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# Management Accounting in the Hotel Business

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# Management Accounting in the Hotel Business: The Case of the Greek Hotel Industry

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**ABSTRACT.** This article reports on a study investigating Management Accounting (MA) applications and practices in Greek hotels. Relevant bibliography indicates the way in which MA supports management decision-making: Costing systems aim to analyze revenue centers, and are structured according to marginal costing principals. MA makes extensive use of budget and performance measurement techniques to support operational and strategic decisions. In the present study, a sample survey was carried out by means of a structured questionnaire. The findings indicate that Greek hotels make use of MA techniques in all of the above ways, but also reveal a number of differences, such as the application of full costing methods. This in turn has implications for the criteria used to evaluate managers' performance, as well as for the information used in making pricing decisions. Moreover, budget design is more flexible than that used in other fields, while benchmarking is not so popular. The study's findings reveal that hotel size and sales mix structure affect some MA practices, while the use of specific MA methods and techniques determines the emphasis placed on the application of others.doi:10.1300/J149v08n04_03 

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**KEYWORDS.** Management accounting, costing systems, decision support, budgets, performance measurement, Greek hotel industry.

## *INTRODUCTION*

Tourism, which was one of the most flourishing industries in the late twentieth century for international as well as for Greek economy, is expected to develop further during the twenty-first century (WTO, 2003). Its importance in world trade became vital after World War II, when the tourism industry gradually became an international trade player. Hospitality is a core part of the tourist industry and thus also plays a central role in the Greek economy; its national impact is greater than in competitor countries, mainly because of the smaller relative size of the Greek economy.

The majority of Greek hotels operate on a seasonal basis, for about six to seven months per year. Tour operators constitute the main distribution channel for hotels, representing more than ninety per cent of their room sales. As a result, prices are heavily discounted and contribution margins are low.

To date, academic research has focused on the various functions of hotel management and investigated hospitality management accounting. Nevertheless, it could be argued that this research has focused mainly on practices in tourism generating countries such as Great Britain, Scandinavia, and the USA, rather than on host countries. Literature often explains certain characteristics of hotel MA systems and techniques in terms of the industry's high contribution margins. Moreover, most of the hotels in the aforementioned generating countries operate throughout the year. In light of the above, the main motivation for the present study was to investigate Management Accounting (MA) uses and practices in the Greek hotel industry, i.e. in a country classified as a tourism destination, in order to examine how the above structural differences (lower margins - seasonal operation) affect MA practices. The objectives of the study were as follows:

- to investigate MA practices in Greek hotels;
- to compare these practices with those used worldwide, as outlined in related literature;
- to examine the impact that size and other organizational and operational features have on the use of MA tools and techniques.

In what follows, a review of relevant studies and bibliography is followed by the presentation of the research approach and findings, leading on to discussion of results and conclusions.

## *LITERATURE REVIEW*

It is generally accepted that MA systems are designed to reflect business activities. When investigating MA practices in the hotel industry, one should bear in mind two basic complexities in hotel operations. The first is that hotels encapsulate three different kinds of business activities, namely those of service, retail and production (Harris, 1999, pp. 1-4). The accounting methods and techniques used by an exclusively retail, manufacturing or service industry, in order to support its operations, place emphasis on different kinds of information (Harris, 1995); the construction of a single information system for all three activities combined is particularly challenging.

The second complexity derives from the industry's service element. In their categorization of the service industries, Fitzgerald, Johnston, Brignall, Silvestro & Voss (1991) identify hotels as service shops, a category between mass and professional services. Although generalizations can be made for the accounting framework of either mass or professional services, e.g. marginal costing for the former, job costing for the latter, service shops balance between the two (Fitzgerald, Johnston, Brignall, Silvestro, & Voss, 1991, pp. 22-33). Thus, marginal costing seems appropriate for a hotel rooms department, while job costing is more suitable for a conference; it is hardly surprising that service shops have been described as a 'grey zone' (Sharma, 2002).

In addition, one should note some peculiarities of the hospitality industry namely the sales instability and cost structure (high proportion of fixed costs). By the mid seventies, Kotas in Harris & Brander Brown (1998) having observed these two characteristics suggested that the industry is market-orientated. He further determined that market orientation implies a high degree of dependence on market demand, thus creating a situation in which all major problems and possible solutions to them arise on the revenue side of the business, as opposed to the cost or production side. Kotas therefore argued that accounting methods and procedures should adopt a revenue accounting approach, and not apply the 'classic' management accounting angle developed by cost-orientated manufacturing industries (Kotas, 1999, pp. 1-19).

Following trends in the global economy the hotel industry, which already was capital-intensive, now needs more funds in order to finance its investments (Adams, 1997, pp. 192-194; Harris, 1999, p. 9). Although this also applies to a range of other modern industries, one major difference between them and the hotel industry is that the latter remains labour intensive (Harris, 1999, pp.7-8).

The following points review the literature related to the main topics in MA, namely costing systems, decision support, budgets, performance measurement and strategic decisions.

### *Costing Systems*

The spread of U.S. hotels internationally (Chin, Barney & Sullivan, 1995) and the use of hotel management contracts as an expansion strategy (Field, 1995, pp. 261-277) rendered the USA's Uniform System of Accounts for the Lodging Industry (USALI) a dominant influence in the world market. According to this system, hotels develop accounting systems based on departmental accounting principles, reflecting the fact that hospitality products and services are produced in departments rather than on production lines (Harris & Brander Brown, 1998). USALI reflects a marginal costing approach, according to which revenue and costs directly related to the respective departments are reported, while unrelated cost elements such as marketing, administration, fixed charges etc, are not allocated to them (Potter & Schmidgall, 1999). USALI is consistent with the principles of responsibility accounting (Chin *et al.*, 1995) since only the costs that can be controlled by the departments are allocated to them. It exercises flexibility in the allocation of many expenses, by proposing several allocation bases rather than a single standard one (Popowich *et al.,* 1997), thus resulting in great variety in professional practices (Collier & Gregory, 1995, pp. 23-33).

