makes decisions”. It means the higher the decisions are making at the level of operational management the higher is the utilization of contemporary management accounting techniques, mainly *activity-based budget*, *activity-based costing* and *benchmarking*. We find a significant positive association between the traditional management accounting techniques with “attitude towards risk”. It means the higher the hotels are lovers of the risk the higher is the utilization of traditional management accounting techniques, mainly *sales break-even*, *strategic planning* and *product costing techniques*. We find a significant positive association between the *product profitable techniques* and *tableau de bord* with “teamwork”.

Through the last four hypotheses, we have concluded that organizational structure and cultural factors influence the management accounting. However, this influence changes according to the techniques in question.

The techniques of management accounting have different characteristics, so it is natural to be influenced by different determinants.

However, it is interesting to analyze the traditional management accounting techniques against the contemporary management accounting techniques, since it was possible to obtain a variable that featured all the traditional techniques as well as a variable that featured all the contemporary ones.

Thus we can say that traditional management accounting techniques are influenced by vertical differentiation, formalization, standardization and culture of the hotel. When there are a higher degree of standardization, formalization and vertical differentiation, the hotels are likely to implement the traditional management accounting techniques. According to the culture organizational, there is only one variable significantly associated with the use of traditional management accounting techniques, the “attitude toward risk”. The hotels that are lovers of risk have a higher degree of utilization of traditional techniques.

The contemporary management accounting techniques are influenced by formalization, standardization and culture of the hotel. When there are a higher degree of standardization and formalization, the hotels are likely to implement the contemporary management accounting techniques. According to the culture organizational, there is only one variable significantly associated with the use of contemporary management accounting techniques, the “hierarchical level that makes decisions”. The more decisions are taken at the lowest level of the organization, the higher the rate of utilization of contemporary management accounting techniques.

CONCLUSIONS

Management accounting techniques are continuously developing in order to respond the challenges that organizations face. According to Pavlatos and Paggios (2009), the interest in management accounting within the lodging industry is increasing, and it is consider very important in the decision making process (Oliveira et al., 2008).

This research allows us to conclude that, nowadays, management accounting is a tool incorporated in the daily management practices of hotels, and useful to support the decision making process in several aspects. The Portuguese hotel managers believe in that, because most of the hotels that have answered our inquiry use management accounting techniques, with the main purpose of providing information to decision making process.

The traditional management accounting techniques are used frequently (*Sales break-even, Strategic planning, Budgeting, Budget deviation analysis, Product profitability techniques, Tableau de bord*), what

corroborates previous studies from Pavlatos and Paggios (2008), where the same evidences were found in Greek hotels.

In the hotels that were subject to this study, there is a mismatch between theory and practice of management accounting, because some of the contemporary techniques are not known and thus not adopted by the hotels. This fact confirms the conclusions of Jones (2008). Nevertheless, the contemporary management accounting techniques frequently more adopted by the hotels are the ones more present in the literature (Activity based costing and Activity based budgeting).

In Portugal, there is a weak use of USALI. It is not fully expanded yet across the hotels. It is more used in the large hotels and in hotels with a foreign influence.

The largest proportion of hotels is at stage II and III of the design of systems costs and performance measures model from Kaplan and Cooper (1998). The Portuguese hotels have a traditional financial system working fine, and this system elaborates the financial accounting and prepares reports for short periods of time where it is showed the cost of sales and stock valuation.

We have tested several hypotheses, where we found some drivers of adoption of management accounting in lodging industry. By using *Spearman's Rho* we verified that there is a moderate association between some variables that characterize organizational structure and the degree of adoption management accounting techniques. There is also a moderate association between some variables that characterize organizational culture and the degree of adoption management accounting techniques.

There are two variables that stand out, the formalization and the standardization. Both have a significant positive association with the utilization of traditional and contemporary management accounting techniques. This is supported by the contingency theory.

In conclusion, we found factors that have a positive influence in the adoption of management accounting practices at hotels, and we believe that there is an opportunity of analyzing in more details these findings in future research projects.

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