

QUALITY ASSURANCE MAPPING IN GREEK SERVICE COMPANIES

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Abstract

Purpose: The motivation and aim of this paper is to collect and systematically present useful information from any published material that describes real life cases of Quality Management Systems (QMSs) and quality assurance techniques that have been applied in Greek service companies. The diffusion of the aforementioned valuable knowledge will help directly service companies in Greece to benefit and upgrade their operation, while at the same time, indirectly, the whole Greek public sector will be enhanced, which actually constitutes a necessity for Greece nowadays.

Design/methodology/approach: In order to realize our goal we have carried out an extensive research of the literature, thus managing to identify publications that concern various sectors of services, i.e. banking, education, health and social sector, hospitality, insurance, logistics, mobile telephony, public sector, SMEs providing services, sports and transport.

Findings: Our review has revealed that Greek companies offering services, despite their small size, seem to follow progressively the trends of international and competitive markets, implementing various QMSs. At the same time, it shows that the majority of companies ask

for external quality consultants to help them with the proper design and implementation of the selected standards. On the other hand, this review reveals that only few publications presented exhaustively the methodology that was followed by service companies in order to design and apply a QMS.

Originality/value: Whenever a Greek company providing services wishes to develop and implement a QMS or another quality assurance technique, it could rely on the knowledge of the presented surveys and, potentially, follow the solutions, procedures and best practices of similar companies, which have accomplished the same task in the past.

Keywords: Service sector; Quality Management System; Quality Assurance; Greece; Review

1. Introduction

Service sector is the most significant economic sector in Greece, contributing about 70% to the Greek gross national product (Priporas and Poimenidis, 2008). During the last decades it has certainly evolved significantly, despite the fact that its public branch has been blamed for the recent economic crisis of Greece. One of the distinctive properties of the particular economic sector is that it is characterized by the vast variety of provided services, in contrast to the usually standardized products of manufacturing companies (Abernethy et al., 1997). The diversity of services makes their quality assessment not only difficult, but also necessary both for the state/market and the citizens/customers, depending on the public or private character of those services. Thus, not surprisingly, the assessment of the quality of services and customer satisfaction constitute main objectives of surveys that service companies in Greece and elsewhere conduct from time to time, to contribute to the continuous improvement and progress of this category of companies.

Based on the knowledge of these surveys, whenever a Greek company providing services wishes to develop and implement a Quality Management System (QMS) or another quality assurance technique, it ought to rely on this knowledge and potentially follow the solutions, procedures and best practices of similar companies, which have accomplished the same task previously. Moreover, it should be ready to address the challenges and overcome relevant difficulties with the ones that other Greek service companies had to go through during their quality assurance process.

However, literature lacks an illustrative review not only of these surveys, but also of all case studies and publications that have been made regarding quality assurance issues in Greek companies providing services. This lack does not permit the diffusion of the aforementioned valuable knowledge and information. Therefore, both the motivation and the aim of this paper were to collect and systematically present useful information from the published material that describe real life cases of QMSs and quality assurance techniques in

Greek service companies.

Thus, when considering the main practical implications of this review we should mention at least two: first and most important, the great amount of information that we collected will help the Greek service companies to benefit and become upgraded, and second, while indirectly, particularly the public sector of Greece will be enhanced. The latter is of utmost importance for the Greek economy nowadays.

This is only one reason that explains our special interest for Greek service companies in this paper. A number of additional reasons can justify this choice. First, the fact that Greece and especially its public sector were found in the eye of the latest economic hurricane (Theodoropoulos, 2013) makes our choice appealing. Moreover, mainly public Greek service companies employ staff, a great part of whom has neutral, if not negative, attitude towards evaluation processes (Bourantas, 2002), quality assurance methods¹ and the relevant paperwork. Finally, the enhancement of the quality Greek service companies provide to their customers, as well as their quality certification may constitute alternative choices for their reforming, apart from pay cuts and layoffs that have massively been applied lately.

The review that we present below is based to a great extent on the research of Adamidou (2011) which was conducted for her Master's thesis at the Postgraduate Program "Quality Management" of the School of Sciences and Technologies of the Hellenic Open University. The search method that we adopted, exploited mainly the online databases/search engines of Scopus and Google scholar (*method 1*), with no particular restrictions either to the journals that were examined or to the articles' publication time. Regarding the latter issue, it should be mentioned that the majority of papers that we came across were published in the decade 2005-2014. The main keywords that we used, individually or in combination, were "Greece", "Service company-ies", "Quality management (system)", "Quality standard", "Quality assurance", "ISO", "SERVQUAL", to name but a few.