Critics of USALI have focused on the need for more accurate cost allocation (Geller & Schmidgall, 1980; Schmidgall & Malk, 1992), as well as on its failure to reflect the hotel industry's market orientation as suggested by Kotas (Harris & Brander Brown, 1998). In particular, Downie (1995, pp. 202-222; 1997) reported a mismatch between the information needs of marketing managers and the information supplied by accountants, which in turn may be partly responsible for the infrequent use of accounting information in sales promotion (Mia & Patiar, 2001). In this particular field, some of the most sophisticated MA techniques have been suggested and applied, such as customer

profitability analysis (Dunn & Brooks, 1990) including the use of Activity-Based Costing techniques (Noone & Griffin, 1997; 1999). Although one might expect the industry's market orientation to have led to greater use of such techniques, this is not the case. This slow adoption of market orientated techniques becomes more stretching since there are evidence indicating that attracting more customers and heightening the sales volume does not necessarily result in profit appraisal (Enz, Potter & Siguaw, 1999).

### *Accounting for Decision Support*

Application of cost–volume–price (CVP) techniques in the hospitality industry is hindered by a number of factors. These include the accounting system used (Collier & Gregory, 1995, pp. 23-33); the fact that hotels are multi-product enterprises (Philips, 1994); significant differences in the contribution margins of distinct hotel products (Wijeysinghe, 1993); seasonality, which is common in the industry and leads to fluctuations of the profit/volume ratio from one sales mix to another (Philips, 1994). Nevertheless, the relevant literature suggests a number of techniques worth mentioning. Wijeysinghe (1993) suggests a simple approach, on the basis of a global assumption that undistributed operating expenses are fixed costs, whereas direct departmental expenses are variable costs. Gross operating income is divided by the number of rooms occupied, in order to give the 'income per room let'. Fixed costs are then divided by the latter figure to produce break-even occupancy. Graham and Harris (1999) use flexible budgets in order to extract revenue, variable costs and fixed costs. After determining the weighted contribution margin, they divide total fixed costs by the former to give the total annual break-even sales revenue. In a similar manner, they use the total hotel contribution margin and rooms occupied to calculate break-even occupancy. Finally, Phillips (1994) illustrates the way in which statistical probability estimates can be used - with a concomitant degree of uncertainty - to implement traditional CVP analysis.

In most cases, tactical room pricing is dominated by marketing, without any significant contribution being made by MA (Collier & Gregory, 1995, pp. 33-36; Mia & Patiar, 2001; O'Connor, 2002; O'Connor 2003; Pellinen, 2003). On the other hand, MA techniques are more widely used in strategic room pricing (Mia & Patiar, 2001). This generalisation applies to the luxury hotel market but there are some indications that a number of economy and mid-price hotels do in fact use some cost information in room pricing: Middleton (2001, pp. 294-295, 301-303) de-

scribes distribution costs as the largest cost in marketing budgets. Relevant research (O'Connor, 2002 and O'Connor, 2003) reveals that 26% of economy hotels and 47% of mid-prized hotels use lower rates for their cheapest channels, which were detected to be the hotels' own websites. Research has also, recorded the use of MA information in pricing other than rooms hotel products (Collier & Gregory, 1995, pp. 33-36 and Pellinen, 2003).

Since labour cost occupies a substantial proportion of total costs, its variations are closely monitored (Schmidgall & Ninemeier, 1987; Schmidgall, Borchgrevink, & Zahl-Begnum, 1996; Schmidgall & DeFranco, 1998), but MA is not of substantial use in decision-making in this area. Nevertheless, techniques that may be applied have been suggested. Turnover cost can be traced, supporting the controlling efforts (Hinkin & Tracey, 2000; Simons & Hinkin, 2001). Clements & Josiam (1995) have suggested a way to support training decisions by assessing the costs and benefits of training programmes.

MA techniques are used extensively for supporting capital investment decisions, which are usually examined by applying more than one technique (Eyster & Geller, 1981; Collier & Gregory, 1995, pp. 67-89). Although fourteen years separate the two studies above, it is generally agreed that many hotels favour techniques that do not account the time value of money, thus questioning the accuracy of supplied information.

### *Budgets*

Research in the area of budgeting procedures has focused primarily on the U.S. market (Schmidgall & Ninemeier, 1987; Schmidgall Schmidgall, Borchgrevink, & Zahl-Begnum, 1996; Schmidgall & DeFranco, 1998). One study reported on a comparative approach with the Scandinavian market (Schmidgall et al., 1996). Two studies have been conducted for the Australian market (Sharma, 2002; Guilding, 2003) and one for the British (Collier & Gregory, 1995, pp. 37-48).

Two of the above studies focused on hotel chains (Schmidgall & Ninemeier, 1987; Collier & Gregory, 1995, pp. 37-48), while the others also included independent properties. With regard to research design, most used structured questionnaires, while two of them chose case study approach (Collier & Gregory, 1995, pp. 37-48; Guilding, 2003). Most of the studies were concerned with the description of budgeting methods and techniques. Sharma (2002) studied the influence of various factors on hotel budgeting systems, while Guilding (2003) exam-

ined budgeting implications for hotels operating under management contracts.

The above studies reveal that in the hotel industry, budgeting is mainly used for control purposes, while extensive use is also made for planning. Furthermore, the use of budgets for communication may correlate with company size. In some cases budgets are used for more than one purpose.

The great majority of sizeable hotels budget their operations, at least in the short term. On the other hand, a number of studies report that hotels doing so in the long term represent less than fifty per cent of the total. Collier and Gregory (1995, pp. 15-16) revealed that hotel managers feel that any forecast going further than a year is inevitably subjective. It might be assumed that sales instability in the hotel industry is the main reason for the relatively low use of long-term budgeting. The budgeting approach most often employed is the top-bottom one (Schmidgall & Ninemeier, 1987; Schmidgall et al., 1996; Schmidgall & DeFranco, 1998). Only one study supported the cooperative approach (Collier & Gregory, 1995, pp. 37-48), though the small sample involved does not allow for generalization of the findings throughout the British market.

During budget preparation periods, many hotels use effort targets. In most cases these are expressed in terms of profitability, although productivity and capital return targets have also been reported. The first stage of budget preparation involves sales forecasts. Historical operating data are most commonly used, while other factors such as local and national data and the perceived impact of price changes are also taken into consideration. A wide range of techniques is employed to forecast sales volume, often depending upon the particular hotel department concerned.

