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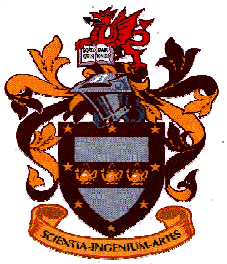

BUSINESS SCHOOL

THE ADOPTION AND USE OF INFORMATION TECHNOLOGIES BY GREEK LUXURY HOTELS

by

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requirements for the award of the
MBA Programme in Finance

Abstract

This study was conducted because of the author's interest in Information Technology investment in the Athenian hotel industry with reference to hotel productivity.

The aim of the research was to: (a) to examine the existing investment, the use and implementation of IT systems within the Athenian hotels; (b) to analyse and compare the differences on strategies and level of IT investment between the international hotel chains, Hellenic hotel chains and independent hotels.

The literature confirmed the importance of IT systems in hotels, and the application of them in the hotel's departments. It reported the investment on up-to-date IT systems that could be implemented and described benefits that derive from IT, such as speed, accuracy, discipline and capacity. Finally, it demonstrated the positive significance of IT investment on Hotel's productivity, leaving behind older assumptions, such as the 'productivity paradox', showing that though a firm were investing in IT, productivity did not increase.

Primary data was collected via interviews that conducted at the hotels in Athens. The findings identified that individual hotels' existing IT systems need to be upgraded. IT systems did help hotels to enhance quality and speed of service, and improve employees' productivity. The general conclusion is that IT can help all hotels to make profits, but afterwards they have to concentrate on new innovative services, so as to further satisfy their customers and increase loyalty, business and sale levels.

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List of Abbreviations

CIS	Catering Information Systems
CRS	Central Reservation Systems
€	Euro, €1 ≈ £0,67
EPOS	Electronic Point of Sale
GDS	Global Distribution Systems
IS	Information Systems
IT	Information Technology
PMS	Property Management System
POS	Point-of-Sales
SMHO	Small-Medium Hotel Organisations

Declaration

I hereby declare that this thesis has been composed by myself and has not been presented or accepted in any previous application for a degree. The work, of which this is a record, has been carried out by myself unless otherwise stated and where the work is mine, it reflects personal views and values. All quotations have been distinguished by quotation marks and all sources of information have been acknowledged by means of references including those of the Internet.

Date: …… Signed: ……

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1 INTRODUCTION

1.1 INTRODUCTION

In this introductory chapter, a general outline of the whole dissertation study is presented. In the next paragraph there is a brief literature review of all secondary data gathered by the author during the research of the study. After that, the research objectives and the problem statement of this study are reported, as well as the purpose of the study. Finally, a structure of the body of the dissertation is presented and also a brief content of the following chapters.

1.2 RESEARCH BACKGROUND

Even though not much research has taken place concerning the topic of the impact of IT investment on hotel productivity especially within the Hellenic hotel industry, there exists some literature background provided by authors whose work involves IT investment. However only a few of these authors have combined their work on IT investment with the hotel sector. On the other hand, extensive research has been carried out in the field of IT systems by many other academics and authors.

Johnson and Scholes (2002), suggest that the impact of IT systems on an organisation is significant, in addition, O' Connor (1996), as well as, Robson (1997) present many benefits that IT systems have within a firm, like speed, accuracy, discipline, capacity, quality, productivity, flexibility, and reliability. Furthermore, Robson (1997), and Cunningham (1985), evaluate the appropriate time period that IT investment should follow. In addition to that, Laudon and Laudon, (2000), Peacock (1995), Aidi (2001), and Wllcocks (1994), argue on the return of IT investment and on strategies that have to be considered.

Many other authors and researchers like, Porter and Millar (1985), Ransley and Ingram (2000), Kasavana and Cahill (1997), and others present and adapt IT systems in the hotel industry and the departments of a hotel. Moreover, Medlik and Ingram (2000), analyse the IT benefits in a hotel. Peacock (1995) and O' Connor (1996), evaluate IT

investment in the hotels and Aidi (2001) argue on how much should a hotel company invest in IT systems.

There are few other authors and researchers that state the benefits of IT investment in the hotels. This topic has been studied by Buhalis, Keeling, Lacorte, and Reynolds (1997), Okumus and Roper (1999), as well as, by Sigala, Lockwood, and Jones (2001). The last three with Connolly (2000), Weill and Broadbent (1998), Poon (1993) and few others give much helpful information on strategic hotel IT investment. Finally there are many innovative IT operations from the leading hotel companies of the world that are reported in chapter 4.

There is very literature concerning IT systems and hotel's productivity, while there are few researchers that argue on the productivity paradox, as Lehr and Lichtenberg (1997), Loveman (1991), Panko (1991), Roach (1991), Thatcher and Oliver (2001). The last two authors give also little information on IT investment and productivity in addition to Peacock (1995), Roger and Warner (2000).

1.3 Problem Statement and Research Objectives

Information Technology (IT) issues cannot be studied only once, and then to consider the result of such a study as a known fact. That is because today, even more than ever, IT changes so rapidly that it requires a continuous effort and research from the management of a hotel company in order to keep in touch with the latest news, updates, versions or hardware of IT products offered. Especially, in the hotel industry, which still offers a humanely service product, IT is nowadays, a very important issue.

Following the problem statement of this thesis, there are three research objectives that flow from it. With this study, the author seeks to:

I. Examine the existing investment, use and implementation of IT systems within the hotels in Athens and greater Attica area

II. Analyse and compare the differences on the strategies and levels of IT investment between the international hotel chains, Hellenic hotel chains and other independent hotel companies

III. Examine the ways IT investment was used as a business tool for the Olympic games of 2004 held in Athens, and how IT systems helped the hotels improve their productivity.

In order to meet the demands of the above objectives the researcher conducted a survey in the Athenian Hotel Industry. Primary data was gathered with face-to-face interviews at the Hotels.

1.4 Purpose Of Study

This dissertation study of IT investment on the hotels of Athens concerning their productivity is exploratory. The research tries to focus on the benefits that result from IT investment in the hotel industry of Athens while examining the existing use of IT systems (hardware and software). Additionally, it reveals the strategic decisions and actions taken from the hotels of Athens concerning IT investment, whilst, it tries to show how hotels justify the sort of investment in IT that would increase their productivity. Finally the study answers the question for the future investment strategies of the Athenian hotels, and if it is possible for them to follow the ongoing demand of the hotel industry in new IT systems.

1.5 Structure of the Dissertation

This dissertation consists of nine chapters. This first chapter introduces the topic of study, by describing the general context of the study and the objectives that need to be fulfilled by the survey. The following 4 chapters analyse the research literature background. In chapter 2 the importance of IT within an organisation is presented, while, the next chapter (chapter 3), applies IT systems in a hotel company and the departments of it. Chapter 4 reports the investment on up-to-date IT systems for the hospitality industry and describes the benefits that derive from IT. Finally, in chapter 5 the author analyses the impact of IT investment on Hotel productivity, and gives an explanation of the productivity paradox.

After the analysis of the secondary data in the first chapters, chapter 6 follows with the methodology of the whole research. Chapters 7 and 8, present the findings of the survey conducted in the Athenian Hotel industry. Chapter 7 is rather more descriptive and reports the findings as a whole. In the contrary, chapter 8 analyses and compares differences on the strategies and levels of IT investment between the international hotel chains, Hellenic hotel chains and other independent hotel companies. Additionally, there is discussion over these differences.

Finally, in the last chapter there is a summary of the dissertation in addition with some limitations of this study, and recommendations for future research. Lastly, there is a brief presentation of the contribution of the study.

2 THE IMPORTANCE OF INFORMATION TECHNOLOGY IN AN ORGANISATION

2.1 INTRODUCTION

The impact of Information Technology (IT) within an organisation is significant, as IT can transform the competitive forces in an industry, according to Johnson and Scholes (2002). Today, managers generally regard IT as only one of many possible investments that may benefit their firms. When they chose to invest in IT, they do so in the belief that such an investment will provide better returns as compared to other alternatives (Nap.edu, 1994).

IT is an important element in creating services that are better customised and tailored to meet the needs of individual customers. Companies increasingly compete in other aspects of customers' service quality, often using IT to serving customers more rapidly, pleasantly, responsively, accurately, and completely. Such improvements help generate long-term loyalty among customers. Similarly, IT can play an important role in improving reliability by ensuring more consistent levels of performance and minimising errors and can thus enhance customers' perceptions of a company and its services (Nap.edu, 1994).

2.2 WHY USE AN IT SYSTEM?

Strategic IT investments are highly risky to make, but can offer huge rewards to a firm. The major difficulty occurs in *evaluating* these investments and *justifying* them using current IS executive skills and approaches (Balasubramanian, Kulatilaka, and Storck, 2000). Some of the characteristics, as O' Connor (1996) implies, which make them useful are the following:

- Speed
- Accuracy
- Discipline
- Capacity

But what are the benefits that result from IT system activities? They are the ways in which an organisation is able to improve its situation as a result of the manner in which

information is managed. Benefits come as a result of what it becomes possible for the organisation to do. What makes information valuable is the corner-stone notion that is supporting the issues of organisational change. Value potentially comes from a number of facets of information, and the list provided by Angell and Smithson (1991) is an extensive as most. Robson (1997), identifies the points where values accrue as:

Accuracy	Quality	Usability	Flexibility
User satisfaction	Functionality	Reliability	Utilisation
Relevance	Productivity	Security	
Profitability	Speed	Volume	

Furthermore, regarding the market research, IT puts masses of data into the hands of companies at very low cost. So the prizes are there for the market researchers who can develop data mining skills. Since interactive relationships will be developed with customers, it opens up possibilities for more experimentation as a key way of learning how customers and markets behave (Johnson and Scholes, 2002).

2.3 VALUE GENERATING IT SYSTEM INVESTMENT

IS benefits felt particular management levels within the organisation can easily be focused with IS investments intended to have differing impacts upon the business. Robson (1997) argues that the latter are:

- *Operational Value Investment.* These productivity-improving projects are investments in transaction processing projects with short-term gain horizons, usually to reduce costs in business processes. These may be one form of IS investment for which traditional financial justifications are appropriate, though they must not be confused with a strategic investment whose impact happens to be upon business operations.
- *Strategic Value Investment.* When a business-enhancing or risk-minimising project intends to improve the revenue generating potential of the organisation then the gain horizon (the time scale anticipated to reap a particular benefit) will probably be long term; the value of this project will be direct but extremely hard to quantify though revenue growth rates may offer some approximation. Frequently investments that were conceived under one of the other three headings are claimed in retrospect as a strategic investment. Indeed as Cunningham (1985) points out, the market is frequently the only definer of strategic value, and it quickly tells the competition:

You only know that you have a strategic system when the competitors start spending money they did not know they had available to spend. However, as Robson (1997) states, business benefits do not only come in operational versus the strategic variants and there are at least two other types of value generating IS investments, these are:

- *Threshold Investment.* These are the investments in IS projects that an organisation must make to operate within the industry. Whilst, 'returns' are not easy to identify the investment is effectively mandatory. These projects may actually have a negative RoI but the investment must still be made for competitive survival.
- *Infrastructure Investment.* These investments typically have medium-term gain horizons and cannot normally generate any direct benefits, such as staff costs savings, but provide the enabler for many other value generators, such as improved management communication. These projects intend to create a backbone for the organisation and hence can be viewed and assessed as assets.

2.4 But What is the Return on IT Investment?

Like any other capital investment, the key question here is whether or not the firm is receiving a good return on its investment in IT. And, when compared with competitors, are we spending too much or too little? Notice that this is not the same question as "does this particular system show a sizable return on our investment?" Instead, the key question from the firm-wide or enterprise-wide view is whether or not the entire IT investment portfolio is returning an acceptable benefit to the firm given the competitive circumstances. The nature of the benefits may be financial returns in the sort-term, or long-term strategic positioning, or market share (Laudon and Laudon, 2000).

Justifying the expenditure is a difficult question with brand new systems, but as Peacock (1995) points out, considerably more complicated when an existing system is being replaced with a more 'up-to-date' one. Once a system is installed it develops a force and momentum of its own. Questions of speed and integration become paramount. The user of the system wants the latest 'much improved' model.

Paradoxically, the more a company succeeds, the more it must invest to protect its competitive edge. This raises important questions as to just how much an organization should invest in IT, underlining the industry's current inability to assess technology's true value-adding capabilities. Traditional financial models are hard to apply given the difficulty of estimating all of the costs and benefits of specific IT projects. Appropriate alternative models formulated at the think tank centred around two core elements:

1. Estimating cash flows associated with an investment over its useful life, and
2. Assessing the impact on the firm's capital costs as a result of the risk associated with an IT investment. (Aidi, 2001).

Senior managers often feel that the company should receive greater benefits from its investment in IT. To increase the return on investment, IT must be tied into the business strategy of the organisation. According to Reynolds (1992), successful companies within a given industry attempt to position themselves relative to their competition by adopting one of the following three *basic strategies*:

1. Become the lowest-cost producer or service provider within the industry.
2. Develop specialised services or products that set the company apart from other in the industry.
3. Concentrate on selling to a particular market or occupying a specific product niche.

Finally, IT investments can have a strategic impact on the firm by enabling the firm to obtain higher returns than its competitors; that means that these investments can enable a firm to gain competitive advantages. An IT investment can provide a firm with large returns by enabling it to develop new products or services, or enabling it to develop or maintain any advantages it currently enjoys (Willcocks, 1994).

2.5 CONCLUSION

Throughout this chapter a first impression on the importance of IT systems within an organisation nowadays was reported. It also presented some benefits such as speed, accuracy, discipline and capacity (O'Connor, 1996) that come from the IT systems and help the firms to improve their businesses. In addition to that there was also reference to the investment plan that a company might adopt, which might be a short-term *Operational Value Investment,* a long-term *Strategic Value Investment,* or even *Threshold Investment,* or *Infrastructure Investment* (Robson, 1997), as well as this chapter showed the need to understand and the ways to monitor the return on IT investment. These are focused into 3 basic strategies, which are: to become the lowest-cost producer or service provider within the industry; to develop specialised services or products that set the company apart from other in the industry; or to concentrate on selling to a particular market or occupying a specific product niche (Reynolds 1992).

The following chapter applies IT systems to a hotel organisation and analyses their usage and importance within the hospitality industry. Furthermore, it describes all the types of IT systems that are used within the departments of a hotel.

3 APPLICATION OF INFORMATION TECHNOLOGY SYSTEMS IN HOTELS

3.1 INTRODUCTION

Recent technological developments in the management of IT systems in the lodging industry have significantly affected all the departments of a hotel. The dependence of the hospitality industry on computer processing is continuing to grow. In fact, nearly all aspects of the industry employ comprehensive computer-based information systems. These hotel IT systems are discussed in this chapter. The following paragraph describes the importance of IT systems in the hotel industry. Thus, subchapter 3.3, presents all IT systems that a hotel may use in every department as well as their possible integration.