¹ <http://www.ydmed.gov.gr/?p=4599> (in Greek)

Additionally, several well cited literature reviews were studied thoroughly (*method 2*), such as the one of Sila and Ebrahimpour (2002), which gave us interesting ideas for specifying our search method and, then, for presenting briefly in tables the findings arising from the collected publications. Finally, several articles were identified by searching the references of publications that were spotted using *method 1 (method 3)*.

After studying several publications we came up with 46 ones, which have been published in the journals presented in Table 1. Not surprisingly, all 46 publications were written by at least one author with Greek affiliation, i.e. by a researcher who was familiar with the Greek particularities on the studied issue.

Table 1 about here

In what follows, we present in groups the 46 publications that deal with the QMSs or other quality assurance techniques that have been developed and applied in public (Section 2) or private (Section 3) Greek companies offering services. The latter belong to the banking sector, the education sector, the health and social sector, the hospitality sector, the insurance sector, the logistics sector, the mobile telephony, the SMEs providing services, the sports sector and, finally, the transport sector. In Section 4, we present our main findings, while in Section 5 we conclude the paper.

2. Quality Assurance in the Greek Public Sector

The publications focusing on the Greek public sector service companies deal mainly with Total Quality Management (TQM) and particularly with its “soft” and “hard” elements. In recent studies (e.g., Oakland, 1993, Psychogios and Priporas, 2007 etc.), the following have been detected as “soft” TQM elements: Leadership, Strategic quality planning, Employee management and involvement, Supplier management, Customer focus, Process management, Continuous improvement, Information and analysis, and Knowledge and education. On the contrary, “hard” TQM elements include QM tools and techniques such as

Flow charts, Relations diagram, Scatter diagram, Control charts, Pareto analysis, Quality function deployment, Design of experiments etc.

First, Vouzas and Psychogios (2007) conducted a study whose aim was to develop a statistical measure of the “soft” side of TQM that could be used in assessing the awareness and understanding of managers as far as the concept of TQM within organizations is concerned. To this end, they used a questionnaire that was built on the nine most commonly used principles of TQM theory and collected information from managers working in 19 public (as well as 24 private) Greek service organizations. The statistical analysis led to the development of a distinctive and consistent statistical measurement of the “soft” side of TQM, which consists of three items: i) continuous improvement and training, ii) total employee empowerment and involvement and iii) quality-driven culture.

At the same time, Psychogios and Priporas (2007) tried to investigate awareness and familiarity of managers in Greek services organisations with TQM. More specifically, four particular areas of TQM application were examined: i) managers’ awareness of TQM, ii) managers’ understanding of the “hard” as well as iii) of the “soft” side of TQM and iv) the differences between managers of public and private service organisations on TQM aspects. For that reason, they studied a sample of 400 managers. The overall conclusion of their study was that despite the managers’ awareness of “soft” TQM concepts and ideas, their level of knowledge and understanding of these concepts was superficial. Although TQM became a substantial issue for Greek organisations, managers have to make many steps towards the TQM approach before considering it a core organizing principle. Moreover, in the study of Psychogios and Priporas (2007) there was evidence that TQM affected the Greek managers’ perceptions on several aspects of their daily work, but mainly on “hard” management practices rather than on “soft” ones. According to the managers’ view, although the “soft” side of TQM is something useful, it is still far from the organizational reality; the one that really matters is the “hard” side of TQM.

Psychogios and Wilkinson (2007) explored the cultural determinants of the Greek business environment, which appeared enthusiastic towards the adoption of TQM. In particular, they formed a theoretical framework of understanding and explaining the cultural conditions under which TQM can be applied in the Greek business context. Similarly to Psychogios and Priporas (2007), Psychogios and Wilkinson (2007) concluded that Greek managers were aware but did not fully understand “soft” TQM principles and, consequently, did not apply them in their day-to-day work. Moreover, their data analysis identified two kinds of cultural “forces” that affect the adoption and application of TQM in the Greek civil service system: Traditionalism/Conservatism and Reformism. These two opposing forces synthesize the national business environment of Greece: the conservative cultural “force” tends to resist structural changes of the system and opposes TQM ideas. On the contrary, the reformative cultural “force” tends to favour changes of the system. Globalization and increased competition have differentiated the way that the Greek business environment operates; it tries to change in order to meet new demands by modernizing several business aspects.

