The influence of the environmental and organizational factors in the management accounting of the Portuguese hotels.

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ABSTRACT

This article presents an overview of the development of Management accounting (MA) in Portuguese hospitality industry. So, we have analyzed the MA techniques that are currently being used by different types of hotels. The sample includes 61 hotels, which were analyzed in the years 2010, 2011 and 2012. MA is a tool incorporated in the daily management practices of Portuguese hotels. However, we verified that the hotels have different behaviors in this area, which entailed a comprehensive study on the causes of this diversity. We applied the contingency theory to explain our findings, because this theory is based on the premise that the MA techniques are not used equally by all organizations. The findings indicate that the intensity of competition, perceived environmental uncertainty, decentralization, formalization and standardization influence the MA techniques in a hotel.

Keywords: Management Accounting, Lodging Industry, Portuguese Hotels, Contingency Theory

INTRODUCTION

MA supports hotels to improve their performance. This justifies the need to undertake this study, where we are going to identify the MA techniques used by Portuguese hotels. As business organizations, hotels make decisions based on information provided. In this context, it is important the use of MA information to allow the optimization of the decision making processes by hotel managers, due to the increasing competition which they face (Downie, 1997). Some authors suggest that MA techniques are different among companies from different industries (Torrecilla et al., 1996; Downie, 1997; Shields, 1998; Williams and Seaman, 2001; Drury and Tayles, 2005; Rowe et al. 2008). The knowledge and the skills required to hotel managers have changed and became increasingly complex in the last decades (Harris and Brown, 1998).

This study consists on update of our other paper (Gomes et al., 2011) with the objective of characterizing MA in Portuguese hotels, identifying the techniques adopted, the deepness of their use. We have also the expectation of identify the factors that influence the behavior of the hotels in their practices of MA, through the contingency theory. We believe that this theory, which has been applied successfully in several accounting studies, indicates the right way to achieve our goals.

The present research project as selected as object of the study, the Portuguese hotels. The sample includes 61 hotels, which were analyzed in the years 2010, 2011 and 2012.

LITERATURE

Hotel industry is highly customer focused, and faces an intensely competitive market environment (McManus, 2013). For many countries, this industry is one of the most important services industries Uyar and Bilgin (2011). The hotels offer products with significantly different characteristics, if we compare with others kinds of business activities. However, the hospitality industry must observe the MA techniques in other industries, and then should adapt to the specific needs of hospitality products (Harris and Brown, 1998). This economic activity is characterized by having a great volatility in demand and fixed costs structure, perishable goods, high competition and a great diversity of services due to the heterogeneity of clients (Downie, 1997; Mia and Patiar, 2001). As a consequence of several specificities of the hotels, the information required by managers to make decisions is different from other industries (Mia and Patiar, 2001). The accounting information depends of the context of the decision. So, we can ask if the MA techniques adopted by hotels are different from the ones adopted by other companies. There is a growing desire to understand the practice of MA in hotels and its development (Harris and Brown, 1998; Pavlatos and Paggios, 2009).

The MA techniques have an important role in the decision making process (Oliveira et al., 2008; Zounta and Bekiaris, 2009). The MA techniques, according Ferreira (2002), may be divided into traditional (Budgeting; Budget deviation analysis; Product costing; Product profitability; Return on investment; Sales break-even; Strategic Planning; Tableau de bord) and contemporary (Activity-based budget; Activity-based

costing; Balanced Scorecard; Benchmarking; Customer profitability analysis; Economic Value Added; Product life cycle costing; Target costing).

In Portugal, the traditional MA techniques are widely used when compared to the contemporary techniques (Gomes, 2007). Pavlatos and Paggios (2008) made a research in Greece, concerning the accounting techniques adopted by hotel units, concluding that traditional techniques have a greater use. Gomes et al. (2011) reached the same conclusion regarding the Portuguese hotels. The organizations give more importance to traditional MA techniques than to contemporary MA techniques. For several authors traditional MA techniques have a greater use if compare with contemporary MA techniques (Uyar and Bilgins, 2011). According to Fowler (2010), it doesn't mean that the contemporary techniques are irrelevant, because in several cases they are not adopted due their high costs of implementation.