While zero-based budgeting is used in many US hotels, it is not so popular in Scandinavia (Schmidgall et al., 1996). This technique is mainly used in the supporting departments, in order to control cost centres. Budgeting preparation-time varies between three and five months and usually implies the collaboration of many different hotel departments, with the financial office taking the leading role. Larger hotel chains with several management levels may require longer preparation periods. Budget revisions, if any, are usually conducted three months after the beginning of the budget period, with later revisions being performed at regular intervals thereafter. Such revisions are used to identify problems, make forecasts and conduct performance control. Budgeted costs are monitored; tolerance of variations between bud-

geted and actual costs is usually limited to between one and four percent, depending on the cost item.

Budgets constitute the principal means for performance measurement and the calculation of management bonuses. Between reported differences in budget characteristics, objectives appear to distinguish among hotel chains and independent properties. Whereas the former often adopt a top-down approach with multiple objectives, the latter tend to opt for a simpler approach.

Hotel size, management levels, the uncertainty / unpredictability of the environment and competition exert considerable influences on budget system characteristics (Sharma, 2002). This may go part of the way to explaining the differences in budgeting rationale worldwide, since average hotel type and size, environmental characteristics and competition intensity undoubtedly vary from country to country. That being said, Sharma's article was based on studies tending to focus on manufacturing firms; a number of his research hypotheses could not be extrapolated to the hotel businesses. This is particularly worth noting in the light of Kota's suggestion (1999, pp. 7-8 & 18-19) that hospitality MA is different from its traditional, industrial-focused counterpart. Finally, in hotels operating under management contracts, capital budgets are more formally prepared, while the way that performance is assessed influences forecast optimization (Guilding, 2003).

### *Performance Measurement*

Numerous studies have been conducted in the area of performance measurement. The classic ones have focused on financial performance (Schmidgall, 1989; Singh & Schmidgall, 2001). Other researchers have studied the way budgets are used as a performance measurement tool (Schmidgall & Ninemeier, 1987; Collier & Gregory, 1995, pp. 49-65; Schmidgall et al., 1996; Schmidgall & DeFranco, 1998; Sharma, 2002), which seems to be very extensive. Other studies have investigated the critical success factors (*CSF's*) in the hotel industry (Geller 1985a; Geller 1985b; Jones, 1995, pp. 163-182; Brotherton & Shaw, 1996), focussing on financial and non-financial factors that should be monitored.

Questions as to the sufficiency of financial measures alone have led to the development of models that use both financial and non-financial performance indicators. Some of these have influenced hospitality MA research and practices (Fitzgerald et al., 1991; Kaplan & Norton, 1996; Brander Brown & McDonnell, 1995; Denton & White, 2000; Huckestein & Duboff, 1999; Doran, Haddat, & Chow, 2002). Finally,

research has been conducted into practical financial and non-financial performance measurement in the hospitality industry (Collier & Gregory, 1995; Banker, Gordon & Srinivasan, 2000; Atkinson & Brander Brown, 2001; Harris & Monglello, 2001).

The sufficiency of current measures in respect to actual management needs has been extensively questioned (Geller, 1985b; Jones, 1995, pp. 163-182; Atkinson & Brander Brown, 2001; Mia & Patiar, 2001). Some authors (Jones, 1995, pp. 163-182; Mia & Patiar, 2001) have also recorded a trend for supporting mainly top management.

There is no agreement among researchers on the practical application of balanced measures. Research in the British market reveals that financial performance measurement is still dominant (Collier & Gregory, 1995, pp. 49-65; Atkinson & Brander Brown, 2001), while indirect information from the Australian market supports the same opinion (Mia & Patiar, 2001). Yet research in the European market (Harris & Monglello, 2001) has revealed that there is some balance between financial and no financial measures. Furthermore, while the relation between customer satisfaction and the evaluation of financial performance has been established, requiring a relatively short time period to translate into profitability (Banker et al., 2000), this criterion is not reflected in hotel bonus systems, which are primarily based on financial measures (Collier & Gregory, 1995, pp. 49-65; Banker et al., 2000). This difference is probably due to the scope of most of the above studies, which are based on local markets, whereas Harris and Monglello (2001) studied the practice of worldwide players. While it can be assumed that the leading players have already adjusted their management practices to modern theories, the same cannot yet be argued in relation to smaller hotels.

The principles of Responsibility Accounting are applied to all hotels (Schmidgall & Ninemeier, 1987; Collier & Gregory, 1995, pp. 23-33; Schmidgall et al., 1996; Schmidgall & DeFranco, 1998), but there is great flexibility in the way that costs are allocated between the various departments, resulting in differences regarding what is or is not controllable, and finally what is really measured (Collier & Gregory, 1995, pp. 23-33).

### *Strategic Management Accounting*

The use of some strategic MA techniques seems to be widespread in the hotel industry, while competition cost structure and pricing policies are monitored. According to Collier and Gregory (1995, pp. 15-22), this

is mainly due to the availability of information resources, market homogeneity and competition intensity of the hotel industry.

Some of the most sophisticated techniques have been applied in strategic customer analysis (Nordling & Wheeler, 1992; Noone & Griffin, 1999; Brander Brown & Atkinson, 2001), but no generalized use is recorded. Although MA techniques are used for strategic decision support, in many cases they are characterized by non-complex analysis and results, since many hotels favour techniques that do not account the time value of money (Eyster & Geller, 1981; Collier & Gregory, 1995, pp. 67-89). Collier and Gregory (1995, p. 87) suggest that this is due to the fact that most of the decisions taken in the hotel industry are fairly standard, with a considerable bank of experience to draw upon. Forecasts of occupancy rates and average room rates are thus focal points in many investment appraisal procedures.

At least half of the hotels in two studies were reported as using long-term budgets (Schmidgall & Ninemeier, 1987; Schmidgall & DeFranco, 1998). Despite the fact that subjective factors are unavoidable, a forward period in excess of one year is necessary when an operation's structure and funding has to be planned (Collier & Gregory, 1995, pp. 15-17).

## *THE STUDY*

This section reports on research approach and survey findings.

### *Research Approach*

One of the study's objectives was to examine the possibility of generalizing the results to the entire Greek market. Therefore, a survey approach was adopted in order to provide high external validity (Smith, 2003, pp. 39-42 & 53-54). To that end, an extensive structured questionnaire was designed, covering the following five topics:

1. General hotel data;
2. Costing system;
3. Accounting for decision support;
4. Budgets;
5. Performance measurement.

Topics 2 to 5 were chiefly covered by reference to Likert scale questions. A pilot study was conducted in two hotels that did not participate

in the final sample. Their remarks were taken into consideration when finalizing the questionnaire.