3.2 IT SYSTEMS IN THE HOTELS

As Porter and Millar (1985) argue, business companies want to be competitive and successful by use of IT. It is very important to notice that a company should keep up business with IT strategic planning, so that the planning of new business applications is more effective. Business objectives should link with IT through critical success factors, considering business value-added, monitoring customers' perception, providing new products and services, and producing market distribution, which can help deliver and satisfy customers' needs, and company's goals. Customer's needs and company's goals are the major factors taken into account when a new IT product is being designed.

Wainright, Brown, DeHayes, Hoffer, and Perkins (2002) report that "although using IT to enable new business strategies is not new, the business environment of the 2000s is qualitatively different: IT is being used today to shape business strategies. In fact, some would argue that many companies are in a position of being IT-driven". And Ransley and Ingram (2000) add that, "whether redesigning or starting from scratch, a unique opportunity exists to rethink both systems and technology", because "Strategy needs information and it is through information technology that hospitality enterprises move beyond 'take it or leave it' responses to a more customer-focused approach to their business (Peacock, 1995).

Information Technology is one of the most fastest-changing aspects of the hospitality industry. Advances in the areas of reservation systems, guest services, food and beverage management, hotel sales, and hospitality accounting have placed computer systems technology in virtually every area of hospitality operations. Today more than ever, hospitality managers must understand the fundamental features of computer systems and manage the information systems within their organizations (Kasavana and Cahill 1997).

O'Connor (2000) believes that for hospitality businesses, it is no longer a question of whether to computerise, but which system will give the most benefits and should be installed first, while IT is currently one of the critical success factors in the hotel sector. Central Reservation System's (CRM), which cover any computer system used for management of room inventories are now utilised by several hotel operators. (Phillips, and Moutinho, 1998).

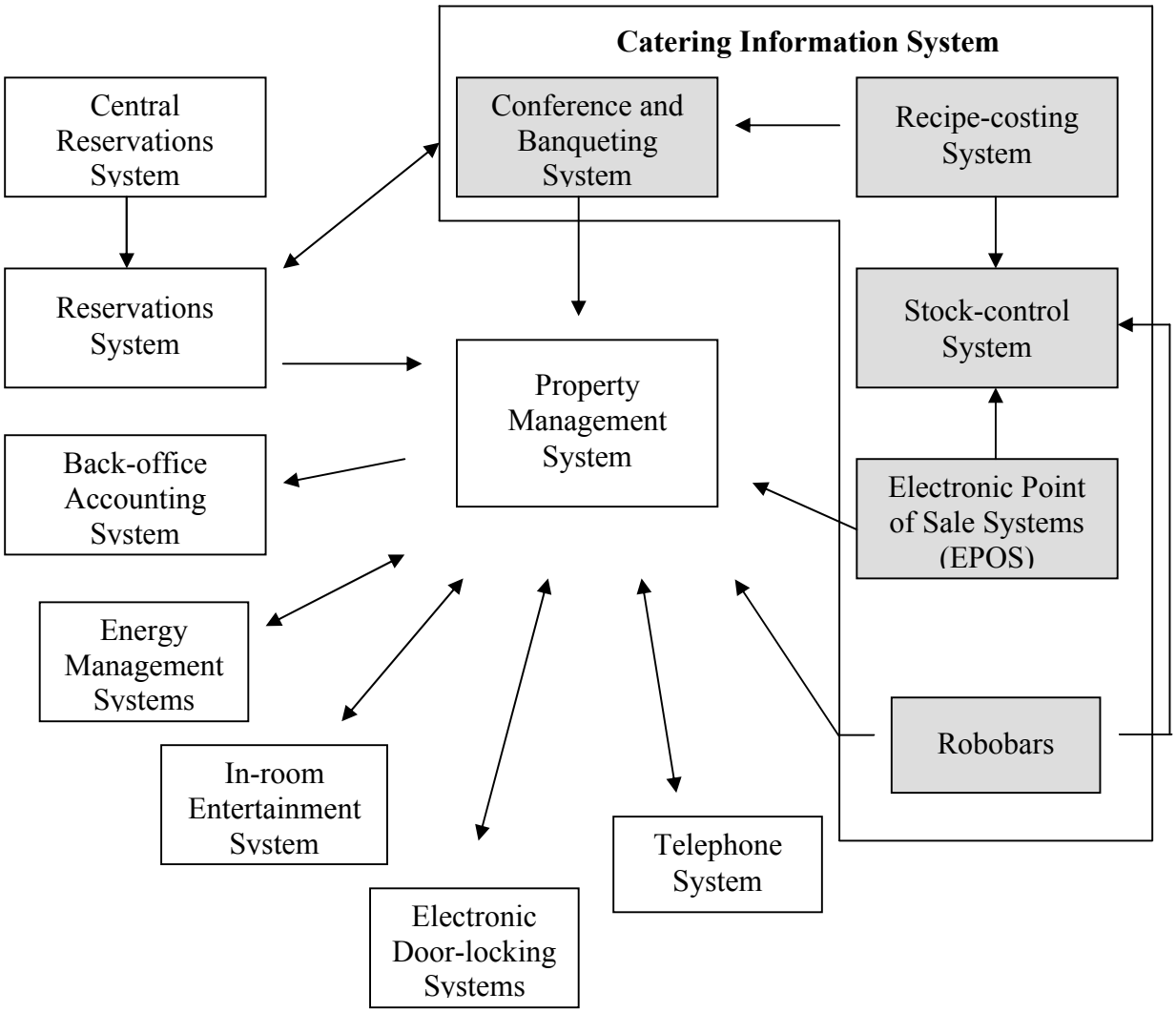
Technology in the hotel sector contributes to improving the quality of services and increasing the efficiency of the operation. Hotel rooms are being equipped with computerised equipment familiar to customers and increasingly expected by them. Back office equipment allows managers to obtain speedy, accurate and comprehensive billing information; to provide detailed guest profiles to help improve service; to facilitate the analysis and control procedures and to assist in the elaboration and monitoring of forecasts and budgets (Knowles, Diamantis and El-Mourhabi, 2001).

The main applications of computers in hotels are being extended from their established role in reservation systems to front office procedures and guest accounting, to purchasing, stock control and general accounting functions of hotels, as well as other aspects of hotel operations, to form integrated management information systems, which enable the whole business to be closely coordinated and monitored. Technology is becoming an essential component of the increasingly popular "smart hotel room" – where every need of the traveller is met and systems control temperatures, air purity and sound. Hotels which make room design adjustments for the business guest will undoubtedly be in a better position to capture their business, as Olsen (1995) argues, cited in Medlik and Ingram, 2000).

3.3 THE HOTEL DEPARTMENTS AND IT IMPLEMENTATION

In the next paragraphs a review of the main types of IT application used in hotel operations and management is presented. As O' Connor (1996) discusses, each of these systems can be and often used separately. However, they operate much more efficiently when linked together to form an integrated hotel system. Although each system is discussed separately below, the importance of their integration should always be born in mind.

Figure 3.a: The Hotel-Orientated Components of an Integrated Hotel System (O' Connor, 1996).



As it can be seen from the previous figure an integrated hotel system is composed of many different systems linked together. These include the following systems which are described in the following paragraphs.

3.3.1 Reservation Systems

A reservation system has two primary functions: to display room availability and to accept bookings. Other functions may include the ability to track guest deposits and travel agent commission, and the ability to provide important management and operational information (O' Connor, 1996).

3.3.2 Property Management Systems (PMS)

As O' Connor (1996) describes, PMS is sometimes referred to as front office systems, that track which rooms are currently occupied or vacant in the hotel and maintain the guests' folios by recording details of all sales and payment transactions. Moreover, according to Kasavana and Cahill (1997) PMS technology interfaces to larger computer systems which have become a popular means of expanding data processing capabilities that may include word processing, electronic spreadsheets, database management, and communication programs.

3.3.3 Electronic Door-locking Systems

This ancillary system supports the hotel's PMS by generating a unique electronic key each time a new guest registers and thus helping to increase security.

3.3.4 Energy Management

Helps to reduce heat and power costs by automatically turning off heating or air-conditioning in rooms or sections of the hotel which are unoccupied.

3.3.5 In-Room Entertainment Systems

These systems provide extra services such as information screens, films or computer games to guests, while at the same time generating additional revenue for the hotel.

3.3.6 Telephone Systems

These may include 'call logging' record data on each call made from the direct-dial telephone in he guest's room.

3.3.7 Back Office Systems

Software is also widely used in what could be described as the normal business areas of the hospitality industry. For example, *accounting systems* track debtors and creditors and generate final accounts and management reports periodically. In addition to that *payroll systems* automate the process of calculating wages and salaries, as well as maintaining period-to-date balances. Software is also used in the *marketing area* to maintain lists of the past or prospective guests, and to perform detailed analysis on the sales data (O' Connor, 1996).

3.3.8 Catering Information Systems (CIS)

These systems manage and control all aspects of food and beverage production and sales. A CIS is also composed of several separate systems linked together to exchange data and some of them interface as well with the PMS. The next paragraphs refer to those systems that compose the CIS.

3.3.9 Electronic Point-of-Sales (EPOS)

An EPOS, such as a network of electronic cash registers, is capable of capturing data at point-of-sales (POS) locations and transferring them to the system's guest accounting and financial tracking modules. The ability to communicate such data to both front and back office components can result in numerous benefits derived through comprehensive reporting (Kasavana and Cahill, 1997).

3.3.10 Robobars

According to O' Connor (1996), robobars are used to provide drinks and small food items in the guest room. Due to the integration between robobars and the PMS, charges are posted automatically to the guest account folio. As soon as a transaction is completed, its relevant charge appears on the folio, thus helping to increase security and ensure that the guest does not depart without paying for all the services received.

3.3.11 Recipe-Costing System

It can accurately cost food and beverages items and automatically update costs when ingredient prices change.

3.3.12 Stock-Control Systems

Can track inventory movements, record deliveries and issue and identify variances between actual and theoretical stock.

3.3.13 Conference and Banqueting Systems

These systems manage and control the complex tasks of functions reservations, organisation and billing.

As it can be assumed, integration is very important for the efficient operation of these systems. For example the recipe-costing system uses up-to-date prices from the stock-control system to calculate the cost of various recipes, which are then combined to form menus. These menus are sold to the customer through both conference and banqueting systems and the EPOS. They are also used, together with sales data from the EPOS, to detect variances in stock levels by the stock-control system (O' Connor, 1996).

3.4 CONCLUSION

In contrast to "high-tech" IT products that may be implemented in the hotel's departments, the research comes up with the hotel industry in Greece. The property market in Greece is relatively illiquid compared to western European countries. Private investors own the majority of the hotels and there is little evidence of interest from international operators.

After describing the kind of IT systems that can be used in every single department of a hotel, the next chapter analyses the investment on such up-to-date IT systems for the hospitality industry, as well as describes the major benefits that derive from such investments. Furthermore, it evaluates IT investment for hotels and answers to the question of how much should a hotel company invest in IT systems. Finally, it presents the existing situation nowadays and major IT systems and services that derive from them that the leading hotel companies adopt.

4 INVESTMENT ON UP-TO-DATE IT SYSTEMS FOR THE HOSPITALITY INDUSTRY – DESCRIPTION - BENEFITS

4.1 INTRODUCTION

As Bill Gates (1999) notes, the successful companies of the next decade will be the ones that use digital tools to reinvent the way they work. These companies will make decisions quickly, act efficiently, and directly touch their customers in positive ways. The companies that effectively use information technology (IT) will be the ones that best improve customer service, whether those customers are external (e.g., guests) or internal (e.g., employees, stockholders). Certainly this holds true for the lodging-industry champions who were nominated by peer organizations and managers for their efforts in information technology (Siguaw and Enz, 1999).

This chapter presents an evaluation of IT systems in the hotel industry while states why should hotels invest in IT and to what extent. Moreover, paragraph 4.5 reports the capabilities that IT systems give in the industry. Finally, strategies on IT investment are discussed as well as various IT strategic innovations that the leading hotel companies have achieved.

4.2 IT IMPORTANCE IN HOTELS

Although, many companies in the hospitality industry are mired in legacy technology, and too often owners are more open to putting money into new carpet than into technology. As a result, many of these systems are held together with band-aids. In the long run, however, this approach will be more costly to maintain than the new systems. The hotel industry is behind other businesses when it comes to issues of e-commerce and, more specifically, e-integration and data warehousing. The financial services, retail, and some other travel industries are more advanced (hotel-online, 2001).

Since the 1960's rapid development of information technology and computers has spread to almost every walk of life and some of its most fruitful applications have been in service industries, in accounting, banking and retailing, as well as in hotels. More recently developments in computer hardware and software have enabled the more widespread use of computers in both small and large hotel operations. This technology now makes

possible fast, reliable and cheap electronic devices that can help hotels, according to Medlik and Ingram (2000), in the following areas:

- Administration: word-processing, spreadsheets, data storage and manipulation.
- Communications: fax, e-mail, telephone, messaging, pagers.
- Control: reservations, billing, telephone charging, in-room entertainment.
- Finance: budgeting, accounting and taxation.
- Internal systems: property and energy management, security and fire control.
- Management: management information and decision making, project management systems.
- Marketing: Internet selling, customer profiling.

A major development of recent years has been a rapid growth of computer reservation systems and global distribution systems (GDS) and central reservation systems (CRS). The leading hotel consortia use the power of new technology to market the hotel services of their members around the world. Global distribution systems allow these consortia to update information on availability of room stock and prices (Medlik and Ingram 2000).

4.3 Evaluation of IT Investment in the Hotels

As O'Connor (1996) states, the effectiveness of an information technology system is directly related to the quality of the management using it: it cannot compensate for management shortcomings and will only accentuate them. In a well-managed hotel, a system is perceived as a tool for better performance, while in poorly managed properties, a system often serves as a convenient excuse for all operational problems.

Senior managers interviewed by a committee during a recent survey, tended to cluster their selected uses of IT into several broad categories that they evaluated using various techniques. The uses of IT included systems to support:

1. Basic infrastructure for communication and data handling
2. Mandated requirements
3. Cost reduction

4. Specific new products
5. Desired improvements in quality, and
6. Major strategic repositioning.

Companies tended to evaluate investments in IT on a program-by-program basis, rather than being concerned with measures of overall productivity (nap.edu, 1994).