Again in 2007, Psychogios and Szamosi addressed the main features that have shaped the national business system of Greece. They examined its development as well as its three key structural features: i) the underdevelopment of the management system, ii) its cultural gap and iii) the problematic operation of public administration. Furthermore, they examined the quality movement in Greece - with focused on TQM - as a significant part of the modernization process that took place in the near past.

A year later, Psychogios et al. (2008) carried out a study in order to explore the cultural factors that seem to determine the attitudes of public managers towards the adoption of TQM, not only in Greek civil services, but generally in non-Anglo-Saxon ones. Their research methodology combined both quantitative and qualitative techniques. Absolutely similarly to Psychogios and Wilkinson (2007), Psychogios et al. (2008) identified the same two kinds of

cultural “forces” that affect the implementation of TQM in the Greek civil service system. As they mention, the traditional cultural “force” and its bureaucratic pathologies, overlapping jurisdictions, administrative burdens and autocratic behaviours oppose to the TQM concepts. All these hold the Greek civil service system back, inhibiting shifts in policy or ideals. On the other hand, the reformative “force” favours system change. Finally, according to Psychogios et al. (2008) the pressures of effectiveness and efficiency altered the way that the Greek public organisations should (and could) operate and these forces of transformation pushed the adoption of new management methods, such as TQM.

Psychogios et al. (2009) were interested in exploring to what extent autonomy, which constitutes a critical aspect of middle managers’ work in Greek service organizations, was affected by the application of TQM. The authors’ data analysis led to the conclusion that whilst the awareness and application of TQM issues seemed to positively influence managers’ opinions about autonomy, at the same time their views about the increased monitoring and control by the top management were not influenced. Additionally, while most respondents considered that TQM programs offer opportunities for autonomous work, there were contradictory views between public and private sector managers, as well as among those with different educational backgrounds.

There is a belief that national culture has a direct influence on TQM implementation, while the research question is under which conditions the TQM principles and practices can be applied in those national business systems that differ from those where it first arose. In order to give a convincing answer, Psychogios (2010) broadened the work of Psychogios et al. (2008) by conducting a study in four major South Eastern European countries, namely Greece, Bulgaria, Romania and Serbia. In this study, the managers of 123 service organisations in public (as well as in private) sector took part. The quantitative data analysis showed that the implementation of TQM was influenced by the educational background of managers: the more educated the managers were, the more they attempted to empower

employees and involve them in the decision-making process. Furthermore, the application of TQM seemed to be significantly influenced by the employment sector managers belonged: comparing public against private sector companies, the first ones were more positive to adopt both “soft” and “hard” principles of TQM. Moreover, results revealed that the implementation of TQM was influenced neither by the age and the gender of managers nor by the size of the company.

Finally, Kakouris and Meliou (2011) did a survey in five tax offices in Greece adopting the SERVQUAL method as their research instrument. Their study aimed at i) examining differences in perceptions and expectations of service quality among tax-officers and tax-payers and ii) indentifying the importance that service quality dimensions have for those two tax groups. Both tax-officers and tax-payers were asked about their perceptions and expectations on 22 evaluation items that influence service quality. The data analysis indicated that all 22 items contributed more or less to the fact that tax-payers’ perceptions fell short of tax-officers’ expectations. It was also noticed that for the four (out of five) dimensions of SERVQUAL - in the following order of magnitude: reliability, assurance, responsiveness and empathy - management is overestimating tax payers’ expectations, while for the fifth one (tangibles) the gap between the two responses was not substantially significant.