Catalogues from the Greek National Tourism Organization (GNTO) and the Hotels Chamber of Greece were used in order to identify the sample. Following the example of prior research (Mia & Pattiar, 2001) hotels with less than 150 bedrooms and having less than four stars were excluded from the sample, being considered unlikely to have the complex structures and extensive range of products and services that would require sophisticated management accounting systems and practices. Although this exclusion apparently limits the research findings to large and upscale hotels, it also offers the prospect of a highly reliable outcome with little sample variation. A randomly selected first contact was established via telephone with hotels that remained on our list. The questionnaire was then either mailed or delivered personally to the sixty-seven hotels that agreed to participate. Of these, fifteen did not respond at all and four did not answer a sufficient number of questions, and were thus excluded from the analysis. The information gathered was analyzed using Statistical Package for Social Sciences (SPSS) software, version 10.0.

### *Sample Analysis*

The final sample consisted of forty-eight four and five star hotels; organizational and operational features are shown in the Table 1.

It should be noted that initial telephone contact prevented any double entries from appearing in the sample.

As described above, the sample is representative of the up-market Greek hotel industry, thus permitting the collection of reliable data and conclusions. Descriptive statistics mainly reported as frequencies were used in order to describe the use of MA practices and techniques by the hotels. The relationships between organizational variables and accounting variables were examined using correlation analysis.

## *SURVEY FINDINGS*

### *Costing Systems*

Hotel costing systems report the revenue for all operational departments. In these departments the allocation of staff costs, direct raw ma-

TABLE 1. Sample Characteristics (Total: 48 units)

| Features | Frequency distribution |
|---|---|
| Ownership / Management | • Independent hotels: 26 (54.17%)<br>• Hotel chain: 22 (45.83%) |
| Capacity (average) | • Independent hotels: 155 to 420 rooms<br>• Hotel chain: 165 to 280 |
| Operating period | • Throughout the year: 5 (10.42%)<br>• On a seasonal basis: 30 (62.50%)<br>• Annual and seasonal operation: 13 (27.08%) |
| Market segments | Mainly leisure clientele:<br>• Over 90% of total turnover: 27 units<br>• 81 – 90%: 6 units<br>• 71 – 80%: 5 units<br>• 51 – 60%: 2 units<br>• 41 – 50%: 4 units |
| Distribution channels | Mainly Tour Operators and Travel Agencies:<br>• Over 90%: 33 units<br>• 81 – 90%: 6 units<br>• 61 – 70%: 5 units<br>• 51 – 60%: 4 units |
| Respondent's position | • General Manager: 35 (72.92%)<br>• Assistant General Manager: 6 (12.50%)<br>• Financial Manager: 7 (14.58%) |

terials and direct expenses is extensively applied, while controllable and indirect costs are treated with slightly less accuracy.

Likewise, a high degree of emphasis is observable in relation to the ous cost elements to the supporting departments, though slightly less so than in the operational ones. The allocation of personnel and direct expenses is close to absolute accuracy, while for controllable and indirect expenses it is slightly below this rate. Uncontrollable costs are allocated to the departments in most of the hotels, with the cost of the supporting departments being allocated allocation of the variat least to the main operational departments. Similarly, precise or near precise costing effort is used for final products and services. Departmental gross profits are calculated for at least the main operational departments.

### *Accounting for Decision Support*

Financial information received by top management is satisfactory to extensive, while briefing of departmental managers is moderate to satisfactory. Marketing and personnel departments receive satisfactory information in most of the hotels. It is not easy to draw conclusions as far as Break Even Point (BEV) is concerned, since significant differences are observable in the degree of accuracy with which it is calculated from one hotel to the next. However, it seems that hotels find it more appropriate to calculate BEV on an overnight basis than on revenue one.

Profit Sensitivity Analysis (PSA) is carried out to a high degree of accuracy in the business as a whole and in the rooms department, but less precisely in restaurants, bars and conferences.

As for cost information for pricing, it has been found that:

- It is extensively used for tactical pricing in the main departments and moderately so in the others.
- The majority of hotels make extensive use of it for strategic pricing in the rooms department. All hotels used such information in the other main departments. Cost information for other departments is used to a moderate, satisfactory degree.

Greek hotel managers analyse market segment profitability to a satisfactory degree, with a majority of respondents also analysing Tour Operator (TO) profitability to the same level.

Most of the hotels use some capital investment techniques for investment decision support. It is worth stressing that a significant proportion (15 to 20%) of the hotels does not use any technique at all. In moderate

and important investment decisions, the payback method is more common, though it does not appear to have a significant influence on the final decision. Internal Rate of Return (IRR), a technique that calculates the time value of money, has a greater influence on decision-making, but is only used by half of the Greek hotels.

For important capital investment decisions, the majority of hotels use Return of Investment (ROI) and IRR techniques, with the former having been found to affect the decision to be taken more fairly. Payback technique is less commonly employed and influences moderate investment decisions. Lower capital investment decisions are usually not analyzed, while in most cases moderate level ones are examined by recourse to at least one technique. Finally, important investment decisions are examined using all three techniques.

### *Budgets*

All hotels in the study prepare budgets. Usually, these cover a period of one year and use the top-bottom approach, though some influence is exercised at the middle management level. It has been found that budgets are flexible and costs are closely connected to sales volume. In the Greek hotel industry, budgets are mainly used for control purposes, followed by performance measurement. Most of the hotels also use budgets for communication and target setting purposes.

It seems that many factors are taken into consideration when estimating sales volume, including the perceived impact of price changes, historical operating data, national economic data and marketing expenditure. Most of the hotels examine local economic data, while half of them evaluate international economic data to an equal degree.

For cost calculation, sufficient use is made of historical data. The standard-based approach is also taken into consideration by the majority of hotels, particularly in computing supporting departments' costs. Zero-based budgeting (ZBB) is used by 60% of the hotels; it is applied to calculate costs in operational departments more frequently than in supporting departments. This finding goes against an observation made by Schmidgall et al. (1996), who argued that the ZBB approach is mainly used in the supporting departments. Most hotels in the present study review their budgets during the year and, if necessary, further revisions are carried out. The main uses of the revised budget are for forecasts and performance measurement. Other uses, rated as above moderate, are problem identification for corrective action and pricing-plan review.

Finally, it is worth stressing that the majority of Greek hotels monitor their costs with an admissible variation of five per cent. A higher variation is tolerable for food, labor and other costs in some hotels.