Is the evaluation of IT investment the same from all the hotel companies? As said by Peacock (1995) the owner of a small hospitality business perceives investment differently to a manager to a large corporation. It is seen much more in terms of 'the money available' or 'replacing obsolete equipment' rather than in the effect the investment could potentially have on cost reduction, increasing profits or operational efficiency. In another study (Peacock, 1995) managers were asked to cite their primary reason for investment, and while 'money available' or 'replacing equipment' (need) could be linked to costs and profits, the primary focus on the respondents demonstrated a difference in approaches.

4.4 How Much Should a Hotel Company Invest in IT?

In terms of cash-flow estimation, there was consensus that the emphasis has to be on improving efforts regarding the intangibles. The focus narrowed to the identification of the revenue and cost variables, as well as associated non-cash items such as depreciation and amortization, in addition to the metrics used to measure them. The complexity of technology investments and their enterprise-wide impact prompted a call by participants for a research effort into all of the potential variables that could be included in every IT investment decision. This would help the industry improve its ability to estimate the life of such investments in a fast-changing environment (Aidi, 2001).

The point made was that failure to accurately estimate cash flows; timing and impact of technology investments exposed the hospitality firm to risk. And unless hotel executives manage this well, they will have to pay a risk premium over and above the normal cost of capital. Participants were adamant that the collective inventory of management skills in this area is near bankrupt and must be changed (Aidi, 2001).

4.5 What are the Benefits of IT Investment in the Hospitality Industry?

The revolutionary capabilities that IT systems present, provides innovative hospitality managers with strategic tool with which to re-engineer established business practices in order to achieve competitive advantages and enhance competitiveness in the global tourism arena (Buhalis, Keeling, Lacorte, and Reynolds, 1997).

The European hotel industry is focusing upon Information Technology (IT) solutions, which can help hoteliers to meet the demand for high quality customer service and cost-effective distribution channels whilst reducing overall operating costs. Offering high standards of (a) customer service and building (b) long-term customer relationships have therefore become key strategic objectives in order to retain competitive advantage. In order to achieve both of these objectives, Information technology is an effective tool which hotel management can use to improve their business performance.

IT investment is being made in these key areas:

- Improving service with customers by developing customer information systems
- Distribution channel management by developing cost efficient reservation systems
- Internal communications was also highlighted as important for efficient operations and consistency of customer experiences across hotels within a group (e.g. POS Systems)
- Introducing innovative services in order to meet the needs of the business and leisure traveller (e.g. Online Reservation Booking and processing Real-time Information). (IBM, 1998)

While hospitality businesses have unique information needs, every business needs to minimise expenditures. Kasavana and Cahill (1997) argue that cutting expenses by failing to purchase critical hardware components or software programmes can create expensive problems in the future. For example, if management purchases a central processing unit with insufficient operating capacity, the computer system will not have adequate response time, which will frustrate guests, managers and employees alike. Likewise, if expenses are

cut by purchasing relatively cheap software that eventually fails to meet the information needs of the business, modifications may be very expensive.

The process of purchasing a start-up computer system or upgrading a current system can be complex and time consuming. Many properties appoint a computer project team. (Kasavana and Cahill 1997).

Apart from the following IT investment benefits,

- improve agency sales productivity
- decentralise operations
- improve customer loyalty
- reduce operating costs
- improve marketing effectiveness
- improve customer service
- launch new services (IBM, 1998),

it is very important to note that the ability to identify, understand and communicate at a personal level with the customer is an essential activity for any customer-focused organisation. Management information and reporting is vital not only to understand the needs of the guests but also an important factor to running a smooth and cost-effective business operation. The ability to respond quickly to changes in the market and to customer needs is dependent on the ability to monitor and analyse real-time information in relation to the business (Seven Seas Computer, 2001).

The hotel industry is, at the same time, clearly moving towards the use of new technology that allows the customer to seek out information about the hotel for themselves. 69% of respondents within a survey stated that a high priority is being given to professionally maintaining their own web site from which customers can derive marketing information (IBM, 1998).

Finally, integrated IT systems are required in order to enable employees to exchange and share knowledge. In this area, conflicting interests and approaches between IT suppliers, developers and hotel management need to be managed (Okumus and Roper, 1999). IT systems that can embed such employee knowledge can prove most useful for

implementation in a hotel industry that suffers high labour turnover, allowing employee skills and knowledge to be retained even when they leave the company (Sigala, Lockwood, and Jones, 2001).

4.6 HOTEL STRATEGIC IT INVESTMENT

As we move from the industrial era to the knowledge era and from mass production to mass customisation, hotels need to reengineer their processes and policies. These are evolving from a decision support tool to a critical application for supporting and complementing competitive strategies (Sigala, Lockwood, and Jones, 2001).

Technology becomes a main source of sustainable competitive advantage and a strategic weapon, especially in the tourism and hospitality industries, owing to the pivotal role information plays in the description, promotion, distribution, amalgamation, organization and delivery of tourism products (Poon, 1993; Sheldon, 1997). Technology can offer significant advantages in operational (e.g. property management systems), tactical (e.g. financial modelling, yield management) and strategic management (e.g. decision support systems) of SMHOs. Increasingly the use of IT systems is a major prerequisite in forming strategic alliances, particularly in the supply chain; developing innovative distribution channels and communicating with consumers and partners. Both customers and partners also tend to place a greater value on organizations, which utilize IT systems than their competitors (Edgar, 1996; Hewson, 1996; Senker, and Senker, 1992).

However, despite the technological revolution experienced in the tourism industry, hospitality organizations have traditionally been reluctant to utilize IT systems (Beaver, 1995; Whittaker, 1987). This recent research demonstrates that technology is under-utilized in SMHOs in most peripheral European destinations, such as the Aegean islands, rural Wales, and Alpine French resorts (Buhalis and Main, 1998).

Hospitality executives are being pressured daily to invest more in information technology (IT), yet as the diversity of IT options and the resulting complexity grow at ever-accelerating rates, it becomes increasingly more difficult and time consuming for

executives to evaluate and select the appropriate technologies and distribution channels. The problems are confounded by the frailties of existing financial models and the hospitality industry's ability to capture and quantify the intangibles (Cho and Connolly, 1996).

Since IT investments and expenditures no longer rest solely in the domain of IT, not all IT-related expenditures (and the corresponding benefits) are reported as such, making it difficult to ascertain a firm's total IT expenditures and, in some cases, expenditures related to a specific IT project. The result is the inability to fully assess the benefits or effects of the firm's IT. Since firms often lack a well coordinated IT effort, firm wide, researchers and practitioners alike must look for new methods to evaluate their role and contribution to firm performance and competitiveness (Connolly, 2000).

The absence of decent tools makes rigorous analysis impossible. Consequently, decisions are not always rational or based on sound evidence. They tend to rely as much on luck and company politics as they do on knowledge of the market place. Applying a framework proposed by Weill and Broadbent (1998), it seems that there are six prevailing philosophies regarding IT investment within the hospitality industry. All projects tend to fall in one of the following six categories:

1. Essentialness to survival
2. An act of faith (or gut feeling) that an investment will prove beneficial to the firm over the long term
3. Projects with an intuitive appeal and seemingly obvious outcomes
4. Projects that are required or mandated (either by law, by regulation, or by top management)
5. A response to moves by competitors to achieve parity or protect market share, and
6. Paralysis by analysis in situations involving high degrees of risk and uncertainty, either perceived or actual.

More often than not, decisions related to IT tend to be made on an ad hoc basis because of the difficulties in evaluating IT investment decisions and judging their strategic benefits in advance of implementation (Antonucci & Tucker, 1998; Farbey et al., 1992, 1994; Clemons & Weber, 1990; Diebold, 1987). In many firms, formal justification procedures

simply do not exist, and where they do exist, they are not always followed or enforced; instead, a project champion is left to determine the approaches deemed appropriate and sufficient to gain project approval and funding (Farbey et al., 1992, 1994).

With respect to overall IT budgeting, firms tend to use simple approaches to establishing IT budgets such as developing guidelines based on existing budgets (some percentage of the prior year's budget, which is often determined through a series of negotiations by senior executives and IT management) or benchmarking IT expenditures with those of competitors so as to maintain competitive parity. Needless to say, these approaches demonstrate little rigor and may lead to inappropriate or ineffective investment decisions, especially when resources must be allocated across multiple, contending projects and involve large sums of capital—as in the case with most technology investments related to GDS (Connolly, 2000).

4.7 The Leading Hotel Companies

It is essential to mention how some of the leading international hotel chains handle IT investments and which are their innovative strategic moves the have succeeded until now.

There has clearly been an increase in the uptake of technology in the hotel sector in the recent years. It is clear to the whole of the hospitality industry, chain, consortia and independents that the Internet and IT is having an impact, though indications are that the independent sector is in the early stages of adoption with full e-commerce capability not yet fully exploited (Main, 2001).

According to the annual report of Jarvis Hotels plc (2000) the company has installed an improved property management system (PMS). This new system allows Jarvis to manage electronically its bedroom stock and monitor room yield. In addition, work on an improved link between the central reservations system and the PMS to allow two-way communication is underway. Called Project Reslink, it will allow the rapid transfer of sales data between the centre and the hotels facilitating automatic updates of all bookings made and rooms sold. This will provide better control of bedroom availability.

Moreover, the national sales team has gone on-line with the introduction of Goldmine, a customer database and diary management system. In conjunction with PMS, this will enable Jarvis to collect electronic information on its customers, improve its central database and carry out customer profiling. Finally, in order to maximise revenue, a new electronic point of sale (EPOS) system is being installed in the larger hotels. This system charges automatically to the guest's room account, bills for room service, bar and restaurant. It provides a more accurate record of food and beverage revenue, improves stock control and offers detailed sales information (Jarvis, 2000).

Another international hotel chain is Inter-Continental Hotels & Resorts, which has created a Global strategic-marketing database. With that database, it succeeded to have more-effective targeted mailings; increased ability to measure advertising effectiveness; increased guest loyalty program participation; and altered decision making of senior management.

Marriott International increased operational efficiency, reduced costs, and eliminated guesswork, increased revenues, improved profile of guests and identified weak-occupancy periods by applying Information Technology aligned with corporate strategy; and revenue-management systems for revenue enhancement.

In addition to that, Marriott by implementing "Courtyard" an Intranet system, it replaced manuals and other printed information with a result of increased productivity, reduced labour costs, and eliminated production and distribution costs of standard operating-procedure pages and binders.

Finally, Fairmont Copley and Plaza Hotel, increased guest satisfaction and loyalty with a property-management system, which is used in order to improve concierge performance. (Siguaw and Enz, 1999). It is obvious that investing in the most recent information technology can provide a competitive edge: increased efficiency and speed of service combined with increased access to information technology for the guest in the bedroom, will generally pay off in enhanced customer satisfaction (Ransley and Ingram, 2000).

4.8 CONCLUSION

Consequently, in the future, the difference between properties and companies that maximize profits, and those that do not, will be competencies in the new technologies. Using effective technologies can make the difference between good decision-making and bad. Appropriate systems and efficient system integration are an absolute must to making good management decisions. The Internet will be the factor that will propel the hospitality industry into the development of next generation business applications and technology solutions, and finding new ways to integrate interactions with employees, suppliers, and customers over the Web. A viable e-strategy is the basis for launching into appropriate e-business initiatives and making a proper selection, implementation, and integration of appropriate hospitality systems (hotel-online, 2001).

But in general, the portion of total hospitality IT spending dedicated to Internet-specific projects is estimated on a weighted average basis at 15 percent currently with an increase to 25 percent expected over the next year. This significant two-thirds increase in the ratio of IT resources being dedicated to electronic commerce is clear testimony to the major impact this area will have on the industry over the next several years and beyond (Roger, 2001).

After the evaluation of IT systems for the hotels, and a description of the most successfully implemented in the leading hotels of the world, chapter 5 analyses the impact of IT investment on the hotel productivity, as well as, with a comparison and discussion on the productivity paradox.

5 THE IMPACT OF IT INVESTMENT ON HOTEL PRODUCTIVITY - THE PRODUCTIVITY PARADOX

5.1 INTRODUCTION – THE PRODUCTIVITY PARADOX

The fact that we see computers everywhere but in the productivity statistics has prompted a large and growing literature examining what is commonly referred to as the Information Productivity Paradox (Lehr and Lichtenberg, 1997).

The essence of the "productivity paradox" is, that while we seem to have been investing heavily in computers for quite a number of years, the rate of measured productivity growth has failed to increase, and may have even decreased (Lehr and Lichtenberg, 1997). As Oz (2000), argues, productivity improves when fewer workers are required to produce the same amount of output, or, alternatively, when the same number of workers produces a larger output.

Economy-wide and industry studies typically failed to observe a positive contribution to productivity growth from increased investments in computer technology (Lehr and Lichtenberg, 1997). Furthermore, in recent years, some economists have argued that billions of dollars invested by industry to acquire IT yielded only a small productivity increase. But IT researchers claim that the traditional measures of productivity, such as reduction in head counts, are inappropriate (Oz, 2000).

Other empirical studies performed in the IT literature present mixed results regarding the relationship between IT investments and productivity. Although several studies in the early 1990s found little or no improvements in productivity and profits in the services and manufacturing sectors despite massive investments in IT (e.g., Loveman, 1991; Panko, 1991; Roach, 1991) most of these studies used flawed statistical measures of productivity. Since then several empirical studies have accounted better for these measurement problems and have found a significant correlation between IT spending and productivity at the firm level (Barua and Lee, 1997; Brynjolfsson and Hitt, 1996; Lehr and Lichtenberg, 1999). However, the results continued to be mixed (Thatcher and Oliver, 2001).

Most recent studies utilizing firm-level data, however, have detected a significant contribution from information technology (Lehr and Lichtenberg, 1997). Brynjolfsson and Hitt (1996) analysed output data and data on IT spending from 380 large firms that

generate about $2 trillion in output annually, and found that increases in output at the firm level correlate strongly with IT expenditures, even if the macroeconomic data do not demonstrate increases in productivity across individual service industries (Nap.edu, 1994).

5.2 IT Investment and Productivity

Firms typically make investments in Information Technology (IT) in order to accomplish two major goals:

I. Productivity Improvement, as a result of Cost Reduction, and
II. Quality Improvement

There is anecdotal evidence in the IT literature and popular press suggesting that some IT investments may lead to cost reductions, which will result in productivity gains as the IT enables firms to produce more products (of the same quality) with less resources. These investments essentially expand production possibilities. Many IT investments in the production of traditional goods (i.e. food) and services, are devoted to cost reduction. In addition to that, many IT investments that support data processing and administrative functions (e.g., payroll and accounting) are also devoted to cost reduction.