3. Quality Assurance in the Greek Private Sector

3.1. Banking Sector

First, the research of Glaveli et al. (2006) examined the differences in perceptions of bank service quality among the bank customers of five Balkan countries, namely Greece, Bulgaria, Albania, FYROM and Serbia. The tool that was used for this purpose was the Bank Service Quality (BSQ) developed by Bahia and Nantel (2000). BSQ consists of 31 items of service quality that relate to the banking sector and are allocated across the dimensions of: i)

Effectiveness and Assurance, ii) Access, iii) Price, iv) Tangibles, v) Service portfolio and vi) Reliability. The research results of Glaveli et al. (2006) showed that various customers had different perceptions of the offered service quality. More specifically, the Greek clients thought to receive the highest quality level of bank services in comparison to the customers of the other four Balkan countries. Moreover, despite the differences that exist between the five countries as far as the ranking of quality dimensions is concerned, Effectiveness, Price (besides Greece) and Reliability seem to be the most important factors in the creation of perception of the received service quality.

A year later, Petridou et al. (2007) carried out a similar research with two objectives. The first one was to assess and compare the level of bank service quality provided in Greece and Bulgaria based on quality perceptions of retail bank customers. The second one was to identify the dimensions of quality services in the two countries. In order to collect the information they needed, they formed a questionnaire, while for measuring the quality perceptions, BSQ was used once again. Similarly to Glaveli et al. (2006), the analysis of collected information revealed that customers of Greek banks perceived a higher level of quality in comparison to the Bulgarian bank customers.

Bellou and Andronikidis (2008) concentrated on examining the “internal” service quality, namely the attitudes that people have towards one another and the way people serve each other inside an organization. They examined the implications of internal service quality within the banking sector, in terms of front-line employee behaviour, both for public and private Greek banks. According to their findings, the perceived level of internal service quality was quite satisfactory for all banks, due to which both public and private banks were very likely to achieve external service quality as well as customer satisfaction. Moreover, no significant differences were found between private and public banks in terms of the level of the offered internal service quality, as well as the exhibited pro-social service behaviours, namely the useful behaviours of employees that are directed towards the organization or

other individuals.

In 2009, Andronikidis et al. (2009) studied a Greek bank and presented the benefits of applying the Quality Function Deployment (QFD) into its functions. They also investigated possible modifications of QFD that could help to overcome the limitations that are faced in its implementation. In their illustrative example, which focused on the House of Quality (HOQ) – in other words that first phase of QFD - the Greek bank customers were categorized into seven market segments, based on their product related, primary relationship with the bank. The inputs for the HOQ were obtained through a market survey and a questionnaire in which they included a list of predefined bank selection criteria. Their research revealed that the application of QFD can be a means of translating the “voice of the customer” into characteristics of new services.

Tsoukatos and Mastrojianni (2010) drawing evidence from Greek retail banking presented a study aiming at i) building a retail-banking service quality scale, ii) examining its items and factorial structure, iii) assessing its reliability and validity and iv) comparing the proposed scale against metrics that are currently used in banking. They introduced the BANQUAL-R metric, which consisted of twelve items of SERVQUAL², seven of BSQ, two items that are common in SERVQUAL and BSQ, and, finally, six additional items. As far as the factorial structure of BANQUAL-R is concerned, it consisted of Empathy and Assurance (found in SERVQUAL), Effectiveness (found in BSQ), Reliability (common in SERVQUAL and BSQ) and, finally, Confidence. In the majority of SERVQUAL applications, Reliability is found to be the most important dimension, interchangeably followed by Responsiveness and Assurance. However, in the specific study, Assurance and Empathy were the most important service quality elements, closely followed by Effectiveness. Therefore, it was clear that the dimensionality of BANQUAL-R indicated a different set of quality priorities than those

² In general, SERVQUAL relies on a set of five quality dimensions: Tangibles, Reliability, Responsiveness, Empathy and Assurance and it is appropriate for measuring gaps between perceived and expected service quality.

mentioned by the SERVQUAL (and BSQ) studies.

3.2. Education Sector

At first, Georgiou and Synelli (2006) presented the results and the experiences from the design process of a QMS according to ISO 9001 in a Greek academic library taking into account the particularities of a public organization in Greece. They also analyzed all the important issues they faced during the design phase concerning: organizational issues, administration's attitude and contribution, the role of QMS coordinator, staff attitudes and behaviour, the role and contribution of the consultant, the need for automation and information technologies etc.