Budgeting is the commonly wide technique used by hotels (Phillips, 1996; Jones, 2008; Pavalatos and Paggios, 2008; Uyar and Bilgins, 2011; Urquidi, 2013). 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. The budgets should not be rigid but flexible. A budget committee and a budget manual are common for Turkish hotels (Uyar and Bilgin, 2011).

Budget Deviation Analysis is also one of the MA techniques more used in the lodging industry (Phillips, 1996; Jones, 2008; Pavalatos and Paggios, 2008; Uyar and Bilgins, 2011). The Turkish hotels use this technique for evaluating performance and providing information. The main objectives are to find out the problems and a timely cost control (Uyar and Bilgins, 2011). Urquidi (2013) say that some hotels in Spain use this technique.

Product Costing is very important in a managerial accounting information system of a hotel (Zounta e Bekiaris, 2009). The main goal of costing is the accurate recording and allocation of costs to products, services and customers. The Greek luxury hotels use the costing product, but they only allocate costs to profit and cost centers. Urquidi (2013) say that some hotels in Spain use this technique.

Strategic Planning is widely mentioned in the field of hotel management (Phillips, 1996). 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. According to Cruz (2007), planning is an essential tool for their management and budgets are a part of the process.

Activity-Based Budget has a good influence in the management of hotels like Activity-Based Costing (Cruz, 2007). It is more relevant the use of Activity-Based Costing than the traditional cost center approach, if the hotel is using the Customer Profitability Analysis (Downie, 1997). Vaugh et al. (2010) refer that Activity-Based Costing was implemented with success in a kitchen in a Las Vegas casino, which allowed understand a hotel's cost structure. Urquidi (2013) say that some hotels in Spain use this technique.

Balanced Scorecard has several of measures (financial and non-financial). The hotel modern performance system should be multidimensional (Sainaghi et al., 2013). Urquidi (2013) remarks that some hotels in Spain use this technique.

Benchmarking is a common accounting technique due to the internationalization of hotel chain operations, allowing the comparison among different hotels business units (Cruz, 2007).

Customer profitability analysis can determine the profit contribution of customer segments or of client. Its benefits are to provide a distribution of costs and revenues by customer (Raaij et al., 2003). It has a good influence in the management of hotels (Cruz, 2007). It should be more developed (Downie, 1997). Urquidi (2013) say that some hotels in Spain use this technique. By using this technique, hotels can determine the profit contribution of clients.

In the literature, there are several studies that refer the determinants that make one company adopt for some MA techniques, supported by the theory of contingency. The contingency theory is based on the premise that the MA techniques are not used equally by all organizations (Haldma and Laats, 2002; Urquidi, 2013). The contingency theory explains the relationship between the environment and the techniques used for achieving the objectives of a hotel (Urquidi, 2013).

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 MA. Zounta and Bekiaris (2009) argued that hotel managers should monitor the external environment, before implementing an information system. Several authors use this theory when examined divers factors (Haldma and Laats, 2002; Cadez e Guilding, 2008; Urquidi, 2013).

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. Uyar and Bilgin (2011) refer that the differences in MA were attributable to hotels sizes, complexity of operations, uncertainties, coordination and communication among departments. McManus (2013) subdivided the determinants in two groups, environmental factors (competition intensity and perceived environmental uncertainty) and organizational factors (strategy, structure, market orientation and size).

The fact of company being in a highly competitive market (Tayles and Walley, 1997; Urquidi 2013; McManus, 2013) influences MA techniques adopted by companies worldwide. McManus (2013) found a moderate positive relationship between competition intensity and management accounting systems. Oliveira et al. (2008) and Urquidi (2013) mentioned that competition plays an important role in influencing the introduction of new accounting techniques in the industry. Sharma (2002) argued that a turbulent and a competitive environment imply a greater use of MA techniques. A competitive organization is more open to adopting contemporary MA techniques (Zounta and Bekiaris, 2009).

The environmental uncertainties have been associate with the need of a wide data (financial or not). In these environments managers need more information to face the complexities. However, McManus (2013) did not find a support in this relationship. The manager who works in an environment of uncertainty, typically do not have all the information available, it is necessary to seek further information (Ferreira, 2002; Chenhall, 2003). It should be noted that the management accounting systems are a response to the uncertainties, in order to build a set of information to act against (Laitinen, 2005).