### *Performance Measurement*

During the operating year, measurement of financial performance is conducted by means of monitoring budgets, sales and cost volumes. Such monitoring is mainly conducted on a monthly basis, with the exception of sales volume, which is controlled more frequently.

All hotels monitor cash flow, though there are variations in the frequency with which this is carried out. The vast majority of hotels measure their profitability on a monthly basis. In most cases the return of capital ratio is measured every one or two months. On the other hand, hotel managers assess resource utilization on a more frequent basis - occupancy is analyzed per week, while ADR, RevPAV and extra consumption of non-room departments are monitored over a period less than or equal to a week for half of the units and monthly for the others. RevPAC is used slightly more often.

Both customer satisfaction and quality are measured weekly in half of the hotels and monthly in the remaining ones, while customer loyalty is mainly measured per month. The majority of hotels make extensive use of quality standards when calculating managers' bonuses, while moderate use is made of financial standards. CSFs are tracked to a considerable degree and relevant measurements are satisfactory applied to them.

Comparison of financial structure with the previous year's performance is of great importance for all hotels. Finally, the majority of them also use benchmarking techniques, as related to their industry leader and category average.

### *Impact of Organizational and Operational Characteristics*

The use of Likert scales allows us to cross table the relationship between specific organizational characteristics of hotels and MA methods used. It has also revealed some links between the MA techniques used.

(a) Hotel Capacity: Hotel size influences some characteristics of MA practices in Greek hotels. The average number of rooms and employees are positively and significantly correlated with the number of departments in which departmental gross profit is reported ($r = 0.86$, $p < 0.01$ &

r = 0.68, p < 0.05). (Table 2). It seems that size forces management to use more analytical data in order to control and manage large hotels.

(b) Turnover & Departmental Sales: Revenue has a positive and significant effect on the application of profit sensitivity analysis in the restaurant (r = 0.69, p < 0.05), bar (r = 0.66, p < 0.05) and conference departments (r = 0.69, p < 0.05). Revenue also correlates positively with tactical room pricing (r = 0.68, p < 0.05), restaurant (r = 0.65, p < 0.05) and conference departments (r = 0.64, p < 0.05, see Table 3). These relationships reveal that as revenue increases, so does the application of techniques that analyze the cost structure of a hotel operation.

The share of rooms department revenue in total hotel income correlates negatively and significantly with the use of financial information by most hotel management levels, as follows: general managers (r = −0.87, p < 0.01); operational department managers (r = −0.76, p <

TABLE 2(*). Influence of Hotel Size on the Calculation of Departmental Contribution Margins

| | | Number of Rooms | Employees | Income |
|---|---|---|---|---|
| Gross Margin | Pearson Correlation | 0.859** | 0.677* | 0.540 |
| / Department | Sig. (2-tailed) | 0.001 | 0.032 | 0.107 |
| | N | 48 | 48 | 48 |

* In Correlation Tables where:
** *Correlation is significant at the 0.01 level (2-tailed).*
* *Correlation is significant at the 0.05 level (2-tailed).*

TABLE 3. Volume of Sales and Use of PSAs Techniques

| | | PSA Hotel | PSA rooms | PSA restaurant | PSA bar | PSA convention |
|---|---|---|---|---|---|---|
| Volume | Pearson Correlation | 0.363 | 0.486 | 0.688* | 0.658* | 0.688* |
| of Sales | Sig. (2-tailed) | 0.303 | 0.155 | 0.028 | 0.039 | 0.028 |
| | N | 48 | 48 | 48 | 48 | 48 |

0.05); marketing ($r = -0.72$, $p < 0.05$) and personnel ($r = -0.77$, $p < 0.01$) departments. The above, of course, is also reflected to the average information provided ($r = -0.84$, $p < 0.01$). Rooms' share has also a negative, but not satisfactory, relationship with financial information provided to all the other management levels (Table 4).

The proportion of restaurant revenue has a reverse effect on the average financial information provided ($r = 0.75$, $p < 0.05$). The proportion of non-room sales positively affects both average financial information provided ($r = 0.66$, $p < 0.05$) and information provided to general managers ($r = 0.79$, $p < 0.01$) (Table 4).

The departmental percentage of hotel sales also affects some budget characteristics. The higher the proportion of rooms department sales in total sales, the greater the likelihood that the budget approach will be top-bottom ($r = 0.74$, $p < 0.05$). The reverse is valid with regard to the overall share of non-room sales ($r = 20.72$, $p < 0.05$) (Table 5).

Moreover, room sales proportion has a negative effect on all the ways in which budgets are used, this being reflected in the weighted average use of budget ($r = -0.75$, $p < 0.05$). It correlates satisfactorily with budget use for target setting ($r = -0.84$, $p < 0.01$), control ($r = -0.74$, $p < 0.05$) and performance measurement ($r = -0.64$, $p < 0.05$) (Table 5, Table 6 and Figure 1).

On the contrary, there is a positive and satisfactory relationship between the share of non-room sales and the use of budgets for control ($r = 0.75$, $p < 0.05$) and performance measurement ($r = 0.75$, $p < 0.05$) (Table 6). Room sales proportion is negatively and satisfactorily correlated with the weighed average data used for sales forecast ($r = -0.90$, $p < 0.01$), while the opposite is valid for non-rooms sales ($r = 0.76$, $p < 0.05$).

The relationships described above are very interesting if one takes into consideration the fact that rooms departments represent the main service element in the industry, with remaining departments mainly representing production and retail activities (Harris 1995; 1999, pp. 1-4). Furthermore, contribution margins are significantly higher in rooms departments than in others. These findings are further discussed below (4.2).

(c) Pricing Policy: The use of cost information for tactical pricing correlates to a positive and satisfactory degree with the accuracy of cost allocation to final products ($r = 0.75$, $p < 0.05$).