Since quality constitutes a subjective concept that at any given time incorporates the true, expressed or implied needs of customers, Kostagiolas and Kitsiou (2008) initially provided an overview of various approaches to manage quality in Greek academic libraries, underlining the recent increased interest for the ISO 9001. Furthermore, they investigated and provided evidence regarding the perceptions of Greek academic library directors for the implementation of ISO 9001 quality certification. Their research results revealed that only 10.14% of Greek academic libraries applied a QMS, while they referred in detail to the two academic libraries in Greece which developed and implemented a QMS according to the ISO 9001 standard. A positive attitude regarding the implementation of a QMS was expressed by 21.7% of the respondents, while 43.5% of them were not interested in such a project. Moreover, a significant percentage of the directors participating in the research (60%) agreed that a QMS might really be a "future necessity". Finally, the respondent directors indicated as the most important incentive for implementing a QMS, the overall improvement of the information services provided by Greek libraries.

A year later, Stamatelos and Stamatelos (2009) described their experience in applying basic quality principles and practices to engineering laboratories, motivated by their

cooperation with industry. They mainly focused on the reasons the public higher education sector resists to quality assurance procedures and indicated specific directions to enhance the dissemination of quality culture in engineering faculties.

In 2010 Papadimitriou and Westerheijden taking into consideration that Quality Management (QM) in Greek higher education was in the early 2000s in a very early stage, examined the spreading of the use of quality standards (e.g. ISO 9001) in Greek universities, and particularly in university laboratories and academic support services, during the first decade of the 21st century. Additionally, they focused on the forces that make university directors apply a QMS. Collected data revealed that ISO standards were applied in only six (out of the 21) Greek universities, while most of them implemented an ISO standard in separate laboratories or support services, and not in the entire university. Moreover, the most popular standards in universities were ISO 9001 and ISO 17025. Finally, the findings of the study showed that if institutions engaged in quality assurance voluntarily, the effectiveness tended to be much more noticeable than when complying with government-initiated policies.

3.3. Health and Social Sector

Primarily, two studies that concern the Municipal Organisation for Social Intervention and Health - DOKPY, established in Magnesia of Greece, are included in this category. First Nikolaidis (2006) presented not only the remarkable effectiveness, but also the difficulties that came up during the effort to implement at DOKPY selected principles, techniques and procedures of quality, according to the ISO 9001. His study was about the “quality project” that he carried out in order to achieve the smooth integration of various quality techniques in daily practices of DOKPY’s personnel. During the realisation of the project, many principles, techniques, tools and quality policies were presented thoroughly to the staff, improving progressively the operation of DOKPY. As a result, after the accomplishment of the project

the personnel of DOKPY and, most importantly, its executives became much more qualified and more effective in managing quality issues and policies that could be implemented in DOKPY.

An important conclusion that was drawn from the specific “quality project” was that the appearance of various difficulties during the realisation of relevant projects in Greek companies providing services could be attributed to the immaturity - at the early 00s, at least - and the considerable lack of experiences on various quality aspects of the “QM system”. Members of this “system” are not only the companies - organisations providing services and their personnel, but also the involved consultants. The existence of such kind of difficulties required strenuous and long-lasting effort from all participants so that the desired outcome could be achieved.

A few years later Nikolaidis and Terpos (2010) followed up and presented the effort of DOKPY to conform to the 1st level of Excellence of EFQM, after the familiarization of its personnel to quality issues and the daily use of quality techniques that were presented in Nikolaidis (2006). During the “self-assessment” stage of this process, three areas in the organizational operation of DOKPY were identified to need quality improvement. After their enhancement, a final assessment of the organization by an external evaluator took place.

At first, the implementation of simple and useful quality tools in DOKPY (presented in Nikolaidis, 2006) and, then, the application of the EFQM excellence model (presented in Nikolaidis and Terpos, 2010) led to remarkable improvements of the operation and the public image of the organisation. Moreover, the communication and understanding between the employees of DOKPY and its beneficiaries were improved. Finally, due to the EFQM conformance recognition, DOKPY managed to participate in many EU funding programs and one significant reason for that was the high quality services that it could provide.

Another interesting study of this category has been made by Karassavidou et al. (2007) who used a specialized questionnaire (i.e. CGCQ) to help Greek hospitals assess the progress

of their quality initiatives. Additionally, the most important dimensions of CGCQ, in shaping the perceptions of the provided service quality, have been identified. A few years later Karassavidou et al. (2009) continued the previous study, by using SERVQUAL for the first time in the Greek health care sector. Their objectives were

- to investigate how patients perceive service quality in public hospitals,
- to assess perceptions and expectations of patients, as well as the relevant gaps concerning the quality provided by public hospitals and, finally,
- to determine the relative importance of quality dimensions in influencing patients' overall quality perceptions.