Organizational variables such as decentralization, standardization and formalization (Elmore, 1990; Luft and Shields, 2003; McManus, 2013) influence MA techniques adopted by companies worldwide. McManus (2013) only analyzed the decentralization that characterizes an enterprise that distributes authority for decision making to lower level managers. If a hotel is decentralized, it will need more information in lower levels. So, it will be necessary a greater use of MA techniques.

Business strategy (Cadez and Guilding, 2008; Urquidi, 2013; McManus, 2013) influence MA techniques adopted by companies worldwide. According to Urquidi (2013), the strategy used by a hotel, it will influence the MA techniques. Aquaah (2013) argued that there is a link between MA and business strategies. MA should support the strategy. If a hotel adopts the strategy of leadership in costs, it will be more important the calculation of product cost and the implementation of information systems that help in the calculation and control of product cost (Budgeting, Budget Deviation Analysis and Product Costing). If a hotel adopts the strategy of differentiation, it will be more important the new products and markets. They want to know the client needs. So, it will be chose the Balanced Scorecard and the Customer Profitability Analysis. We can say that the techniques vary according to the goals defined for MA (Urquidi, 2013). The strategy of leadership in costs needs a diagnostic control system, whereas the strategy of differentiation needs an interactive control system, because encourages innovativeness (Aquaah, 2013).

Hypotheses

According to the literature, we found that the traditional MA techniques have a higher utilization compared to contemporary MA techniques. The main objective of MA technique is the decision making process for the most companies. There are studies that refer several determinants supported by the theory of contingency that influence the MA from a hotel. In this study we opted to analyze the competition intensity, the perceived environmental uncertainty, the structure of organization (decentralization, formalization and standardization) and the strategy.

- H1: The use of traditional MA techniques is higher than the use of contemporary MA techniques in lodging industry.
- H2: The main objective of MA is the decision making process.
- H3: MA techniques usage is higher in hotels that face high competition intensity.
- H4: MA techniques usage is higher in hotels that face greater perceived environmental uncertainty.
- H5: MA techniques usage is higher in decentralized hotels.
- H6: MA techniques usage is higher in hotels with a larger formalization.

- H7: MA techniques usage is higher in hotels with a larger degree of standardization.
- H8: The use of a strategy of differentiation is significantly related to the use of the following techniques: balanced scorecard and Customer Profitability Analysis.
- H9: The use of a strategy of leadership in costs is significantly related to the use of the following techniques: budgeting, Budget Deviation Analysis and Product Costing.

METHODOLOGY

According to Yin (2009), it was decided to adopt the method of questionnaire through of personal interviews. The questionnaire structure was adopted from Gomes (2007). The data was processed using SPSS (Statistics Packages for Social Sciences). In order to characterize the MA 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 and Mann-Whitney test. According to Pestana and Gageiro (2008), 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. In order to reduce the variables related with determinants, we conducted a factor analysis. To apply the factor analysis should be a correlation between the variables, that was analyzed in all situations.

FINDINGS AND DATA ANALYSIS

In this study were analyzed 61 hotels from different categories and regions from Portugal. From these, 17 belong to national chains, 2 are subsidiaries of multinational hotel chains. The annual turnover ranges from 16,000€ to 60,000,000€.

As previously discussed, MA has a vast scope of techniques, some of which are considered to be traditional MA techniques. From these, the ones that are most used by inquiries are Budgeting, Budget Deviation Analysis and Strategic Planning (Table 1), with 81.3%, 68.7% and 69.3% respectively. This corroborates with what is described in the literature review.

Table 1 – Traditional MA techniques used by inquiries

Techniques Scale: 1 no use… 7 extensive use	Obs.	<4	4	>4	Mean	Mode
Sales Break-even	48	35.4	6.3	58.3	4.29	5
Strategic Planning	48	22.4	8.3	69.3	4.94	6
Budgeting	48	10.4	8.3	81.3	5.75	7
Budget Deviation Analysis	48	16.7	14.6	68.7	5.21	7
Product Costing techniques	48	37.5	12.5	50	4.15	6
Product Profitability techniques	48	33.3	10.4	56.3	4.35	6
Tableau de Bord	48	33.3	8.3	58.4	4.56	7
Return on Investment	48	35.4	6.3	58.3	4.33	1

Source: elaborated by the authors

Concerning the contemporary MA 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 3.94 (Table 2), followed by Activity-Based Costing, Customer Profitability Analysis and Benchmarking.