Secondly, quality improvement occurs when an IT investment leads to the creation of new products, or new features on existing products, that directly increase human desire to consume those products. Many investments are devoted to developing new and improved services (i.e. interactive TV and Internet services) for customers. Since these types of investments increase customer demand for products and services, they are often associated with a *rise* in the equilibrium price for a product or service (Thatcher and Oliver, 2001).

Executives generally invest in IT to increase expected profits, margins, or returns on capital. Some investments – those made to reduce costs, to generate new products, to make measurable improvements in quality – may be discernible as gains in productivity in standard published reports. However, executives may also invest in IT for reasons that do not show up readily in such reports but may still be vital to the success of enterprises. IT can help to eliminate burdensome tasks, make jobs more attractive, shorten training cycles before an employee becomes productive, and improve morale (Nap.edu, 1994).

Jarvis Hotels plc. is a relevant example showing that IT investment helps productivity growth. The role of information technology is fundamental to the Group's operation. New and improved programmes for sales, managing yield, property management and e-commerce, have either already been introduced or are at various stages of development and, when completed, will further improve the company's productivity. In particular, it is now possible for their customers to book on-line direct from our web site. Jarvis Hotels plc. is currently working on other innovative e-projects to further enhance their distribution systems on the net. Investment was made in new major hardware and software, and it is reported that no major difficulties have been experienced until now (Jarvis Hotels Plc., 2000).

In these terms of productivity improvement, the relentlessly competitive foodservice market gives another illustration as it has actually seen the cost of training low-skilled workers decrease when touch screens replace membrane keyboards. Restaurants can package product specials on the fly without having to acquaint the worker with new keyboard command combinations. These are much easier for the new employee to understand (Berry, 1999).

Peacock (1995) implies that the managers who saw investment decisions as part of a desire to control costs had the highest productivity (expressed as average sales for each employee) of any group. This was also the group with the lowest proportion of small business's opportunities to invest in information technology, but the way in which investment is perceived also works against IT and against the health of the business.

The respondents in another survey ranked the metrics used in evaluating investments in IT and these measures included cost reduction by 77 percent and employee productivity by 73 percent (Roger and Warner, 2000).

In the hotel industry, high priority is being given to investment in IT solutions that improve the efficiency of capturing customer reservations and associated sales revenues. Previous survey shows that over 90% of the hotels contacted are placing investment in order to improve their own reservation systems and methods of distributing group sales with third

parties. A fast, efficient reservation system is an important feature of hotel customer service, the ability to cross-reference the customer information system with reservation based information ensures that the customer feels known to the hotel, and receives an efficient, friendly welcome when making a booking or on arriving at the hotel (IBM, 1998,).

5.3 CONCLUSION

There is now general agreement about the existence of a positive relationship between IT investment and productivity. It has been proved that large firms get a positive payoff out of their IT investments, both for computer capital and for IS labour expenses (Lichtenberg, 1995; Brynjolfsson and Hitt, 1996; Dewan and Kraemer, 1998; Lohr, 1999; Dans, 2000).

Organisations and careers can rise or fall on the successful or unsuccessful creation and implementation of IS. Good planning, planning that focuses on shaping the future as well as monitoring and controlling processes, is the key to success in business, and lack of planning or poor planning is often the major reason for failure (Oz, 2000).

With chapter 5 the literature background is concluded after describing and analysing the importance of IT systems within the hotel industry, the application of them in the hotel departments, and presenting an analysis on IT investment benefits and strategies that need to be followed by the hoteliers in order to improve hotel productivity, while indicating how to make IT systems work more efficiently in advantage of the hotels. Chapter 6 presents the methodology of this dissertation study, and chapter 7 reports the findings of the research survey that was conducted in the Athenian hotel industry.

6 RESEARCH METHODOLOGY

6.1 INTRODUCTION

This chapter describes the problem statement of the study and identifies the methods by which the research was conducted in order to achieve the objectives of this thesis. Initially, the problem statement is identified along with the main objectives of the dissertation. Secondly the sample chosen as appropriate for this study, the sample size and the sampling design are justified.

In addition to that, the data collection method used to collect the information needed is presented, as well as the structure and the main advantages or disadvantages of each method chosen. Finally the data analysis methods that will help in order to provide the findings of this survey will be discussed in the end of the chapter.

6.2 INTRODUCTION TO PROBLEM STATEMENT AND RESEARCH OBJECTIVES

After completing the theoretical examination of the existing literature on IT investment in the hotel industry and the productivity, a survey had to be conducted in order to examine the impact of IT investment on the Athenian Hotel Companies and their productivity, on the verge of the Olympic Games of 2004 held in Athens, by supporting or contrasting those theories outlined in the previous chapters.

Information Technology issues cannot be studied only once, and then to consider the result of such a study as a known fact. That is because today, even more than ever, IT changes so rapidly that it requires a continuous effort and research from the management of a hotel company in order to keep in touch with the latest news, updates, versions or hardware of IT products offered. Especially, in the hotel industry, which still offers a humanely service product, IT is nowadays, a very important issue.

Following the problem statement of this thesis, there are three research objectives that flow from it and with the survey conducted in the Athenian hotel industry, the author:

- Examined the existing investment, use and implementation of IT systems within the hotels in Athens and greater Attica area

- Analysed and compared the differences on the strategies and levels of IT investment between the international hotel chains, Hellenic hotel chains and other independent hotel companies

- Examined the ways IT investment was used as a business tool for the Olympic games of 2004 held in Athens, and how IT systems helped the hotels improve their productivity.

In order to meet the demands of the above research objectives the survey had to answer some key questions described in paragraph 6.5.3 of the chapter.

6.3 Purpose Of Study, And Type Of Investigation

This dissertation study of IT investment on the hotels of Athens concerning their productivity is exploratory. The main reason behind this decision is, as Sekaran (2000) argues, the fact that exploratory studies are undertaken to better comprehend the nature of the problem, and are important for obtaining a good grasp of the phenomena of interest. When not too much are known about the situation examined (in our case for the IT investment on Athenian hotel industry) or when no information on similar studies is available (almost no information found as literature background on the Hellenic hotels' strategies on IT investment), then an exploratory study need to be undertaken while, descriptive studies suppose much prior knowledge about the subject investigated.

This research tries to focus on the benefits that result from IT investment in the hotel industry of Athens while examining the existing use of IT systems (hardware and software). Additionally, it reveals the strategic decisions and actions taken from the hotels of Athens concerning IT investment, whilst, it tries to show how hotels justify the sort of investment in IT that will increase their productivity. Finally the study answers the

question for the future investment strategies of the Athenian hotels, and if it is possible for them to follow the ongoing demand of the hotel industry in new IT systems.

As a result of the above, the type of the study is characterised as correlational. As Sekaran (2000) argues, that is because the researcher is interested in delineating the important variables that are associated with the problem. Whether a study is causal or correlational thus depends on the type of research questions asked and how the problem is defined. In this study the researcher has to obtain information on how IT investment and hotel productivity are correlated, which is a problem that has many variables. The type of the questions asked is analysed in the following paragraphs of this chapter.

The survey on the hotel industry of Athens and greater Attica area required for this dissertation was conducted in a two-week period in the middle of August 2006. Such studies in which data are gathered just once, in a short period of time, in order to answer a research question, are called one-shot or cross-sectional studies.

6.4 Sampling Design

A nonprobability sampling design is used for the needs of this dissertation, because 'the researcher is less concerned about generalizability than he is about obtaining some preliminary information in a quick and inexpensive way' (Sekaran, 2000, p.277). Furthermore, some of the nonprobability sampling plans are more dependable than others and could offer some important leads to potentially useful information with regard to the population.

Moreover, the type of nonprobability sample design chosen will fit into the category of purposive sampling. 'Sometimes it is necessary to obtain information from specific target groups. The sampling is confined to specific types of people who can provide the desired information, either because they are the only ones who posses it, or conform to some criteria set by the researcher' (Sekaran, 2000, p.278). In this study the purposive sampling that reflects the demands of the research is judgment sampling. 'Judgement sampling, though restricted in generalizability, may sometimes be the best sampling design choice,

especially when there is a limited population that can supply the necessary information' (Sekaran, 2000, p.280).

Concerning the size of the hotel industry (number of hotels) of Athens and greater Attica area, there are about 539 hotels situated in the area, of which 20 are five star luxury hotels, 72 are four star hotels, 95 are three star hotels, 229 are two star hotels and almost 123 belong to the category of one star (www.all-hotels-in-greece.com, 2006).

The study of this dissertation requires judgment sampling because the information needed to achieve the scope and the research objectives are found only at a small target group of the whole Athenian hotel industry. Questions like:

- what percentage of your yearly budget corresponds to IT investment?
- describe the plan of IT investment that your company adopts. Is it more "*Operational Value Investment*" or "*Strategic Value Investment*" and why?
- to what extend does IT investment contribute in reducing hotel's operational costs?

with all probabilities could not be answered by small or medium hotel companies, or from hotels of three or even four stars, not to mention the lower categories. That is because the Hellenic hotel standards only recently -in the last decade- changed in order to meet the European standards of hotel categorisation discerned by stars. As a result to that fact, a hotel which in Hellas is now a four star hotel, in another western European country would probably belong to a three or even a two star hotel category.

That is the reason behind the decision of the researcher to survey only the target group of five star luxury hotels. It is a kind of judgement sampling that represents the hotels that are in the best position to provide the information needed. The luxury five stars are the hotels that possess IT systems, so they are the ones who can answer questions like the above concerning strategic IT investment or the correlation between IT investment and operational costs. But as it will be analysed in the following chapters, even many of those five star luxury hotels -the top Hellenic hotels- do not have IT investment strategies, or even a yearly IT budget.

Consequently, the sampling size of the survey is the group of the luxury five star hotels, which are 20. The researcher confidently gathered information from 15 hotel companies

with the method of a face-to-face structured interview (described in the next few paragraphs) conducted at the hotels. That size of sample is capable to provide the required information and as Roscoe (1975) proposes for simple experimental research with tight experimental controls, successful research is possible with small samples as small as 10 to 20 in size (Sekaran, 2000).

6.5 Data Collection Method

Data collection is the most important part of the study. The data collection methods are obtained from primary and secondary sources. Those methods may include interviews face-to-face or via an electronic media, questionnaires (which could be posted or personally administrated), observation of individuals or of events, and motivational techniques such as projective tests (Sekaran, 2000). For the purposes of this study, the method chosen was structured face-to-face interviews for the primary data. Additionally, in order to gather the secondary data other methods and sources were used. These were books, journals, periodicals, Internet sites, and newspapers international and Hellenic.

6.5.1 Primary Data

Once the sampling unit was selected, the next question was the method that should be followed in order to collect the primary data. The researcher chose the method of a structured interview based on a pre-structured questionnaire (i.e. appendix). In all the hotels of the survey, the interviews were conducted face-to-face with the interviewees. These structured face-to-face interviews are suitable for such exploratory stages of research.

During the interviews, the researcher noted down the answers and views of the respondents, and in few cases -while the same questions were asked of everybody in the same manner- based on the exigencies of the situation, the interviewer took a lead from the respondent's answer and asked other relevant questions not on the interview protocol. As

Sekaran (2000) argues, through this process new factors might be identified and a deeper understanding might result.

The main advantage of face-to-face interviews is that the researcher can adapt the questions as necessary, clarify doubts, and ensure that the responses are properly understood, by repeating or rephrasing the questions. Even more, the interviewer may also detect any discomfort, stress or problems that the interviewee may experience through frowns and generally the body language exhibited by the respondent (Sekaran, 2000).

In the other hand with this kind of face-to-face interviews, the researcher faced an increased cost of transportation between the various distant hotels situated in the greater Attica area. Lastly, another disadvantage found was that the respondents in few cases felt uncomfortable in answering face-to-face questions concerning the financial figures of IT investment by the hotel, or their plans for the future investments.

6.5.2 Questionnaire

Considering the personal, immediate visit to the hotel companies, it was very beneficial to conduct the interview, based on a pre-structured questionnaire. The questionnaire helped the interviewer to collect exactly the information needed.

The structure of the questionnaire included 9 open-ended questions and 5 closed questions 3 of which included answers in a scale from 1 to 5. More detailed information was gathered by using the open-ended questions and more specified data was obtained by the closed questions. An open-end question requires the respondents to provide their own answers to the questions (Fink, 1995). Such questions are interesting because of the spontaneity and individual flavour of the replies (Chisnall, 1997). Finally, open-ended questions can provide the researcher with insights, side comments and explanations that are useful in developing a feel for the research findings (Fink, 1995).

6.5.3 Evaluation of the Questions

As mentioned above, the structured interviews will be conducted based on a questionnaire. 'The questionnaire must translate the research objectives into specific questions; answers to such questions will provide the data for hypothesis testing. The questions must also motivate the respondent so that the necessary information could be obtained (Charles, 1988).

The researcher evaluated some key questions that were asked during the structured interviews and best reflected the objectives of this study. Firstly, it was important to know what kind of IT systems does each hotel company use now (question 1). The reason is that it will enable immediate comparison with other hotels of the same type and will show the extent of the company's implementation of new IT systems. This question directly meets the demand of the first objective of this dissertation.

Secondly, with question 7 of the structured questionnaire, the respondent describes the plan of IT investment that his company adopts. It is obvious that the response will give data on the strategy that the hotel is following on IT investment, which is actually the second objective, compared with the other types of hotel in the Athenian hotel industry.

Thirdly, the most valuable question is question 9 in relation with question number 8. Those two key questions give answer to the third objective of the study. They gather information on the importance of IT investment benefits for each hotel on the verge of the Olympic games of 2004, which was the cause for increased antagonism between the hoteliers in Athens. Question 9 also produces a probable opinion on the other competitors in the industry while answering on the competitive advantages that the respondents hotel had in the past years.

Finally, question number 10 is a closed question, which gives in a scale from 1 to 5 the importance of IT systems on improving the productivity of the hotel's employees. In this question many of the hoteliers presented very useful examples, highlighting the relation and importance of IT systems and productivity.

6.5.4 Pilot Test

For this dissertation, the researcher took the decision to perform a pilot test in two different five star hotel companies situated in the island of Rhodes, Hellas. The questionnaires were sent via e-mail to the hotels, and it was sure that the answers would be sent back to the researcher in a very short period of time, as it was pre-arranged with a telephone call to the hotels.

The main reason behind the decision of conducting a pilot test is that the questionnaire had to be translated in Hellenic language, so the pilot test showed some major changes needed to be made in the structure of few questions in order to be fully understandable by the respondents. In addition to that it revealed few points of questions based on specific literature background that had to be further explained in Hellenic language, so as to be adapted into the Hellenic hotel industry. Consequently some changes were done which were related to the translation of the questionnaire from the English to Hellenic language. Introducing in the Hellenic questionnaire the English terminology in quotes next to the translated Hellenic ones solved the problem. Some of the difficult to understand and translate terminologies included the terms "*Operational Value Investment"*, "*Strategic Value Investment*", and "*competitive advantages*".