SERVQUAL was proved to be a valid, reliable and flexible tool for measuring quality in Greek health care sector. The factors that were selected in order to measure the quality of the provided services in Greek hospitals were the human aspect, the physical environment, the infrastructure and the access. Among them, patients appeared to be more satisfied by the access, then the human aspect factor came, and, finally, patients seemed to be less satisfied by the physical environment and infrastructure. The latter presented the largest quality gap, which contributed to depressing patients, who were already worried about their health condition.

Recently, Dimitriadis et al. (2013) undertook a critical review of the current literature on a Rehabilitation Services QMS aiming to identify the most appropriate system for Greece, in an effort to contribute toward the establishment of an integrated rehabilitation system throughout the country. At the same time Pantouvakis and Mpogiatzidis (2013) investigated the perceptions of clinical leaders in hospital care services (in the context of the Greek public health system) on the impact of internal service quality characteristics and learning organization dimensions on job satisfaction.

Fotiadis and Vassiliadis (2013) examined whether the five SERVQUAL dimensions mentioned earlier (Section 2) were altered due to the transfer of a Greek hospital to new

facilities. In the particular hospital they studied, the authors had conducted two research projects in 2005 and 2006 using a SERVQUAL type structured questionnaire and gap analysis. A few years later (2011) the same structured questionnaire used in 2005 and 2006 surveys was used again to compare the level of services offered by the hospital while using the former and the new facilities.

A year later Vassiliadis et al. (2014) extended the research of Fotiadis and Vassiliadis (2013), studying the same Greek hospital and exploring the effects of new facilities on patients' perceptions regarding the service quality. To this end, they proposed a modified ServQual-Kano model as a tool for categorising quality attributes which can provide a guide for decision-making (the Kano model is a widely used nonlinear and two-dimensional approach consisting of a pair of functional and dysfunctional questions about each - service in this case - requirement; the functional question considers the quality present or adequate, while the dysfunctional one supposes that quality is absent or insufficient).

SERVQUAL was the centre of attention of another paper of this category; Papanikolaou and Zygiaris (2014) referred to the need of Greek health care providers for patient-centred services and investigated service quality perceptions of patients in Greek public primary health centres. More specifically, they tested the internal consistency and applicability of SERVQUAL - which gives the opportunity to health services to identify a number of areas for potential quality improvement - in primary health care centres of Greece.

3.4. Hospitality Sector

Politis et al. (2009) presented the development of a business excellence model, which was implemented into 65 high-class Greek hotels in order to prove its applicability. They explained that the main difference of the proposed model from other international business excellence models was that it focused on specific dimensions that were of interest and importance particularly to hotels. Similarly to EFQM, the suggested model consisted of two

major groups of criteria: the “enablers”, which prescribed the involved organization’s approaches, and the “results”, which reflected the outcomes that the organization achieved by deploying the specific approaches. According to the survey they conducted, in order to estimate the weights of the criteria and sub-criteria of the proposed business excellence model, leadership and management of human resources were considered as the most important dimensions of enablers. Customer results or in other words what a hotel achieves regarding its external customers were considered to be the most important criterion not only among the results, but also among all criteria of the suggested business excellence model.

3.5. Insurance Sector

Tsoukatos and Rand (2006) used GIQUAL, a SERVQUAL type service quality metric customized for Greek insurance, in order to investigate the path “service quality - customer satisfaction - loyalty”. In the first stage of their study a questionnaire was designed to evaluate the customers’ overall satisfaction and assess the sentimental and behavioural dimensions of their loyalty to their insurers. The second stage involved the data collection and the appraisal of GIQUAL, while in the third stage path analysis was used to establish the causal relations between the constructs. According to the findings of their study, the path “service quality - customer satisfaction” did actually exist in the Greek insurance industry, but the influence of tangibles on customer satisfaction was not significant. The relation “customer satisfaction - loyalty” was also confirmed, while emotional loyalty was an antecedent of behavioural loyalty. Moreover, customer satisfaction did not have a direct effect on the latter.