Table 2 – Contemporary MA techniques used by inquiries

Techniques Scale: 1 no use… 7 extensive use	Obs.	<4	4	>4	Mean	Mode
Balanced Scorecard	48	72.9	2.1	25	2.4	1
Activity-Based Budget	48	39.6	8.3	52.1	3.94	1
Activity-Based Costing	48	50	2.1	47.9	3.6	1
Target Costing	48	70.8	8.3	20.9	2.42	1
Customer Profitability Analysis	48	52.1	16.7	31.2	3.17	1
Economic Value Added	48	72.9	8.3	18.8	2.33	1
Product Life Cycle Costing	48	70.8	10.4	18.8	2.52	1
Benchmarking	48	62.5	0	37.5	2.98	1

Source: elaborated by the authors

Comparing the both tables we have found that the **H1** is not rejected. The traditional MA techniques are more used than contemporary techniques. Both the mean and the mode are higher in the traditional techniques.

The hotels use MA mainly with the purpose of supporting their decision making process and the budgeting process too (Table 3).

Table 3 – Purpose of using MA

Purpose (by order of importance)	Percentage
Decision making	79.2%
Budgeting	70.8%
Elaboration of Income and loss statement	64.6%
Support management information systems	62.5%
Estimate cost of products/services	54.2%
Calculate gross margin per product/service	52.1%
Comply with law obligations	39.6%
Pricing of products/services	37.5%
Evaluation of human resources	31.3%
Others	16.7%

Source: elaborated by the authors

So we can say that the **H2** is no rejected. The process of decision making is priority.

To test the following hypotheses, where we analyze the factors that influence the utilization rate of MA 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 $p < 0.05$. We also performed a comparison based on the average between two groups (the users of MA and the not users of MA).

According to intensity competition, we found that the mean is always higher in the users of MA, except buying of goods competition. We chose the Mann-Whitney test, to confirm, if there any difference between the two groups. Thus, we defined the following Hypothesis: Ho: The distribution of intensity competition is the same across the categories of MA. Ha: The distribution of intensity competition is different across the categories of MA. We not rejected the H0 with a significance of 1%. We cannot find a significantly difference between the two groups. When analyzing Spearman´s Rho of the MA techniques with items that characterize the levels of competition, we found some moderate positive associations thus the correlation coefficient is between 0.287 and 0.47. So we can conclude that generically, the hotels that use the MA techniques are the ones who face high levels of competition (Table 4).

Table 4 – Association between variables that characterize the levels of competition and the utilization of MA techniques.

Spearman´s Rho		Price competition	Labor force competition	Buying of goods competition	Promotion competition	Intensity
Sales Break-even	Correlation coefficient Sig. (2-tailed)				0.284 0.026	
Strategic planning	Correlation coefficient Sig. (2-tailed)	0.283 0.027			0.341 0.007	0.335 0.008
Budgeting	Correlation coefficient Sig. (2-tailed)		0.41 0.001		0.367 0.004	0.394 0.002
Budget variation analysis	Correlation coefficient Sig. (2-tailed)		0.339 0.008		0.349 0.006	0.299 0.019
Product Profitability techniques	Correlation coefficient Sig. (2-tailed)	0.267 0.037	0.374 0.003		0.261 0.042	0.374 0.003
Tableau de bord	Correlation coefficient Sig. (2-tailed)		0.325 0.01			0.297 0.02
Activity-based budget	Correlation coefficient Sig. (2-tailed)				0.291 0.023	
Activity-Based Costing	Correlation coefficient Sig. (2-tailed)		0.309 0.015		0.333 0.009	0.378 0.003
Target Costing	Correlation coefficient Sig. (2-tailed)		0.31 0.015	0.336 0.008		0.314 0.014
Product Life Cycle Costing	Correlation coefficient Sig. (2-tailed)		0.26 0.043			0.332 0.009
Benchmarking	Correlation coefficient Sig. (2-tailed)	0.292 0.022			0.315 0.013	0.27 0.035