Tactical room pricing is positively and significantly correlated with profit sensitivity analyses for the whole operation ($r = 0.65$, $p < 0.05$),

TABLE 4. Departmental Sales Share and Use of Financial Information

| Management Level | | Rooms revenue % | Restaurant revenue % | Recreation revenue % | Convention revenue % | No rooms revenue % |
|---|---|---|---|---|---|---|
| Weighted Average | Pearson Correlation | -0.840** | 0.753* | -0.068 | 0.164 | 0.656* |
| | Sig. (2-tailed) | 0.002 | 0.012 | 0.861 | 0.650 | 0.039 |
| | N | 48 | 48 | 48 | 48 | 48 |
| Board of Directors | Pearson Correlation | -0.544 | 0.143 | 0.574 | 0.418 | 0.593 |
| | Sig. (2-tailed) | 0.104 | 0.694 | 0.106 | 0.229 | 0.071 |
| | N | 48 | 48 | 48 | 48 | 48 |
| General Manager | Pearson Correlation | -0.866** | 0.572 | 0.254 | 0.402 | 0.794* |
| | Sig. (2-tailed) | 0.001 | 0.084 | 0.510 | 0.249 | 0.006 |
| | N | 48 | 48 | 48 | 48 | 48 |
| Hotel Manager | Pearson Correlation | -0.706 | 0.541 | 0.194 | 0.330 | 0.590 |
| | Sig. (2-tailed) | 0.050 | 0.166 | 0.677 | 0.425 | 0.124 |
| | N | 22 | 22 | 22 | 22 | 22 |
| Departmental Managers | Pearson Correlation | -0.757* | 0.297 | 0.436 | 0.628 | 0.551 |
| | Sig. (2-tailed) | 0.011 | 0.404 | 0.241 | 0.052 | 0.099 |
| | N | 48 | 48 | 48 | 48 | 48 |
| Marketing Manager | Pearson Correlation | -0.717* | 0.423 | 0.254 | 0.402 | 0.542 |
| | Sig. (2-tailed) | 0.020 | 0.224 | 0.510 | 0.249 | 0.105 |
| | N | 48 | 48 | 48 | 48 | 48 |
| Personnel Manager | Pearson Correlation | -0.769** | 0.614 | 0.000 | 0.234 | 0.588 |
| | Sig. (2-tailed) | 0.009 | 0.059 | 1.000 | 0.515 | 0.074 |
| | N | 48 | 48 | 48 | 48 | 48 |

TABLE 5. Relationship Between Sales Mix and Budget Characteristics

| | | Budget approach | Budget average use | Extent of data gathered for sales forecast |
|---|---|---|---|---|
| Room Sales Share | Pearson Correlation | 0.739* | -0.751* | -0.899** |
| | Sig. (2-tailed) | 0.015 | 0.012 | 0.000 |
| | N | 48 | 48 | 48 |
| Non-room Sales Share | Pearson Correlation | -0.718* | 0.596 | 0.764* |
| | Sig. (2-tailed) | 0.019 | 0.069 | 0.010 |
| | N | 48 | 48 | 48 |

TABLE 6. Relationship Between Sales Mix and Budget Uses

| | | Planning | Target setting | Communication | Control | Performance measurement |
|---|---|---|---|---|---|---|
| Room Sales share | Pearson Correlation | -0.458 | -0.840** | -0.595 | -0.739* | -0.640* |
| | Sig. (2-tailed) | 0.183 | 0.002 | 0.070 | 0.015 | 0.046 |
| | N | 48 | 48 | 48 | 48 | 48 |
| Non-room Sales share | Pearson Correlation | 0.315 | 0.685* | 0.429 | 0.718* | 0.552 |
| | Sig. (2-tailed) | 0.375 | 0.029 | 0.217 | 0.019 | 0.098 |
| | N | 48 | 48 | 48 | 48 | 48 |

rooms ($r = 0.68$, $p < 0.05$), restaurant ($r = 0.88$, $p < 0.01$), bar ($r = 0.82$, $p < 0.01$) and conference functions ($r = 0.88$, $p < 0.05$) (Figure 2).

Strategic rooms pricing has a positive and significant effect on the application of PSA ($r = 0.64$, $p < 0.05$) and T.O. cost-profit analysis ($r =$

FIGURE 1. Uses of Budgets by Room Sales Share

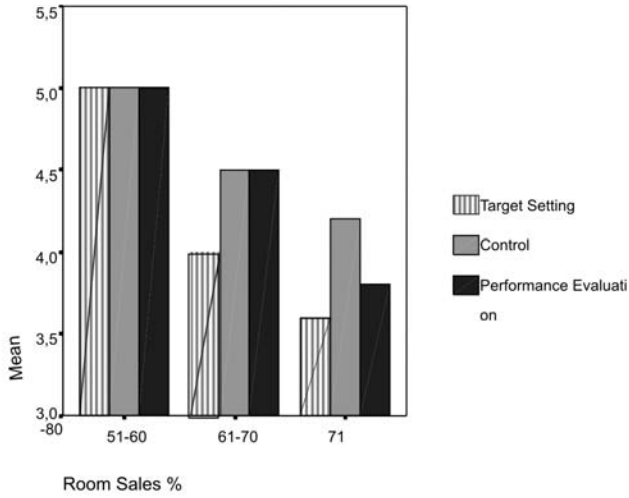
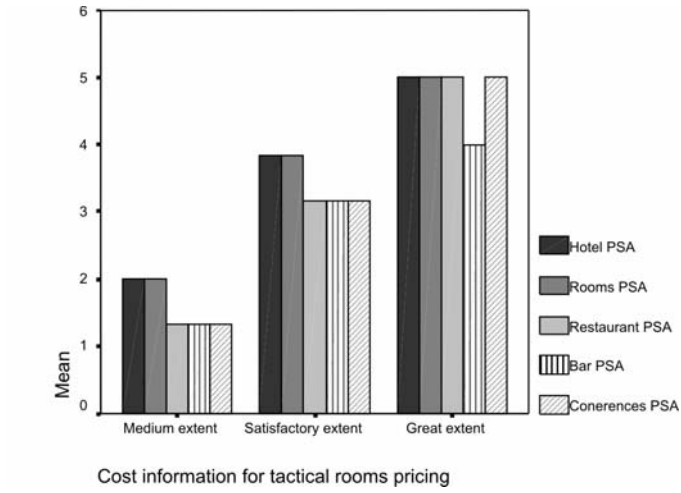



FIGURE 2. Relationship Between PSAs and Tactical Pricing for Rooms




0.64, $p < 0.05$). It also has an effect on the use of budgets for target setting ($r = 0.67$, $p < 0.05$) and communication purposes ($r = 0.74$, $p < 0.05$), possibly reflecting one reason–budget use–why cost information is referred to for strategic pricing (Table 7). If a hotel intends to use cost