Two years later Tsoukatos (2008) exhibited the potential of importance - performance analysis as a decision making tool for service management. By employing this tool he assessed the performance of Greek insurance in matching the service requirements of its customers and keeping up with shifts in customers’ needs. To this aim he used and analysed

the data collected in Tsoukatos and Rand (2006). Tsoukatos (2008) concluded that service managers should use importance - performance analysis as an aid to their decision making process for allocating quality efforts and resources. Moreover, he showed that although insurance companies are often accused for not understanding their customers' demands, Greek insurers provide services of high quality and respond to their customers' shifting quality preferences.

3.6. Logistics Sector

Gotzamani et al. (2009) presented a study which aimed at identifying the interest of Greek companies in adopting effective QM practices, methods and techniques in their logistics function. Additionally, they also explored the nature of these practices and the extent to which they are applied to main logistics areas, such as customer service, purchasing, inventory management, production planning etc. They also attempted to make a comparison of the results in the Greek industry with the results from similar surveys in other industries. The comparison allowed the identification of the elements that illustrate not only the perceptions of Greek logistics managers about quality in logistics, but also the importance of some critical success factors for the implementation of QM practices in logistics organizations.

A publication which is marginally related to our paper is the one of Gotzamani et al. (2010). Since service quality has lately become one of the most important criteria for a decision to outsource logistics services and to select a provider, the purpose of Gotzamani et al. (2010) was to evaluate via QM and financial performance criteria the outsourcing dilemma of logistics services and the decision to select a 3PL provider. To address this objective, the study provided insights into the QM status in logistics operations, among manufacturing and 3PL companies. It also investigated the relationship between QM status and financial performance in the context of 3PL providers.

3.7. Mobile Telephony

A study focusing on the Greek mobile telephony was conducted by Santouridis and Trivellas (2010). They examined the impact of service quality and customer satisfaction on customer loyalty. For this purpose, they carried out a field research utilizing an interviewer-administered questionnaire. The participants in this research were residential mobile telephony users and not business users. The analysis of collected data showed two things. First, it pointed out that service quality is a major factor of both customer satisfaction and loyalty. Second, the telecommunication network quality dimension was clearly found to have a significant positive effect on loyalty, but not on customer satisfaction.

3.8. Small and Medium Sized Enterprises (SMEs) Providing Services

Quite a few publications were based on a survey that was conducted using a sample of 370 Greek companies, the majority of which (84%) were SMEs. Moreover, 75% of them relied on the support of an external business consultant to develop a QMS. According to the companies' main activity 34% of them were in half service providers and in the other half wholesale traders / commercial companies. The criterion for selecting the companies that participated in this research was their certification to the ISO 9001 standard.

First, Fotopoulos and Psomas (2009a) examined not only the level of use of QM tools and techniques, but also employees' training in the sampled certified companies. Their research showed that Greek companies did not use quality tools and techniques to a large extent. Even so, the most preferred quality tools were the "check sheet", the "flow chart" and the "data collection form", while more complex quality tools, such as control charts, scatter diagram etc., were barely used. Moreover, companies which were interested in implementing a TQM program, in acquiring a quality award, as well as companies that developed the QMS on their own, applied more extensively QM tools and techniques.

As far as employees' training is concerned, most of the examined companies stated that they undertook training programs. However, in most cases these programs addressed issues that dealt with the workplace and the variety of employees' activities and technical skills. The training of employees in applying quality tools and techniques was a reality for only one-third of the companies participating in the study. Furthermore, companies which were interested in TQM programs or quality awards, and companies that developed a QMS on their own, offered their employees more opportunities for training.

Using again the results of the aforementioned survey, Fotopoulos and Psomas (2009b) explored the relationship between "soft" and "hard" TQM elements and QM results. The latter are considered to be the following: Customer satisfaction, Employee satisfaction, Impact on society, Internal business results - quality improvement, and External business results - market benefits. From the data analysis of Fotopoulos and Psomas (2009b), it became obvious that "soft" and "hard" TQM elements have both direct and indirect impact on QM results. More specifically,

- Internal business results - quality improvement is influenced mainly by "soft" and secondarily by "hard" TQM elements,
- Customer satisfaction is influenced mainly by "quality improvement" and secondarily by "soft" TQM elements,
- External business results - market benefits are influenced mainly by "customer satisfaction" and secondarily by "hard" TQM elements.