Furthermore, the pilot test was conducted because questionnaires should always be pre-tested in order to refine points of detail, ensure its effectiveness and clarity (Tull and Hawkins, 1993). The pilot work is a relatively inexpensive way of avoiding possible misinterpretations or misunderstanding of questions and indicates differences in the frames of reference between researchers and respondents (Chisnall, 1997). Finally on this point it is suggested that the arbitrary size of pilot survey should be about 10% of the main survey although this would be obviously be affected by such factors as time, cost and practicability (Chisnall, 1997). In this survey, as mentioned above the sample size for the pilot test was two five-star hotels.

6.5.5 Contact methods

The first contact with almost the half sample size (8 hotels) of the hotel companies was made via telephone, and e-mail. The use of these means was very helpful in order to arrange an interview meeting at the hotels of the sampling unit. In all 5 cases, the hotels contacted with the telephone accepted to arrange a meeting for the interview. In the other 3 hotels the researcher sent an e-mail asking for an interview arrangement but only one responded almost negative (nobody was by that time available). At this point it is important to notice that these 3 hotels are at this time being refurbished, so their reaction was expected.

The aim was to get an interview from someone who has knowledge of investment in IT systems used in the hotel, and occupies a managerial position in the company, such as the systems manager, the financial manager or hopefully the general manager or the owner.

With the rest of them (12 hotels) the first contact was immediate as the researcher visited the hotels in person and was kindly asking at the reception for somebody who could responsibly answer to the questions of the structured interview. The result of this method was unexpectedly successful, as in all 12 hotels the personnel was pleased to help. Although the visit was unexpected from the hotels, the average waiting time for someone to come and meet the researcher for the interview was not more than 30 minutes. Only in one of the 12 hotels contacted with this method responded negatively in such an interview due to much work during that period.

6.5.6 Secondary data

The secondary data is the data that already exists and do not have to be gathered by the researcher in a way of survey. It can be found in many secondary sources. For this dissertation the sources that the data was collected were books, journals, periodicals, Internet sites, and newspapers. All these sources were more international -mainly English- and less Hellenic due to lack of literature background on IT investments and the Hellenic hotel and tourism industry. The literature research and background presented in the previous chapters did flow from these secondary data sources. For the purposes of this study, the secondary data collection was conducted between March and July 2002.

6.6 Data Analysis Method

In order to analyse the gathered data there are three objectives:

a. To get the feel for the data.

b. To test the goodness of data.

c. To test the hypotheses developed for the research (Sekaran, 2000).

The gathered data from the responses in the structured interviews is qualitative data. The analysis of qualitative data is going to be through categorization of the content gathered. Categorization of the responses is essential in order to analyse the results and make them comparable to each other or to the literature background. The qualitative information is quantified, through a systematic analysis, providing means for analysis in order to be comparable. Words and syntax used in the answers will be carefully analysed for their content, from which several inferences will be drawn (Sekaran, 2000).

It is also understood that there is a need of tabulation of certain answers that will be collected from the interviews. For example in question number 8 the answers from the respondents on the IT investment benefits are tabulated into categories. A different tabulation for resort hotels, a different analysis for the city hotels and a different tabulation gathering between international hotel chains, Hellenic hotel chains and individual hotel companies.

6.7 Validity and Limitations of the Research

This dissertation study has validity, as appropriate literature survey was conducted in order to fulfil the aim and the objectives of the research study. Furthermore, the structure and aim of the interviews conducted were formulated and designed very carefully in order to obtain the information needed from the respondents. The aim, the objectives and the questions of the questionnaire were checked, discussed and approved by the supervisor of the author.

At this point it is useful to add that a limitation of the research is the fact that the interviews in order to achieve their scope and obtain the right information from the hotels had to be conducted face-to-face with the hotel's respondents. The interviewer had to visit all the hotels of the sampling size in person, in order to achieve that.

In addition to that it is necessary to point out that the results cannot easily be generalized for the whole hotel industry of Athens and greater Attica area (to include all the hotel categories), as the sampling size included only the luxury five-star hotels that were more likely to respond to the survey questions.

6.8 CONTRIBUTION OF THE STUDY

With the completion of this dissertation study, hotel managers could have a better insight into the hotel industry strategies and policies would be made possible, and also different approaches to IT strategies from different companies could be studied. This could help some hotel companies to improve and update their Information Technology Systems, and compare them efficiently to others up-to-date IT systems that exist in the hotel industry.

Furthermore, the study identifies the benefits that derive from the IT investments in the hotel sector and gives assistance to those managers and hotels owners to understand and decide what investment plan they should adopt for their companies, when and for what time-horizon. It helps managers to recognise, or realise to what extent can IT systems improve their employees' productivity. Finally, it would give the opportunity to other researchers, to compare the use and implementation of hotel IT products of the hotels in the capital of Greece with other European capitals in the beginning of this new era of the European monetary union.

6.9 CONCLUSION

With this chapter the author introduced and analysed the problem statement and objectives of the study, in addition with the purpose of the study and the type of the investigation. Moreover, this chapter presented all the methods and the ways of data collection, the data analysis, the interviews for the survey and all the procedures conducted within the research for primary and secondary data.

In the following chapter the findings of the survey will be presented in order for the reader to get the feel of the data obtained and have a first contact with the existing situation in the Athenian hotel industry. All objectives of the study are fulfilled and analyzed compared with the findings in chapters 7 and 8.

7 FINDINGS OF THE SURVEY IN THE ATHENIAN HOTEL INDUSTRY

7.1 INTRODUCTION – THE HOTEL'S SAMPLE SIZE

For the purposes of this dissertation study, the hotels of Athens and greater Attica area were separated in two different categories, considering their location -resort and city hotels- (with an exception of one airport hotel) and alongside were divided by their type of ownership: international chains, Hellenic chains or individual hotel companies.

There are 20 "5 star" luxury hotels (Appendix C) in Athens and greater Attica area. Six of them are International hotel companies (the Athenaeum **Intercontinental,** the Athens **Hilton,** the Athens **Holiday Inn,** the Athens Ledra **Marriott,** and the "Grande Bretagne" owned by (**Sheraton) Starwood Hotels and Resorts**) all situated in the city centre, except the **Sofitel** Athens Airport Hotel, which is in the new International airport of Athens in Spata area (Athens suburbs), and actually monopolies its market as it is the only "airport hotel" in Athens.

Furthermore, there are seven hotels owned by Hellenic hotel chains and groups. Only two of them (the "Divani Apollon Palace" in Kavouri area owned by **Divanis** Chain Hotels and the "Grand Resort Lagonissi" in Lagonissi area, owned by **Helios** Hotels & Resorts Group) are situated in the suburbs of Athens and are characterised as resort hotels. The rest five, are city hotels all in the centre of Athens (the "Athens Metropolitan Hotel" by **Chandris** Hotels & Resorts, the "Divani Caravel" and the "Divani Acropolis Palace" by **Divanis** Chain Hotels, the "N.J.V. Athens Plaza" and the "King George" both owned by **Grecotel**).

Finally the last seven hotels of the survey, are independent Hellenic hotel companies, four of which are characterised as city hotels (the "Royal Olympic", the "Park Hotel", the "Saint George Lycabettus" and the "Theoxenia Palace Hotel" which is situated in Kiffisia suburb, although its target market is exclusively businessmen), and the other three are resort hotels as "Astir Palace Resort" and "The Margi Hotel" are situated both in Vouliagmeni suburb, and the "Pentelikon" is in Kiffisia suburb.

7.2 THE HOTEL'S RESPONSE TO THE SURVEY

As reported in the methodology chapter, 5 of the hotels (Athens Metropolitan Hotel, Divani Caravel, The Margi Hotel, Pentelikon and Divani Apollon Palace Hotel) were contacted through telephone, 3 (King George, Athens Hilton and Grand Bretagne) of them via e-mail and for the rest 11 (Royal Olympic, NJV Athens Plaza, Theoxenia, St George Lycabettus, Ledra Marriott, Athenaeum Intercontinental, Holiday Inn, Lagonissi Grand Resort, Astir Palace, Athens Park and Sofitel Athens Airport Hotel) hotels the first contact was made in person by the interviewer. The result to these methods of contact could be characterised as successful as all five hotels contacted with the telephone accepted to arrange a meeting for the interview, and only Athens Park, one of the 11 hotels contacted in person responded negatively for an interview due to much work during that period. The 3 hotels contacted by e-mail were closed down by the period of the survey because of refurbishment. None of them responded in arranging an interview meeting.

It is necessary to note that the interview for the "Divani Acropolis Palace" was not necessary as "Divanis Chain Hotels" owns also the "Divani Caravel" and has the same policy for both of them as city hotels. In the other hand, the interview for the "Divani Apollon Palace" owned by the same company was conducted separately as it is a different type of hotel (resort). This fact results to a total of 19 five star hotels attempted by the interviewer to conduct an interview.

7.3 THE NUMBER OF RESPONDENTS AND THE POSITION THEY HOLD

As indicated above, finally in 15 out of 19 hotels the interviewer conducted a face-to-face interview. The aim was to get an interview from someone who has knowledge of investment in IT systems used in the hotel, and occupies a managerial position in the company, such as the systems manager, the financial manager or hopefully the general manager or the owner. The persons that finally attended the interviews on behalf of the hotel companies were:

- 6 financial managers,
- 5 system managers,

- 2 sales managers
- 1 front office manager, and
- 1 owner of the hotel

The general impression was that almost all managers attended the interviews, had the required knowledge on IT implementation and IT investment of their company and could answer all the interview questions. In very few cases some interviewees asked kindly not to answer some crucial questions mainly concerning the financial facts or the future plans of their hotel.

7.4 PRESENTATION OF THE QUESTIONNAIRE'S FINDINGS

In the following paragraphs the answers obtained from each question are reported.

The **first question** of the interview concerned the kind of IT systems that the hotels use in their departments. The departments of the hotel include the four main divisions:

1. Front and back office
2. Room division
3. Food and beverage
4. Property maintenance

All 15 hotels' respondents noted that the IT system that they used in the front and back office department is the same system that covers their room division. More analytically, the system that almost the half (7) of the surveyed hotels use is "Fidelio" that is the most popular hotel front and back office program in Hellas. Moreover, 4 hotels have implemented the "Lodging Touch" software, one hotel uses the 'Lubica" system for the front desk and room division. There are two hotels that use an older software system called "Hermes" which is mainly a Hellenic front office program. Finally one hotel uses "Aremis" software for the same purposes.

In the department of food and beverage, there are 8 hotel companies that operate "Micros" as F&B software. Only 2 hotels use the software "Hermes – Estia" which is a Hellenic

based program and is quite old. The rest five hotels of the survey, all use five different programs, including "Lubica", "Iris", "Aremis", "Abacus", and "Orama" systems.

Finally, the property maintenance systems that the hotels implement are various. It is important to note that 7 of the hotels responded that they do not have a separate system for their property maintenance department or not have any system at all. From the rest 8 hotels, 2 use "Fidelio" system. One hotel operates with "Building Management System", another with "Building Automated System 2002" and one use a "Unisoft" software for the property maintenance. Ultimately, the 3 other hotels answered that they use a kind of software, but without naming it, while one of them is using the systems temporarily as a piloting period.

The **second question** of the questionnaire has two parts the first part is in some way related to the previous question as it refers to how are the IT systems integrated. The second part reports any kind of difficulties or problems that the hotels may face with the implementation of these IT systems.

For the first part of the question, 11 hotels responded that they use an interface PC that process all information or data from one department to another, while 3 hotel companies answered that the integration is achieved automatically by the same IT system they use in the various departments of their property. In one case the hotel has an internal network for the integration of the different systems and their communication.

With regard to the difficulties or problems that hotels face with the use of their IT systems, the respondents gave slightly different answers which were grouped together in the following few statements:

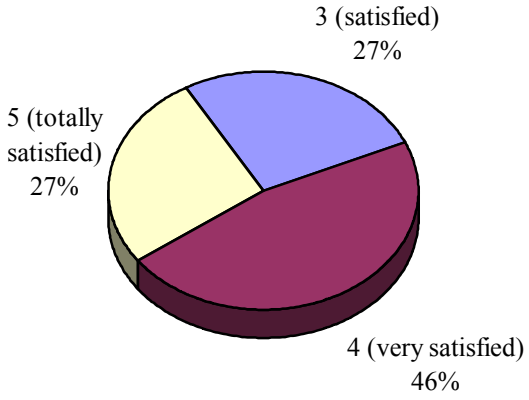
- 7 of the hotels reported that they face very few problems or difficulties
- 3 hotels stated that they had small problems but in some occasions bigger difficulties
- 2 of them indicated that the IT systems they use are now out-of-date, resulting to the fact that there is a lack of useful features with their operation

- only 2 out of 15 hotels face no difficulties or problems at all
- and one hotel company indicated problems on contacting the provider of their software when needed, and many difficulties with the service and back-up of the systems.

In the **next question**, the respondents were asked to indicate how satisfied they are with the IT systems their hotel is using, in comparison with the industry's market. All the answers were in a scale between 1 and 5. The grades correspond as follows: 1 not satisfied, 2 little satisfied, 3 satisfied, 4 very satisfied, and 5 totally satisfied. The lowest grade given was 3, which means that all the hotels are generally quite satisfied or very satisfied with their IT implementation. Analytically, the ranking was the following, as presented also in table 7.a:

- 7 hotels are very satisfied and gave the grade 4
- 4 hotels are just satisfied, and ranked their satisfaction with 3
- as well as, 4 hotels are totally satisfied and gave the grade 5

Figure 7.a: Hotel Management Satisfaction from IT usage.



In many occasions the respondents explained their answer with examples. Hotels that gave the grade of 3 (satisfied), explained their response, in one case, that though the IT systems using are old compared with the other competitors, they are still just satisfied with their IT

implementation; in other case that their IT systems provide good stability while working; or that they face insufficient support from the providers; or commented that the systems could be much better in terms of efficiency and productivity results.

Two other hotels although gave a grade of 4 (very satisfied), stated that their IT systems need to have a better back-up feature -the one hotel- or expressed their complaint that their IT are very slow in the accounting department procedures. Finally, hotels that ranked their IT satisfaction with 5, provided examples of good speed of the systems, or very good back up.