TABLE 7. Relationship Between Cost Information for Pricing and Budget Uses

| Budget Uses | | Rooms strategic pricing | Restaurant strategic pricing | Bars strategic pricing | Convention strategic pricing |
|---|---|---|---|---|---|
| Planning | Pearson Correlation | 0.551 | 0.000 | 0.123 | 0.092 |
| | Sig. (2-tailed) | 0.098 | 1.000 | 0.736 | 0.801 |
| | N | 48 | 48 | 48 | 48 |
| Target Setting | Pearson Correlation | 0.667* | 0.229 | 0.206 | 0.250 |
| | Sig. (2-tailed) | 0.035 | 0.524 | 0.567 | 0.486 |
| | N | 48 | 48 | 48 | 48 |
| Communication | Pearson Correlation | 0.736* | 0.134 | 0.167 | 0.146 |
| | Sig. (2-tailed) | 0.015 | 0.713 | 0.645 | 0.688 |
| | N | 48 | 48 | 48 | 48 |
| Control | Pearson Correlation | -0.167 | 0.000 | 0.111 | 0.250 |
| | Sig. (2-tailed) | 0.645 | 1.000 | 0.760 | 0.486 |
| | N | 48 | 48 | 48 | 48 |
| Performance Measurement | Pearson Correlation | 0.167 | 0.238 | 0.235 | 0.306 |
| | Sig. (2-tailed) | 0.645 | 0.509 | 0.514 | 0.391 |
| | N | 48 | 48 | 48 | 48 |

information for pricing, it will require a strong base of accurate cost allocation to its products and services. The above findings indicate that these hotels also use other more sophisticated techniques in order to support pricing, such as PSA or TO profitability analysis.

(d) Budgeting approach and uses: The weighted average use of budgets correlates positively and significantly with the weighted average financial information ($r = 0.75$, $p < 0.05$), namely the information for board ($r = 0.64$, $p < 0.05$); GM ($r = 0.78$, $p < 0.01$); hotel managers ($r = 0.77$, $p < 0.05$); marketing ($r = 0.71$, $p < 0.05$); and personnel depart-

ments ($r = 0.89$, $p < 0.01$). A detailed analysis of these correlations can be found in Table 8.

Budget approach correlates significantly and negatively with the use of budget for target setting ($r = -0.71$, $p < 0.05$). This means that the more cooperative budget targets are, the more likely it is that budget will be used as a target setting tool. This finding backs up the theory that cooperative procedures are a criterion for target acceptance by personnel. Budget approach also correlates significantly and negatively ($r = -0.70$, $p < 0.05$) with gathered data for sales forecast ($r = -0.70$, $p < 0.05$), while average budget use correlates positively with collected data for sales forecast ($r = 0.81$, $p < 0.01$) (Figure 3).

The extent to which CSFs are tracked has a positive and significant correlation with the financial information provided both to general managers ($r = 0.75$, $p < 0.05$) and the personnel department ($r = 0.77$, $p < 0.05$), while the degree to which critical performance indicators (CPI) are applied is positively and significantly correlated with the financial information provided to departmental managers ($r = 0.66$, $p < 0.05$) and personnel department ($r = 0.66$, $p < 0.05$).

## *DISCUSSION AND CONCLUSIONS*

### *Greek vs. International Practice*

The costing system used by Greek hotels is of a different structure than that encountered in international practice, reflecting differences between the internationally dominant USALI system and the Greek National System of Accounts (GNSA) employed in Greece. While both systems analyse their reports at departmental level, a closer look reveals certain differences in their philosophy. USALI is based on responsibility accounting principles, rather than on the allocation of uncontrollable costs, and promotes flexibility with regard to indirect costs in hotel accounts. It seems that the industry's high contribution margins have led to this choice. On the other hand, GNSA adopts an approach that is closer to full costing, at least as far as production costs are concerned. Thus, indirect and uncontrollable costs are allocated first to departments and subsequently to hotel products and services. While it is obvious that GNSA more closely reflects the operation of manufacturing companies, we should bear in mind that USALI has also been criticized for this deficiency (Harris & Brander Brown, 1998), and for allowing flexible allo-

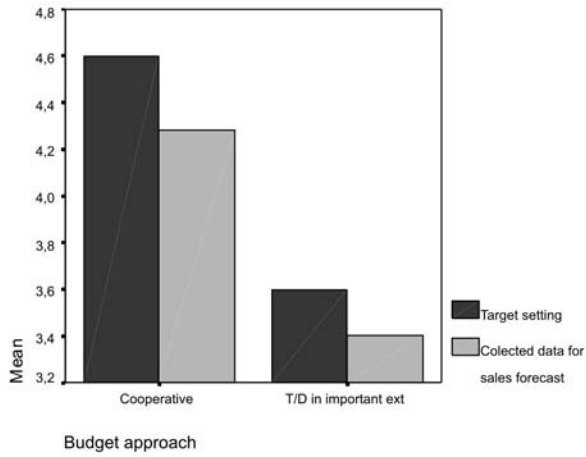
TABLE 8. Relationship Between Financial Information Provided and Budget Uses

| Management Levels | | Average use of Budget | Planning | Target Setting | Commu nication | Control | Performance Measurement |
|---|---|---|---|---|---|---|---|
| Average use of financial information | Pearson Correlation | 0.749* | 0.564 | 0.780* | 0.646* | 0.619 | 0.521 |
| | Sig. (2-tailed) | 0.013 | 0.090 | 0.008 | 0.044 | 0.056 | 0.122 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |
| Board of Directors | Pearson Correlation | 0.641* | 0.450 | 0.700* | 0.578 | 0.408 | 0.490 |
| | Sig. (2-tailed) | 0.046 | 0.192 | 0.024 | 0.080 | 0.242 | 0.150 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |
| General Manager | Pearson Correlation | 0.784** | 0.600 | 0.758* | 0.612 | 0.816* | 0.560 |
| | Sig. (2-tailed) | 0.007 | 0.067 | 0.011 | 0.060 | 0.004 | 0.092 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |
| Hotel Manager | Pearson Correlation | 0.769* | 0.747* | 0.802* | 0.814* | 0.378 | 0.261 |
| | Sig. (2-tailed) | 0.026 | 0.033 | 0.017 | 0.014 | 0.356 | 0.533 |
| | N | 22 | 22 | 22 | 22 | 22 | 22 |
| Departmental Managers | Pearson Correlation | 0.629 | 0.424 | 0.787* | 0.619 | 0.384 | 0.395 |
| | Sig. (2-tailed) | 0.051 | 0.223 | 0.007 | 0.056 | 0.273 | 0.258 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |
| Marketing Manager | Pearson Correlation | 0.707* | 0.600 | 0.758* | 0.697* | 0.408 | 0.385 |
| | Sig. (2-tailed) | 0.022 | 0.067 | 0.011 | 0.025 | 0.242 | 0.272 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |
| Personnel Manager | Pearson Correlation | 0.894** | 0.757* | 0.759* | 0.729* | 0.686* | 0.691* |