Source: elaborated by the authors

According to H3, we compute the variable intensity (competition intensity). This variable was calculated by four items (Price, Labor force, Buying of goods and Promotion) adapted from Khandwalla (1972), Ferreira (2002), Chong e Rundus (2004) and McManus (2013). So we analyzed, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0.635 and the Bartlett test of Sphericity was 69.885, p<0,001. The Cronbach alpha coefficients were 0.76 for the intensity (competition intensity), which indicates satisfactory internal reliability for the variable. So, we construct one variable, calculated by the arithmetic mean of the four individual variables that characterize the competition intensity. The Spearman´s Rho of the MA techniques with variable intensity, we found some moderate positive associations. The correlation coefficient is between 0.27 and 0.394. Thus, the H3 is

not rejected, because the levels of competition influence positively and significantly the use of MA techniques. Budgeting, Product Profitability techniques and Activity-Based Costing are the techniques with a higher level of association with the competition intensity.

The perceived environmental uncertainty can be measure by several variables. We have opted by the power of the forces affecting the industry from Porter (1985), the external environment faced by the company in terms of homogeneity and heterogeneity, the degree of expansion of the main market where the company operates. These last two issues have already been used by Ferreira (2002). We created the variable power forces, through of the six items (rivalry among existing competitors, threat of new entrants, threat of substitute products or services, power of suppliers, power of buyers, government). So we analyzed, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0.66 and the Bartlett test of Sphericity was 82.068, $p<0,001$. The Cronbach alpha coefficients were 0.725 for the power (power forces), which indicates satisfactory internal reliability for the variable. So, we can construct the variable power, calculated by the arithmetic mean of the six individual variables that characterize the power of the forces affecting the industry. We created the variable environment, through of the three items (customers, competitors and market). So we analyzed, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0.566 (it is bad but allowable) and the Bartlett test of Sphericity was 50.066, $p<0,001$. The Cronbach alpha coefficients were 0.736 for the environment (homogeneity and heterogeneity of the environment), which indicates satisfactory internal reliability for the variable. So, we construct the variable environment, calculated by the arithmetic mean of the three individual variables that characterize the environment of the industry. The third variable (the degree of expansion of the main market) it was a taking account the question that it was made to the hotel managers.

If we compare the two groups (the users of MA and the not users of MA) about the power, environment and expansion, we find that the mean is always higher in the users of MA. We chose the Mann-Whitney test, to confirm, if there any difference between the two groups. Thus, we defined the following Hypothesis: Ho: The distribution of power/environment/expansion is the same across the categories of MA. Ha: The distribution of power/environment/expansion is different across the categories of MA. We not rejected the H0 with a significance of 1%. We cannot find a significantly difference between the two groups.

To test H4, we analyzed the Spearman´s Rho of the MA techniques with the created variable (power, environment and expansion). We found some moderate positive associations thus the correlation coefficient is between 0.261 and 0.384. So, we can conclude that generically, the hotels that use the MA techniques are the ones who face high levels of perceived environmental uncertainty (Table 5). By other words, the hotels that face higher power forces, heterogeneity environment and expansion markets are the bigger users of MA techniques.

Table 5 – Association between variables that characterize the perceived environmental uncertainty and the utilization of MA techniques.

Spearman´s Rho		Power	Environment	Expansion
Budgeting	Correlation coefficient Sig. (2-tailed)			0.361 0.005
Product Profitability techniques	Correlation coefficient Sig. (2-tailed)	0.266 0.038		0.263 0.044
Tableau de bord	Correlation coefficient Sig. (2-tailed)			0.292 0.025
Balanced Scorecard	Correlation coefficient Sig. (2-tailed)	0.36 0.004		
Activity-Based Costing	Correlation coefficient Sig. (2-tailed)		0.261 0.044	
Target Costing	Correlation coefficient Sig. (2-tailed)	0.384 0.002		
Product Life Cycle Costing	Correlation coefficient Sig. (2-tailed)		0.272 0.036	

Source: elaborated by the authors

According to the decentralization, we find that the mean is always higher in the users of MA. We chose the Mann-Whitney test, to confirm, if there any difference between the two groups. Thus, we defined the following Hypothesis: Ho: The distribution of decentralization is the same across the categories of MA. Ha: The distribution of decentralization is different across the categories of MA. We not rejected the H0 with a significance of 1%. We cannot find a significantly difference between the two groups. The H5 is not rejected for Budgeting, Activity-Based Budget and Product Life Cycle Costing (Table 6). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the decentralization.