With the **fourth question** the interviewer tried to give a general impression on the amount of money roughly that the hotels of Athens and greater Attica area, invested in IT systems (software and hardware) during the last two years. More than half (8) of the hotel sample size gave an answer in terms of money:

- the lowest amount reported was €15,000
- the highest amount was €296,000
- and the average that resulted from all the given amounts was €120,000

Two of the rest of the hotels not given an amount, explained that their only cost concerning IT was the cost of maintenance. Furthermore, two more hotel companies just indicated that they occasionally invest large amounts of money into IT but that did not happen during the last two years but many years ago. Lastly, one respondent presented examples of IT investment -like new PC's in the hotel offices and in-room Internet access in all rooms of the hotel- without stating any amount of money.

Question 5 presented the percentage of a hotel's yearly budget that corresponded to IT investment. In this question the majority of the hotels (9) explained that they do not yet have any kind of yearly budget concerning their investment in IT systems. They further explained that for all the investments they occasionally do, the decision is being made according to the needs the hotel has from time to time.

In the other hand, 5 hotels showed an annual percentage for IT investment that was generally very low. In one case the respondent preferred to state an amount of money

(€58,000-€72,000 budget per year) that his hotel is spending in a yearly basis for IT investment instead of a percentage. The lowest percentage was 2% of the annual budget, while the highest was reaching 5% annually. The other 2 percentages were: 3% and 4-5% of the yearly budget for each hotel. Only in one occasion the respondent decided to present a budget around €524,000 that the particular hotel would invest in IT in the following two years time-period.

With the **following question**, the interviewer asked the respondents who sets the budget and who decides on what kind of IT systems to invest in. Most of the answers from hotels that are owned by chains (5 hotels) showed that the management of the hotel and the owners of the chain take this kind of decision together. In three other responses that come from individual hotels, only the owner takes such decision, while, in two cases of similarly individual hotel companies the system manager helps and consults the owner for the suitable time to take the decision and invest on IT systems.

In addition to that, all the rest of the responses could not easily be grouped together as they all had a different point of view. More analytically, in a Hellenic hotel chain, only the chain president considers the proposals from the hotel and decides both on the budget that he would grant to the hotel, as well as the final decision to be taken. Additionally, at the same kind of a hotel (Hellenic chain) the chain management sets the budget and the manager of the hotel decides the investment he should make without having the opportunity to rearrange the amount of the budget.

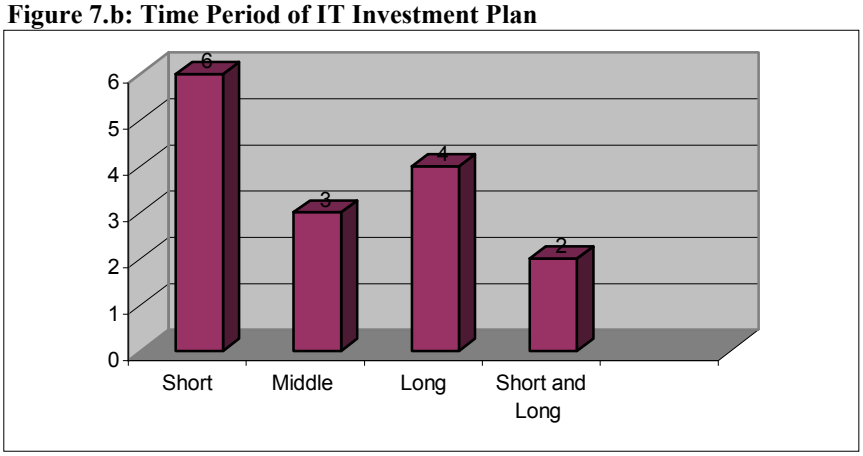
Moreover, another case is an international hotel chain in which the owner of the building - being also the manager of the hotel- sets the budget and the kind of IT that should the company invest and just asks for submission by the board of the chain owners. Similarly, the proposal from the managers, of another hotel that belongs to an international hotel chain, is considered in councils between the shareholders of the chain, is rearranged in terms of the budget, and submitted by them annually. Finally, in a Hellenic individual hotel, a council that includes all the managers of the hotels, where everybody proposes the needs of his department separately, is considering such decisions for IT investment each year.

Question 7 of the interview, presents a description of the plan of IT investment that the hotel companies adopt. This questions aims to show the time period that a hotel considers in its IT investment. It could be more an "*Operational Value Investment*" which means that the time period for the plan should be short term, or "*Strategic Value Investment*" which needs a long term decision.

The answers gathered in this question were grouped in four parts:

1. short term investment plan decisions which included 6 hotels,
2. middle term IT investment plans that is followed by 3 hotels,
3. long term decisions that are considered by 4 hotel companies, and
4. finally there were two hotels that had a different kind of IT systems investment plans. The one for short term that covered any costs, maintenance, or updates of the software, and one for long term that regards the hardware systems.

Figure 7.b: Time Period of IT Investment Plan



Furthermore, in the next few paragraphs, the findings of **question 8** are reported. The aim of the question is to obtain information on the expectations, that the hotel management has, deriving from the new or existing IT systems. The respondents had to put the following 8 IT investment benefits in order of importance, beginning from the most important for them:

Table 7.c: Major IT Investment Benefits for Hotel Companies

Major IT Investment Benefits for Hotels	
Service Quality	Bookings Reliability
Service Speed	Cost Decrement
Sales Levels	Business Levels
Customer Loyalty	Employees' Performance

The vast majority of the hotels' respondents, reaching a percentage of 73% (11 hotels), placed the "service quality" as their first choice. Only in 4 occasions the interviewees had different opinions: one indicated the "speed of service" as the most important benefit; another one placed the "sales levels" as the first; one more response showed that the "cost decrement" was the key benefit; and finally an additional opinion gave as most important benefit "employees' performance".

In the other hand, the less important IT investment benefit among the 8 benefits proved to be "business levels" with a percentage of 46% (7 hotels). Thus, 20% (3 hotels) of the respondents selected "customer loyalty" as the less important while "bookings reliability" and "cost decrement" were selected as the least important benefit each one by 2 hotel companies. Finally, one respondent presented "employees' performance" as less important fact.

The following table (7.d) presents in ranking from the most important to the less important all 8 IT investment benefits that were included in the question. The answers obtained from all the respondents placed the benefits in the following order:

Table 7.d: Major IT Investment Benefits for Hotel Companies

Most important is:							**Less important is:**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Service Quality	Service Speed	Sales Levels	Employees' Performance	Bookings Reliability	Cost Decrement	Customer Loyalty	Business Levels

In the **next question** the respondents were asked to refer to the previous question (8), and considering the IT investment benefits, to specify the competitive advantages that arouse for their property, taking into account the Olympic games of 2004 which were held in Athens.

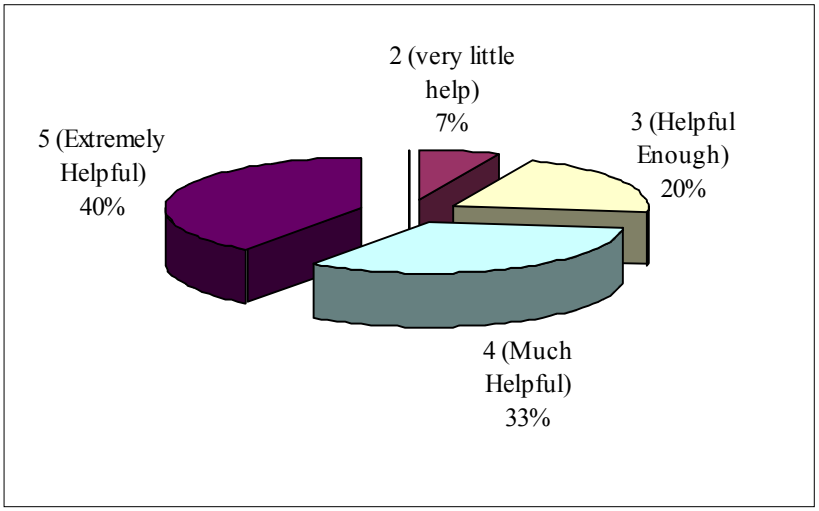
The majority of the answers contained more than one competitive advantage for each hotel. Most respondents (8 hotels) indicated that they are looking forward to have increased customer satisfaction. Six more hotels pointed out that the main aim for them is to have a premium service quality in comparison with the competition. Another hotel showed that the main competitive advantage it could achieve was new services and service excellence within its restaurant, while it would like to turn to another form of tourism -conference tourism- and specialise in that in a few years time. Besides that, in another case a manager responded that the major difference that his hotel would achieve is the fast Internet access from all its rooms and for all the customers. In addition to that, two hotels referred to the speed of their services, and one of them added that it would increase its employees' performance, because speed of back office work would improve.

Apart from all these competitive advantages described above, a hotel manager mentioned that all the hotels were actually at the same levels with their competitors in terms of service, business levels and customer satisfaction, without any major differences, during the Olympic Games. Concluding this analysis, it is noticeable the fact that the Athens airport hotel has a unique competitive advantage: it monopolise this sort of tourism, as is the only airport hotel in Athens.

The following **question** (**10**) concerns the employees' productivity and to what extent it can be improved with the help of IT systems. The answers to this question were given in a scale from 1 to 5, where 1 corresponds to 'no helpful at all'; 2 very little helpful; 3 helpful enough; 4 much helpful; and 5 indicates that IT systems are extremely helpful.

As presented in table 5.e, a 40% of the respondents (6 hotel companies) reported that IT systems are extremely helpful in improving the employees' productivity and gave 5. The rank 4 was given by 5 hotels (33%) as the responses indicated that there is much help by the IT systems. Number 3 that reflects to "helpful enough" was chosen by 20% of the interviewees (3 hotels). Finally, only one hotel reported that the IT systems it uses, help their employees' productivity very little, because most of its employees are aged and cannot adapt to the systems well enough and thus can not perform as well as expected.

Figure 7.e: How much IT Systems Increase Employees' Productivity



Nearly all the hotels presented examples that justified their answers. Most of the companies, which stated that their IT systems are extremely helpful, added that these systems help their employees in terms of speed, reliability of the operations, better reporting, faster bookings, and accounting systems, including wages payment systems that require less working time.

The respondents who revealed that IT systems give much help (given 4), stated that their employees improved their work within the restaurants and room service, need less time for the reservation processes, and are helped to concentrate more on the speed as well as the quality of services.

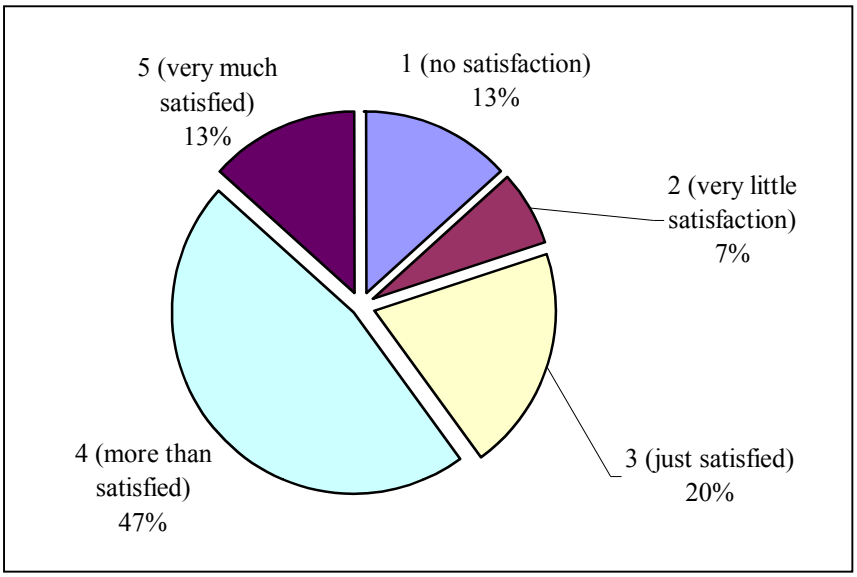
As a final point, for the analysis of this question, the rest of the hotels that found IT systems not very helpful or very little helpful (ranked 2-3), named some problems or difficulties that they faced from time to time. These included mistakes from the systems' usage by the employees, lack of good training, and old and out-of-date IT systems that cannot really help their employees in terms of productivity.

Question 11 is rather a straightforward one, concerning the satisfaction of the management of the hotels in terms of the extent of contribution of IT investments in the reduction of hotel's operational costs. The responses were also in a scale from 1 to 5 with 1 indicating no satisfaction for the management at all, 2 very little, 3 just satisfy the management, 4 more than satisfy, and 5 stating that the managers are very much satisfied.

Almost the half sample size (47%) showed that they are more than just satisfied and chose rank 4 of the scale. Only one of them stated that the reason behind this rank was the reduction of the maintenance costs. Two hotels preferred to rank their IT investment with 5, which means that it contributes very much in reducing their operational costs.

Three interviewees ranged their level of IT investment contribution in the reduction of the operational costs (table 7.f), with 3. One of them explained that with new IT systems they achieved to reduce the number of employees needed to operate in some particular division of their hotel. So as a result this leads to the reduction of the total wages and salaries.

Figure 7.f: Hotel's Operational Costs



One hotel was ranked as 2, which mean that it had very little contribution from their IT systems in reducing operational costs. Lastly, the final two hotels ranged themselves with 1. The reason behind this was that at the end the new IT systems they have implemented result to higher costs due to further employee training and more demanding system maintenance.

In the **12th question** the managers of the hotels were asked if they invested on IT systems towards the year 2004 and what amount of money roughly. The 40% of the hotels (6 hotels) stated an approximate amount of money that they spent for IT investment. The average investment budget that corresponds to each hotel is almost €127,000. More analytically, the investment budgets for the next two years that the six hotels presented are the following, ranked from the lowest to highest:

Table 7.g: IT investment Budgets

Hotel properties	IT Investment budget for the years 2003-2004
A	€21,000
B	€58,000
C	€65,000
D	€100,000
E	€123,000
F	€407,000

Two hotel companies stated that they had no intention to invest in IT systems towards the year 2004 because they had already done so in the past years. Three hotels were going to invest in the room division department and in-room entertainment. While, four hotels included in-room Internet access for their customers. One other hotel renewed all the IT systems using, because they were out-of-date and did not allow the hotel to compete with the hotel market of Athens. Finally two more hotels created new customer business centres with up-to-date IT systems including both hardware and software -the first hotel-, and also added new hardware systems for energy reduction -the second hotel-.

The **final question** of the questionnaire (number 13) is asking how did the hotel companies use their IT investment in order to retain customers and attract new businesses after the year 2004. The answers to this theoretic question concerning the strategy that the hotels adopted in the years after the Olympic games of 2004 vary more than any previous question in the questionnaire. In an attempt to group these answers, the results were that four of the hotels would use their IT systems in order to create more loyal customers who would prefer to stay their hotels in the future. In addition to that, 3 other hotels would use the IT systems in order to satisfy their customers with the service improvement, speed, and quality.