TABLE 8. (continued)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Sig. (2-tailed) | 0.000 | 0.011 | 0.011 | 0.017 | 0.029 | 0.027 |
| | N | 48 | 48 | 48 | 48 | 48 | 48 |

FIGURE 3. Relationship Between Budget Approach, Budget Use for Target Setting and Data Gathered for Sales Forecast




cation for many cost items (Geller & Schmidgall, 1980; Schmidgall & Malk, 1992; Potter and Schmidgall, 1999).

One major divergence from international practise is the extensive use of cost information for pricing. While the costing system that allocates more cost elements (e.g. uncontrollable) to departments and products has an influence, we believe that the main reason is the extensive use of TO as a distribution channel. All the hotels in the study distributed a considerable proportion of their capacity via this channel. Room sales are usually subject to a one-time negotiation, thus fixing service prices for the whole of the following season and leaving small margins (heavy discounting). The above results confirmed our belief that lower contribution margins would lead to some alterations in MA techniques used by Greek hotels. We also believe that hotels outside Greece that make extensive use of T.O. as the main distribution channel also use MA for pricing, though this remains to be proved.

In contrast to international practice, the use of flexible budgets is the rule in the Greek hotel industry. Seasonality may be the reason for this, as it forces hotels to construct budgets several months before their operational opening, which usually occurs in April. Given that tourism demand is liable to fluctuating account of unpredictable factors, a standard budget with a four-month gap before the first arrival cannot be considered a reliable tool. This is another point that could be tested outside Greece. On the other hand, the proportion of hotels using long-term budgets is lower in Greece than elsewhere. It has also been found that Greek hotels do not make extensive use of financial performance measures. Furthermore, managers' bonuses are primarily based on quality standards. While the above finding is consistent with recent research evidence, we should not rule out the possibility that this is due to the costing systems adopted, which lead to the allocation of many uncontrollable costs, and thus make it difficult to measure financial performance by managers and departments. Finally, our research has revealed that benchmarking practices are rarely employed in Greek hotels.

### *Impact of Size and Sales Mix/Structure*

The number of rooms and employees–which constitute measures of size–have a positive impact on the number of operational departments analysed for their contribution margins. Hotels with a high sales volume are more sensitive to accurate calculation of PSAs and thus make more extensive use of cost information for pricing all hotel services (rooms, food and beverage, and convention). It is obvious that higher sales volumes increase the impact of changes in contribution margins on profitability.

Highly interesting correlations include those revealing the impact of departmental sales share (i.e. Sales Mix) on MA practice, particularly when room and non-room sales are compared. If the room sales share is significant, then less financial information is provided for management use, influence on budgeting is more limited and less extensive use of budgets is made, particularly with regard to target setting, control and performance measurement. Finally, hotels examine the factors that influence sales forecasts to a lesser extent.

In contrast, as the share of non-room sales increases, more financial information flows through to managers. The latter then have a greater ability to influence budget targets and make use of them for target and control purposes, while factors influencing sales volume are more closely examined for sales forecasts.

One may thus conclude that the more hotels rely on room sales, the less financial information is required to support their operations and decision-making. In contrast, increases in the share of non-room sales leads to greater complexity in hotel operations. As a result, more detailed financial information is needed and used by all management levels. Budgets are of greater importance than in the past, and are used for a variety of purposes. Moreover, increased complexity of operations renders centralized management difficult. The result is that managers have a greater influence on budget targets setting, and staff empowerment is increased.

### *Correlations Between Management Accounting Techniques*

The extent to which cost information is employed for tactical pricing influences some characteristics of MA systems, particularly with regard to the accuracy of cost allocation to final products/services. PSAs are techniques related to cost information for pricing. Hotels making extensive use of cost information for tactical room pricing do the same for strategic room pricing. Extensive cost information for the latter is supported by TO profitability analysis and hotel PSA. Moreover, the budget is used for target setting and communication purposes, apparently so as to represent strategic prices. When the budget approach tends to be cooperative in terms of greater manager influence, the budget is used more extensively for target setting and sales forecasts.

The determination of CSFs is related to the extent of financial information provided to general management and the personnel department, while CPI is connected with the information provided to departmental managers and personnel department. The link between Human Resources Management and hotel CSFs was firstly suggested by Geller in 1985 (1985a, 1985b and 1985c), followed by Jones (1995). In our opinion, this link reflects the significance of human resources in general hotel management.

## *LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH*

Some limitations of the study should be addressed. First, it should be noted that the above findings reflect a somewhat homogenous sample, consisting of four or five star hotels with a minimum capacity of 150 rooms. Second, it is likely that the sample only includes financially

healthy hotels, since they judge their own performance as satisfactory. Third, the hotels surveyed distribute a large share of their capacity through TO, although this limitation is not of major importance if we consider the structural features of Greek tourism.

Further research is needed in order to explore, support and generalize the above findings. Given that the research sample is rather limited, comparable conclusions should be confirmed in a larger sample. We would suggest that future studies should cover as many aspects and dimensions of MA practice as possible. A more detailed investigation is necessary in order to acquire a deeper knowledge of the various issues. A case study approach could contribute to a better understanding of particular MA practices in the Greek hospitality industry, such as the extensive use of cost information for pricing. The same research approach could also be implemented in order to explore the differences between city and resort hotels in the field under consideration, i.e. the use of MA tools and techniques.

Another interesting and valuable research path would involve comparative analysis between Mediterranean countries with similar features in their hospitality industry on the one hand, and countries with a different hotel structure on the other. The first study could address the practices used to support MA when the main hospitality market is leisure/vacation holidays. The second would reveal any differences at MA level. Finally, further research should be carried out in order to gain a better understanding of the effect of operational and organizational features, such as departmental sales share, on the techniques used to support management decision-making. In this field, it appears that organizational theory offers a more suitable research approach.

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