Table 6: Association between decentralization and the utilization of MA techniques

Spearman´s Rho		Decentralization
Budgeting	Correlation coefficient Sig. (2-tailed)	0.272 0.037
Activity-Based Budget	Correlation coefficient Sig. (2-tailed)	0.334 0.008
Product Life Cycle Costing	Correlation coefficient Sig. (2-tailed)	0.286 0.028

Source: elaborated by the authors.

Concerning to formalization, we find that the mean is always higher in the users of MA. We chose the Mann-Whitney test, to confirm, if there any difference between the two groups. Thus, we defined the following Hypothesis: Ho: The distribution of formalization is the same across the categories of MA. Ha: The distribution of formalization is different across the categories of MA. We rejected the H0 with a significance of 1%. We find a significantly difference between the two groups. The hotels with MA have a higher formalization. The H6 is not rejected for Strategic planning, Budgeting, Budget Deviation Analysis, Product Profitability techniques, Tableau de Bord, Return on Investment, Activity-Based Costing, and Product Life Cycle Costing (Table 7). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the formalization.

Table 7: Association between formalization and the utilization of MA techniques

Spearman´s Rho		Formalization
Strategic planning	Correlation coefficient Sig. (2-tailed)	0.408 0.001
Budgeting	Correlation coefficient Sig. (2-tailed)	0.433 0.001
Budget Deviation Analysis	Correlation coefficient Sig. (2-tailed)	0.259 0.048
Product Profitability techniques	Correlation coefficient Sig. (2-tailed)	0.278 0.033
Tableau de bord	Correlation coefficient Sig. (2-tailed)	0.334 0.01
Return on Investment	Correlation coefficient Sig. (2-tailed)	0.387 0.002
Activity-Based Costing	Correlation coefficient Sig. (2-tailed)	0.325 0.012
Product Life Cycle Costing	Correlation coefficient Sig. (2-tailed)	0.273 0.036

Source: elaborated by the authors.

Regarding to standardization, we analyzed the Spearman´s Rho with MA techniques. The H7 is not rejected for Sales Break-even, Strategic planning, Budgeting, Product Profitability techniques, Tableau de bord, Return on Investment, Activity-Based Costing, Target Costing, Product Life Cycle Costing, Benchmarking (Table 8). There are a significant positive association between the techniques and the standardization.

Table 8: Association between the degree of standardization and the utilization of MA techniques

Spearman´s Rho		Standardization of work process	Standardization of skills	Standardization of results
Sales Break-even	Correlation coefficient Sig. (2-tailed)	0.306 0.018	0.29 0.026	0.325 0.012
Strategic planning	Correlation coefficient Sig. (2-tailed)	0.374 0.004	0.338 0.009	0.359 0.005
Budgeting	Correlation coefficient Sig. (2-tailed)	0.349 0.007	0.296 0.023	0.356 0.006
Product Profitability techniques	Correlation coefficient Sig. (2-tailed)			0.366 0.004
Tableau de bord	Correlation coefficient Sig. (2-tailed)	0.266 0.041	0.268 0.04	0.34 0.008
Return on Investment	Correlation coefficient Sig. (2-tailed)		0.295 0.023	0.372 0.004
Activity-Based Costing	Correlation coefficient Sig. (2-tailed)		0.287 0.028	0.271 0.038
Target Costing	Correlation coefficient Sig. (2-tailed)			0.282 0.031
Product Life Cycle Costing	Correlation coefficient Sig. (2-tailed)		0.306 0.019	0.29 0.026
Benchmarking	Correlation coefficient Sig. (2-tailed)		0.275 0.035	0.265 0.043

Source: elaborated by the authors.