On the other hand, only one hotel company reported that would like to expand its business horizons to new types of tourism. Another respondent stated that his hotel would be ready to offer to its customers more free services that derive from IT systems usage, such as providing them with their own e-mail address during their stay in the hotel. Concluding, one hotel showed no interest at all in taking the advantage of IT systems and creating new businesses, as it already has a very stable type of tourism to follow.

7.5 CONCLUSION

The general impression derived from the findings of this survey conducted in the luxury five-star hotels of Athens and suburbs shows the intention and need of the hotels to invest in IT systems. That statement reflects reliably the existing market today in Athens because 15 out of a total sample size of 19 hotels were finally interviewed. From the four hotels that responded negatively, the three are currently closed due to refurbishment and the researcher anticipated such negative reaction to an interview. Thus, only one hotel could not help the research with an interview.

They intend to improve their quality and speed of service, and as a result to have more loyal customers, increased business and sales levels in the future. Moreover, it is understood that the findings gathered fulfil the objectives of this dissertation study, as the survey finally examined the existing use of IT systems in the Athenian hotels.

Additionally, it presented the existing investment and helped in the analysis and comparison -that is reported in the following chapter- of the strategies and level of IT implementation between the International hotel chains, the Hellenic hotel chains and the other independent Hellenic hotel companies. It examined the ways in how IT investment was used as a business tool for the Olympic games 2004, while showing how it created competitive advantages for the hotels. Finally, is stated the importance of IT system investment in the improvement of productivity. More analytically, the analysis of findings will be discussed and compared with the background literature, in the next chapter.

8 ANALYSIS OF THE FINDINGS - DISCUSSION

8.1 Introduction - Comparison and Analysis of the Findings that Fulfil the Objectives of the Study.

For the analysis and discussion of the findings in this chapter, the main objective is the comparison between the international chain hotels, the Hellenic chains and the Hellenic individual hotel companies (table 8.a). It would show any differences on the strategies and levels of IT investment between them. Furthermore, it would discuss the ways in how IT investment was used as a business tool for the Olympic games of 2004 held in Athens, and how IT systems helped the hotels improve their productivity.

Table 8.a: Hotel Types.

Location	Hotel Type	Hotel Name
City Centre	Hellenic Chain	Metropolitan
		Caravel
		Royal Olympic
		NJV Athens Plaza
	Individual Hotel	Theoxenia
		St George Lycabettus
	International Chain	Ledra Marriott
		Athenaeum Intercontinental
		Holiday Inn
Resort	Hellenic Chain	Apollon Palace
		Lagonissi Grand Resort
	Individual Hotel	Pentelikon
		The Margi Hotel
		Astir Palace
Airport	International Chain	Sofitel Athens Airport

8.2 Level of Hotel IT Implementation - Comparisons

It is important to know what kind of IT systems does each hotel company use today (question 1). It shows the level of IT systems implementation for each hotel type and categorisation. Considering front office, and room division, the comparison between the large international hotel chains with Hellenic hotel chains and other Hellenic individual hotels shows that only a few individual hotels cannot keep up with the pace of the larger hotel companies. This analysis directly meets the demand of the first objective of this dissertation.

More analytically, as mentioned in the previous chapter, 7 out of 15 hotel companies have implemented "Fidelio" IT systems in order to cover their front office and room division departments. In the other hand 4 hotels use the "Lodging Touch" systems for the same purposes. It is noticeable the fact that all 4 international hotel chains have chosen Fidelio systems for their front office and room division, while only 1 Hellenic chain uses the same systems. 3 other Hellenic chains implement Lodging Touch systems, and 1 chain is still using "Hermes" (an older Hellenic reservation system). In the other hand, only 2 of the individual Hellenic hotel companies use also Fidelio in the front office and room division. The rest individual hotels use various other systems -as described in chapter 7- and it is understood that these hotels are actually one step behind from the other Hellenic of international hotel chains as they still use systems like the Hermes software which are older and without certain features that Fidelio or Lodging Touch systems have.

In the food and beverage department, the difference between the large hotel companies and the individual hotels is slightly smaller, as only 2 individual hotels still use an older out-of-date IT system (Hermes - Estia). This means that food and beverage department is probably more important to the hotels of Athens as most of them try to keep their IT systems as updated as possible.

Contrary to food and beverage department, it is critical to mention that there is a considerable difference between chains and individual hotels in the property maintenance IT systems. None of the individual hotels has any kind of IT system that control or check their building-property, and only 2 of the Hellenic chain use such systems. Hellenic owned

hotels have not yet showed the intention to invest in IT that concerns their property maintenance, while it is obvious that the international chains just implement the same systems worldwide in their properties.

8.3 IT SYSTEM INTEGRATION

As O' Connor (1996) discusses, each of these IT systems can be and often used separately. However, they operate much more efficiently when linked together to form an integrated hotel system. The importance of their integration should always be born in mind. Many hotels try to integrate their IT systems in order to link together all hotel departments, but in many occasions, this integration is producing difficulties and problems.

Thus, considering IT integration the main outcome that rises is that the individual hotels try to create their own (by hiring their personal team to work on it) interface software through personal computers that would be adapted to their property and would work efficiently. The fact is that this method has proved to be more efficient than just choosing an interface software and simply applying it on IT systems (as most hotel chains stated they do). Of course the best way of integrating the hotel's IT systems is the system the hotel is using to cover all departments and consequently to have its own integration feature that would link all of them together.

8.4 HOTEL IT INVESTMENT OVER THE LAST TWO YEARS – BUDGET

From the amounts of money that the hotels' respondents reported (an average investment of €120,000 over the last two years), it can be assumed that the international chain hotels spent money on IT in a yearly basis, while almost all of Hellenic chain hotels -with the exception of only one, which has also a yearly budget for IT investment- took such decisions only occasionally when there was a need for an upgrade or for a replacement of a certain system, hardware or software. Moreover the individual Hellenic hotels spent money for IT investment even more rarely only when big problems occurred. These facts

lead to the assumption that the hotels which invested in new IT systems were only the large chain hotels (both international and Hellenic) which means that the individuals would probably have to invest more in order not to lose pace in comparison with the chain hotels.

The survey reported that only 5 hotels present a yearly budget that corresponds to IT investment. Those hotels are 2 international chains, 2 individual hotels and one Hellenic chain. This fact shows that although the international chains seem to have a general policy that comes from the higher chain management, in some cases they just adapt to certain situations that they might come across in a certain city or country and as a result, to react at the same pace and levels with other domestic companies. So until today, the general idea is that in the Athenian hotel industry there was not a standard prospect for a yearly IT investment budget.

The decision for setting the size of the budget is, in case of hotel chains, taken by the owners or the board of the chains in join with the management of each hotel. In case of an individual hotel, the decision is almost all the times taken by the owner who happens, in most times, to be also the manager. This shows that for the Athenian hotels such decisions are not common yet, to have for example a systems' manager or someone who would specialize on IT investment to decide for all investments and figure out the budget needed.

8.5 IT Investment Plan Decisions

With question 7 of the questionnaire the respondent is asked to describe the plan of IT investment that his company adopts. The responses gathered, give data on the kind of strategy that the hotels are following on IT investment, which is actually the second objective of the study, analysed with the other types of hotel in the Athenian hotel industry.

The investment plan that a hotel company can adopt, might be short-term *Operational Value Investment,* long-term *Strategic Value Investment,* or even *Threshold Investment,* or *Infrastructure Investment* (Robson, 1997).

Table 8.b: IT Investment Plan by Hotel Type.

	Short-term	Medium-term	Long-term
International Hotel Chain	2	1	1
Hellenic Hotel Chain	4	-	1
Individual Hotel Company	1	2	2

The above table displays the IT investment plan by hotel type. The Hellenic hotel chains have a tendency of investing in IT far more for a short-term period rather than in a long range. Moreover the international hotels have a slight tendency to short-term period, while in the other hand the individual domestic hotels tend to adopt a long-term plan.

This analysis shows that these hotels of the Athens generally prefer to adopt a short-term IT investment plan, rather than long term. Plans with short-term gain horizons, usually are adopted in order to reduce costs in business processes. These may be one form of IS investment for which traditional financial justifications are appropriate, though they must not be confused with a strategic investment whose impact happens to be upon business operations. In the other hand, plans with longer-term horizon, are more considered as strategic investment plans. So it is understood that the long-range plans are more difficult to be adopted by the Athenian hotels, as they mostly invest or take decisions on updates only when there is a need for it.

8.6 The Importance of IT Investment Benefits for the Hotels in Athens

The following tables analyse the importance of the major IT benefits for the Athenian hotel industry. The hotels of the sample size were grouped as follows: city centre hotels; resort hotels; Hellenic chain hotels; international chain hotels; and individual hotels. This analysis, explains how IT investment was used as a business tool for the Olympic games of 2004 held in Athens, and how IT systems helped the hotels create competitive advantages.

8.6.1 Comparison Between City and Resort Hotels

Table 8.c: Importance of IT Investment Benefits for Athenian Hotel Industry. Comparison Between City and Resort Hotels

IT Investment Benefits	Athenian Hotel Industry	City Centre Hotels	Resort Hotels
Service Quality	1	1	1
Service Speed	2	2	2
Sales Level	3	3	6
Employees' Performance	4	6	3
Bookings Reliability	5	5	5
Cost Decrement	6	8	4
Customer Loyalty	7	4	7
Business Levels	8	7	8

From the above tables, it is obvious that all hoteliers rate as most important IT investment benefit *Service Quality*, which is by far number one rated (from 11 hotels). As well, *Service Speed* is in the second place of preference in all hotel categories and types. These facts result to the conclusion that hotels believe IT help improve service quality more than the other benefits. Furthermore, with the improvement of service quality the hotels could increase also their business levels.

Apart from service quality and service speed, which are the most important IT benefits, among the other benefits is in many occasions a big difference of the perception from the different types of hotels. City centre hotels place *cost decrement* as the least important benefit, while resort hotels have a different estimation and place it in 4^{th} place after *employees' performance* that is in 3^{rd} for the resort and in 6^{th} for the city hotels. Additionally, in exactly the opposite position is *sales level.* These examples show a different attitude from resort and city centre hotels towards IT benefits. Besides it is quite knowledgeable that city hotels would like to have increased *customer loyalty* far more than the resort. In the author's opinion this is happening because city hotels need to have loyal customers as they generally work with individual customers and not groups, as the resort hotels most do.

8.6.2 Comparison Between International Chain, Hellenic Chain, and Individual Hotels

Table 8.d: Importance of IT Investment Benefits for Athenian Hotel Industry. Comparison Between International Chain Hotels, Hellenic Chain Hotels and Individual Hotel Companies

IT Investment Benefits	Athenian Hotel Industry	International Chain Hotels	Hellenic Chain Hotels	Individual Hotels
Service Quality	1	1	1	1
Service Speed	2	2	2	2
Sales Level	3	6	3	5
Employees' Performance	4	5	5	4
Bookings Reliability	5	3	6	6
Cost Decrement	6	4	7	3
Customer Loyalty	7	7	4	7
Business Levels	8	8	8	8

Considering the hotel ownership and not the location, there are also a few interesting points to indicate. In view of *cost decrement,* individual domestic hotel companies state it as very important benefit, while Hellenic chain hotels consider it as 7th important of the 8 benefits. This could be explained because individual hotel companies may not have the ability to make a longer-term strategy as they probably cannot afford such kind of investment. Furthermore, *sales level,* is for the Hellenic hotel chains the 3rd most important IT investment benefit, while international hotel chains regard it as the 6th, and the other domestic hotels as 5th. Also in this statement, it is obvious that the hotels that belong to chains have the ability to concern more on other yield services that could indirectly help also sales levels increment. In the other hand, the individual domestic hotel companies would like to use IT systems in a more direct way so as to increase and improve sales levels directly.

Bookings reliability appears also to be important for the international hotel chains. That could be explained because On the contrary, both Hellenic chains and individual hotels place it only in 6th place as it is still a feature that most of them have not yet developed as

the large international hotels do. With regard to IT investment and *Employees' performance* almost all hotels agree to the fact that it should be place somewhere in the middle of all 8 benefits, as IT really help the companies to improve their employees' productivity and performance but not that much yet.

Finally, only Hellenic chain hotels appear to expect from IT system investments to improve their *customer loyalty* and rate the benefit with 4th position among the others. On the contrary, neither international hotel chains nor individual hotels adopt that kind of attitude as they both leave it almost last benefit to be improved. The reason behind this might be that both of them have -in a manner- a percentage of loyal customers only with their brand name (the international chains), or with personal relationships and standard customers (the individual domestic hotels).

8.6.3 Competitive Advantages Expected from the Hotels Towards the Olympic Games of Athens

As mentioned in chapter 7, most hotel companies responded that the main competitive advantage that they had after the Olympiad of 2004 was increasing their *customers' satisfaction* either by introducing new innovative services, or through an increased and improved employees' productivity.

Investing in the most recent information technology can provide a competitive edge: increased efficiency and speed of service combined with increased access to information technology for the guest in the bedroom, would generally pay off in enhanced customer satisfaction (Ransley and Ingram, 2000).

Additionally, other competitive advantages that were more popular among others were *service quality*, *fast – Internet access*, and some new forms of tourism that would attract new customers such as thalassotherapy (special swimming pools and kind of baths that contain sea-water and with organised exercise from the personnel would have therapeutic characteristics for the customers).

In the author's opinion, the most important competitive advantage that the hotels of Athens should achieve is *customer satisfaction* through IT services and speed. The reason behind this is that in the forthcoming years, almost all five-star hotels companies would probably be at the same level of IT implementation and would have almost all the same kind of services. So the most successful hotels would probably be those that would satisfy more their customers. In addition to that it is a very innovative idea to create new forms of tourism that do not exist in Athens and greater Attica area.

8.7 IT Systems and Employees' Productivity

During the past few decades, nothing has enhanced the professionalism nor increased the productivity of the hospitality industry more than technology. IT systems have changed the way hotels coordinate, evaluate and control their operations (Kasavana and Cahill 1997).

Proof for that opinion is that 40% of the hotels that participate in the survey indicated that they are fully satisfied with the extent that IT systems help their employees to be more productive. Also, a 33% reported that IT systems help very much in improving productivity, in addition to 20% of the respondents that explained that IT is helpful enough in order to fulfil their expectations of increased employee productivity.