Thus we can conclude that the higher the standardization of work process in the hotels the higher the rate of utilization of MA techniques, mainly Sales Break-even, strategic planning, budgeting, and Tableau de Bord. The higher the standardization of skills in the hotels the higher the rate of utilization of MA techniques, mainly Sales Break-even, Strategic planning, Budgeting, Tableau de Bord, Return on Investment, Activity-Based Costing, Product Life Cycle Costing and Benchmarking. The higher the standardization of results in the hotels the higher the rate of utilization of MA techniques, mainly Sales Break-even, Strategic planning, Budgeting, Product Profitability techniques, Tableau de bord, Return on Investment, Activity-Based Costing, Target Costing, Product Life Cycle Costing and Benchmarking. 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.

If we compare the mean of use from Balanced Scorecard and Customer Profitability Analysis in the hotels that have a strategy of differentiation and those that have a strategy of leadership, we verify a greater use of these techniques by hotels that have adopted the strategy of differentiation. However, we have a nominal variable that characterizes the strategy of the hotel and several ordinal variables that characterize the use of MA techniques. So, we have chosen the Mann-Whitney test, where we defined the following Hypothesis: Ho: The distribution of use of balanced scorecard/Customer Profitability Analysis is the same across the categories of strategy. Ha: The distribution use of balanced scorecard/Customer Profitability Analysis is different across the categories of strategy. We rejected the H0 with a significance of 5% for the Balanced Scorecard. We not rejected the H0 for the Customer Profitability Analysis. We found that hotels with differentiation strategy use more the balanced scorecard. Thus, **H8** is not rejected for Balanced Scorecard.

If we compare the mean of use from Budgeting, Budget Deviation Analysis and Product Costing in the hotels that have a strategy of differentiation and those that have a strategy of leadership, we verify a greater use of these techniques by hotels that have adopted the strategy of differentiation. According to the Mann-Whitney test, where we defined the following Hypothesis: Ho: The distribution of use of budgeting/Budget Deviation Analysis/Product Costing is the same across the categories of strategy. Ha: The distribution use of Budgeting/Budget Deviation Analysis/Product Costing is different across the categories of strategy. We only reject the H0 with a significance of 1% for the Budgeting. We not rejected the H0 for the Budget Deviation Analysis and Product Costing. We found that hotels with differentiation strategy use more the budgeting. Thus, **H9**: is rejected. We cannot confirm what said Urquidi (2013).

In Portuguese hotels with differentiation strategy there is a more common use of MA techniques, but only is significant for balanced scorecard and budgeting.

CONCLUSIONS

MA techniques have evolved in the recent years in the various hotels. It is important the use of MA information to allow the optimization of the decision making processes by hotel managers, due to the fact of them facing different kinds of competition. The Portuguese hotel managers believe in that, because most of the hotels that have

answered our inquiry use MA techniques, with the main purpose of providing information to decision making process. The traditional MA techniques are used frequently (*Strategic planning*, *Budgeting*, *Budget Deviation Analysis*), what corroborates with several authors cited in the literature. In the hotels that were subject to this study, there is a mismatch between theory and practice of MA, 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 MA techniques frequently more adopted by the hotels are the ones more present in the literature (Activity based costing and Activity based budgeting).

We have tested several hypotheses, where we found some drivers of adoption of MA in lodging industry. By using *Spearman´s Rho* we verified that there is a moderate association between some MA techniques and the intensity of competition. So we can conclude that generically, the hotels that use the MA techniques are the ones who face high levels of competition. Having that present, we confirm that competitiveness within the industry as a positive influence the MA techniques adopted by hotels, an idea previously transmitted by Tayles and Walley (1997). Concerning to perceived environmental uncertainty, we concluded that generically, the hotels that use the MA techniques are the ones who face high levels of perceived environmental uncertainty. By other words, the hotels that face higher power forces, heterogeneity environment and expansion markets are the bigger users of MA techniques. According to the structure of organization (decentralization, formalization and standardization), we have to emphasize the variable formalization. This reveals a great influence on the use of the MA techniques. The standardization and decentralization have some positive associations with regard to some techniques.

We compared the use of balanced scorecard, Customer Profitability Analysis, budgeting, Budget Deviation Analysis and Product Costing in the hotels that have a strategy of differentiation and those that have a strategy of leadership. We verified a greater use of these techniques by hotels that have adopted the strategy of differentiation, but only are significant for balanced scorecard and budgeting. So, we cannot corroborate with Urquidi (2013).

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

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