Examples for that are the hotel responses indicating that IT systems help employees' productivity in terms of: on-line bookings, check-in and check-out speed, system stability, making mistakes much more rarely, real-time of the monthly payment of wages that was reduced from 2-3 days to only one, more accurate reporting, more easy to use IT systems from even older employees.

All these examples give the general conclusion that in terms of employees' productivity, IT systems help in an efficient and well-organised way. In the author's opinion those hotels that took the advantage of IT systems in improving their productivity and efficiency are those who entered in the new era of the Athenian Tourism (mainly after the Olympics) with more chances to succeed.

8.8 HOTEL BUSINESSES AFTER 2006 – RECOMMENDATIONS

All hotels surveyed were asked for the future prospects, but almost none of them did answer about their plans for that far. The reason is mainly because the individual hotels now work in a higher pace in order to catch up with the chain hotel companies that try to make the best by implementing new innovative services with the help of IT systems and by expanding their own buildings and rooms available, even by building new wings, or refurbishing their hotel from scratch.

In the author's opinion furthermore, since 2004 and for the forthcoming years it is a crucial era for the Hellenic tourism. The hotels that would succeed, improve and increase their businesses, would be those that took advantage of that huge and massive marketing worldwide, that resulted from the Olympics. The hotel companies that would be prepared to meet these expectations in the best way, by implementing and investing in new and appropriate IT systems, would have the great advantage to win the big. After investing in the appropriate IT systems it is recommended that they should create innovative services that would meet all the demands of the customers and would satisfy them in an unforgettable way, in order to create new loyal customers for the future.

In addition to that IT systems should be well operated in a manner that would help the employees of the hotel to improve their productivity. To do that it might need to train them so as to take the most of the IT systems they would use. With satisfied customers, the final achievement would be the hotel's business improvement.

8.9 CONCLUSION

Throughout this chapter, all findings gathered from the survey conducted in the Athenian hotel industry were analysed and discussed in a way that could compare the international chain hotels with the Hellenic chains and the individual hotels companies respectively. The implementation of IT systems in the various departments of the hotel was reported in comparison with the various hotel types.

Moreover, the form of IT systems integration was discussed, as well as, the hotel IT investment over the last 2 years and the budget that the hotels have for IT investment. The importance of IT investment benefits for the hotels in Athens was analysed in accordance with a comparison to the literature background.

Finally, there was a discussion over IT investment and employees' productivity that concerned the hotels in Athens. The last paragraph of the chapter concluded with the future of the Athenian tourism after the year 2006 and some recommendations.

The following chapter of conclusions summarises this dissertation study and gives recommendations for future studies concerning the area of IT investment in the hospitality industry.

9 CONCLUSIONS – FUTURE RECOMMENDATIONS

9.1 INTRODUCTION

In this final chapter there is a summary of the findings gathered from the survey conducted in the hotels of Athens and greater Attica area and a summary of the discussion presented in the previous chapter. In addition to the results of the primary research, this chapter reviews the limitations of the study, as well as, the contribution of this study. Finally, areas of future research on the same topic will be suggested.

9.2 CONCLUSIONS

The general impression derived from the findings of this survey conducted in the luxury five-star hotels of Athens and suburbs shows the intention and need of the hotels to invest in IT systems. That statement reflects reliably the existing market today in Athens because 15 out of a total sample size of 19 hotels were finally interviewed.

The Olympic games of 2004 were the original cause of the need for IT investment, in order to improve their quality and speed of service, and as a result to have more loyal customers, increased business and sales levels in the future. Moreover, it is understood that the findings gathered fulfil the objectives of this dissertation study, as the survey finally examined the existing use of IT systems in the Athenian hotels. The existing investment and helped in the analysis and comparison of the strategies and level of IT implementation between the International hotel chains, the Hellenic hotel chains and the other independent Hellenic hotel companies.

From the findings, the author identified that for the individual hotels, the existing IT systems are not the appropriate to enter in the new era and have to be upgraded. In the other hand most of international chain hotels, as well as, the Hellenic chain hotels of Athens have already invested in new IT systems and enter the future in a more promising way. These hotel companies currently maintain their IT systems while they are trying to find new features and broaden their customer services.

Moreover, the author largely detected that IT systems mainly help the hotels of Athens to enhance their quality and speed of service, as well as, they improve the employees' productivity. These benefits that come from IT systems, are actually the competitive advantages that the hotels have since the Olympics.

Over all, a general conclusion is that IT helped all hotels of Athens profit from the Olympics, but they have to continue concentrating on innovative services and products, so as to keep their customers satisfied and loyal and their sales levels high.

9.3 RECOMMENDATIONS

The major recommendations that could be inferred from the survey in the Athenian hotel industry mainly concern what has happened in the period after the Olympic games of Athens. In the author's opinion, after 2004 the Hellenic tourism industry entered in a new vigorous and crucial era, so the hotels that succeeded, improved and increased their businesses after 2004. These hotels are those that took advantage of the huge and massive marketing promotion that had a worldwide impact and that is a result of the Olympics games held in Athens.

The hotel companies that had been prepared to meet these expectations in the best way, by implementing and investing in new and appropriate IT systems, had the great advantage to 'win the big deal' -the customers that came for the Olympic games-. After investing in the appropriate IT systems it is recommended that they should create innovative services that would meet all the demands of the customers and would satisfy them in an unforgettable way, in order to create new loyal customers for the future.

In addition to that IT systems should be well operated in a manner that would help the employees of the hotel to improve their productivity. To do that it might need to train them so as to take the most of the IT systems they would use. With satisfied customers, the final achievement would be the hotel's business improvement. Actually, IT systems cannot operate and give what hotel management need by themselves. People would have to operate and manage them in the best way so as to achieve such results. In addition to

that, as Braham (1988) remarks, the hotel industry provides hospitality and only people can do that. Computers are not gods and should be kept firmly in their place as management tools that are there to assist the staff in providing hospitality.

9.4 LIMITATIONS OF THE STUDY

At this point it is useful to add that a limitation of the research is the fact that the interviews in order to achieve their scope and obtain the right information from the hotels had to be conducted face-to-face with the hotel's respondents. The interviewer had to visit all the hotels of the sampling size in person, in order to achieve that.

In addition to that it is necessary to point out that the results cannot be easily generalized for the whole hotel industry of Athens and greater Attica area (to include all the hotel categories), as the sampling size included only the luxury five-star hotels that were more likely to respond to the survey questions.

9.5 CONTRIBUTION OF THE STUDY

With the completion of this dissertation study, hotel managers could have a better insight into the hotel industry strategies and policies would be made possible, and also different approaches to IT strategies from different companies could be studied. This could help some hotel companies to improve and update their Information Technology Systems, and compare them efficiently to others up-to-date IT systems that exist in the hotel industry.

Furthermore, the study identifies the benefits that derive from the IT investments in the hotel sector and gives assistance to those managers and hotels owners to understand and decide what investment plan they should adopt for their companies, when and for what time-horizon. It helps managers to recognise, or realise to what extent can IT systems improve their employees' productivity. Finally, it would give the opportunity to other researchers, to compare the use and implementation of hotel IT products of the hotels in

the capital of Greece with other European capitals in the beginning of this new era of the European monetary union

9.6 FUTURE RESEARCH

It is obvious that Information Technology, as well as, the Hospitality Industry in general, are two of the most important industries. Information Technology is a very crucial and rapidly developing business, and the only suggestion that could be implied, is to keep up learning continuously, regarding the future. It could be educed that IT systems for the hospitality industry are progressing and further developing in a geometric pace.

Any future work on this topic, the area of the IT investment for the hotel industry, with similar objectives should take into account the limitations of this study presented above and efforts should be made to bear them down. Moreover, comparative research using the same objectives and research questions may be conducted in other countries in order to compare the results of the two studies and draw useful conclusions.

Appendices

APPENDIX A: QUESTIONNAIRE FOR FACE-TO-FACE INTERVIEWS

Questions:

1. What kind of IT systems do you use in the following departments of your hotel?

   Front/back office: Food and Beverage:

   Housekeeping: Property Maintenance:

2. How are your IT systems integrated? What are the difficulties or problems you face?

3. In a scale from 1 to 5, indicate how satisfied you are with the IT systems your hotel is using, in comparison with the industry's market.

Not Satisfied	1	2	3	4	5	Totally Satisfied

   Why?

4. During the last two years what amount of money have you invested in IT systems (hardware and software)?

5. What percentage of your yearly budget corresponds to IT investment?

6. Who sets the budget and who decides on what kind of IT systems to invest?

7. Describe the plan of IT investment that your company adopts.

   Is it more "*Operational Value Investment*" or "*Strategic Value Investment*" and why?

8. According to your expectations from the new or existing IT systems, place the following eight IT investment benefits in order of importance.

   Improve:

Service Quality		Bookings Reliability	
Service Speed		Cost Decrement	
Sales Levels		Business Levels	
Customer Loyalty		Employees' Performance	

   Other:

   Why the first Choice:

9. Considering your previous answer, what were the competitive advantages for your hotel taking into account the Olympic games of 2004?

10. How well do IT systems help your employees improve their productivity?

No helpful at all	1	2	3	4	5	Extremely helpful

Examples:

11. To what extend does IT investment contribute in reducing hotel's operational costs? How satisfied are you in a range from one (1) to five (5)?

At all	1	2	3	4	5	Very Much

12. Did you invest on IT systems towards the year 2004? What amount of money, roughly?

13. How will you use your IT investment in order to retain customers and attract new businesses after the year 2006?

14. Would you like to add anything else?

I sincerely appreciate your time and cooperation.

APPENDIX B: QUESTIONNAIRE FOR FACE-TO-FACE INTERVIEWS (HELLENIC)

Ερωτήσεις:

1. Ποια Ξενοδοχειακά Προγράμματα ή Συστήματα χρησιμοποιείτε στα παρακάτω τμήματα του ξενοδοχείου σας;

   Front/Back office: Food and Beverage:

   Τμήμα Ορόφων: Συντήρηση - Ασφάλεια:

2. Με ποιο τρόπο, πρόγραμμα ή σύστημα επικοινωνούν μεταξύ τους; Ποιες δυσκολίες σας έχουν παρουσιαστεί κατά τη χρήση τους;

3. Σε κλίμακα από το 1 έως το 5 αναφέρετε το πόσο ικανοποιημένοι είστε με τα μέσα τεχνολογίας που χρησιμοποιείτε σε σύγκριση με τον ανταγωνισμό και την αγορά;

Καθόλου	1	2	3	4	5	Πολύ ικανοποιημένος

   Γιατί;

4. Τα τελευταία δύο χρόνια τι χρηματικό ποσό έχετε επενδύσει σε καινούργια μηχανήματα και ξενοδοχειακά προγράμματα;

5. Τι ποσοστό περίπου από τον ετήσιο προϋπολογισμό σας, αντιστοιχεί σε επενδύσεις τεχνολογικών συστημάτων και προγραμμάτων;

6. Ποιος καθορίζει το budget και ποιος αποφασίζει σε τι είδους τεχνολογικά συστήματα και προγράμματα θα επενδύσετε;

7. Περιγράψτε το σχέδιο επενδύσεως που η μονάδα σας υιοθετεί. Είναι (1) ένα σχέδιο με κοντινό επενδυτικό ορίζοντα (*Operational Value Investment*) για τη μείωση του λειτουργικού κόστους ή (2) ένα μακροχρόνιο επενδυτικό πρόγραμμα

(*Strategic Value Investment*) στρατηγικής σημασίας με απώτερο σκοπό την βελτίωση των εσόδων του ξενοδοχείου και γιατί?

8. Σύμφωνα με τις προσδοκίες σας από τα νέα ή τα υπάρχοντα τεχνολογικά συστήματα, τοποθετήστε στη σειρά τα παρακάτω οκτώ πλεονεκτήματα, που πηγάζουν από τέτοιου είδους επενδύσεις, ξεκινώντας από το σπουδαιότερο.

Βελτίωση:

Ποιότητα Εξυπηρέτησης		Αξιοπιστία Κρατήσεων	
Ταχύτητα Εξυπηρέτησης		Μείωση του Κόστους	
Επίπεδο Πωλήσεων		Όγκος Εργασιών	
Επαναλαμβανόμενοι Πελάτες		Απόδοση του Προσωπικού	

Άλλο:

Γιατί η πρώτη επιλογή σας:

9. Με βάση την προηγούμενη ερώτηση, ποια πιστεύετε ότι ήταν τα πλεονεκτήματα που προέκυψαν για το ξενοδοχείο σε σχέση με τους ανταγωνιστές σας αναλογιζόμενοι την Ολυμπιάδα του 2004;

10. Πόσο βοηθούν τα τεχνολογικά συστήματα στην αύξηση της παραγωγικότητας του προσωπικού σας;

Πολύ λίγο	1	2	3	4	5	Πάρα πολύ

Για παράδειγμα:

11. Η επένδυση σε τεχνολογικά συστήματα συμβάλει στη μείωση του λειτουργικού κόστους της επιχείρησης. Πόσο ικανοποιημένος είστε σε αυτό τον τομέα;

Καθόλου	1	2	3	4	5	Πάρα πολύ

12. Σε ποια νέα τεχνολογικά συστήματα επενδύσατε εν’ όψη της Ολυμπιάδας; Τι χρηματικό ποσό περίπου;

13. Πως θα εκμεταλλευτείτε τα τεχνολογικά συστήματά σας, με σκοπό να κρατήσετε την πελατεία και να προσελκύσετε νέους τουρίστες ή νέες μορφές τουρισμού μετά το 2006;

14. Έχετε κάτι άλλο να προσθέσετε;

Ευχαριστώ πολύ για τον χρόνο σας.

APPENDIX C: HOTEL CATEGORISATION FOR THE PURPOSES OF THE SURVEY

5 Star

Hotels in Athens and greater Attica Area

Type of Hotel	City - Central	Resort - Suburbs
International Hotel Chains	Athenaeum **Intercontinental** Athens **Hilton** Athens **Holiday Inn** Athens Ledra **Marriott** Grande Bretagne – **Sheraton** **(Starwood Hotels)**	**Sofitel** Athens Airport Hotel **(Accor Hotels)**
Hellenic Hotel Chains	Athens Metropolitan Hotel (**Chandris** Hotels & Resorts) **Divani** Caravel **Divani** Acropolis Palace N.J.V. Athens Plaza (**Grecotel**) King George (**Grecotel**) (Re-opens 2003)	**Divani** Apollon Palace Grand Resort Lagonissi (**Helios** Hotels & Resorts)
Independent Hellenic Hotels	Royal Olympic **Park** Hotel **Saint George** Lycabettus **Theoxenia** Palace Hotel	**Astir Palace Resort** (Hotel & bungalows) **The Margi** Hotel Pentelikon

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