Based on all these points, Fotopoulos and Psomas (2009b) concluded that QM results are significantly influenced mainly by the "soft" TQM elements and only secondarily by the "hard" ones.

A year later, Psomas et al. (2010) investigated the critical factors for the effective implementation of the ISO 9001 standard in Greek companies (mostly SMEs) operating in the service sector. Their results revealed that, despite their small-to-medium size, by

implementing the ISO 9001 the examined private companies had largely made the transition from traditional management practices to a quality-oriented management philosophy. The majority of studied companies had entrusted the implementation and maintenance of the standard to highly educated people with a great deal of experience in the service sector; this fact indicates that they had recognized the significant contribution of senior management in the successful implementation of a QMS.

Simultaneously, Fotopoulos et al. (2010) examined the inter-relationship of TQM practices in ISO 9001 certified companies. Their study on the sample of 370 Greek companies (mentioned at the beginning of this Section) showed that the main QM practices on which ISO 9001 certified companies should focus are the i) involvement of employees, ii) concentration on customers, iii) the use of QM tools and techniques and iv) the process and data QM. In fact, the results of the study showed that it is mainly the top management and not the quality improvement tools and techniques that should urge employees to actively participate in the efforts to improve quality. The conclusion of Fotopoulos and Psomas (2010) was similar: they proved that in ISO 9001 certified companies top management is the driver of the smooth application of a QMS. Given this and since the top management executives play a leading role in the decision making process, they should encourage employees to actively participate in the whole process; by placing the customer at the centre of interest, both executives and employees will jointly introduce quality tools and techniques in their everyday practices. In this way, improvement will be achieved in terms of business operation, customer satisfaction and market share.

Finally, Psomas et al. (2013) defined and subjectively measured ISO 9001 effectiveness as the achievement of the standard's objectives. They also determined its impact on the performance dimensions of service companies, i.e. product/service quality, operational and financial performance, and confirmed the multidimensional structure of ISO 9001 effectiveness. To do this, they exploited data from SMEs providing services (such as

wholesale/distribution, retail, banking/finance, repair/maintenance, communications, insurance companies) with the use of exploratory factor analysis and multiple linear regression.

3.9. Sports Sector

In this category we find the literature review of Tsitskari et al. (2006) on the quality evaluation of sport-related services. Among lots of studies that have been performed worldwide dealing with the evaluation of the provided service quality in sport and recreational agencies and installations, Tsitskari et al. (2006) devoted a section to the service quality in Greek fitness centres. Several years later Avourdiadou and Theodorakis (2014) attempted to examine the dynamic relationships among service quality, customer satisfaction and loyalty in the context of Greek sports and fitness centres. More specifically, they investigated the impact of service quality and satisfaction on customer loyalty for novice and experienced customers.

3.10. Transport Sector

Pantouvakis (2010) did a survey on a sample of customers of the Port of Piraeus, which is the largest port in Greece, in order to assess the relationship between various service quality dimensions and customer satisfaction in the transport sector. He used three measurement models which adopt different approaches to the issue, so as to examine whether this assessment was affected by the used measurement instrument. More specifically, he proposed a new model, called "Servicescape", appropriate for directly measuring the physical and interactive features of a service, and tested it against SERVQUAL, as well as the Nordic measurement model which is a modification of SERVQUAL. The results of Pantouvakis (2010) indicated that "Servicescape" is at least slightly better than the other two models in fitting the data and explaining customers'

satisfaction. Moreover, the study provided empirical evidence that all models have similar ability to predict overall satisfaction.

3.11. Miscellaneous

Tsekouras et al. (2002) first examined the economic and financial factors influencing the adoption of quality assurance schemes and then the effects of this adoption on firm performance. His work focused not only on Greek manufacturing but also on service sector firms. The results of their study were drawn from a sample of 143 companies which included both adopters and non-adopters of ISO 9000 schemes. Not unexpectedly, the former were significantly different from firms not adopting quality assurance schemes. Moreover, a potentially useful result for the design and implementation of policies supporting adoption of quality assurance schemes in various sectors of Greek economy was that adopters were larger firms most likely producing intermediate goods with lower profitability and higher leverage than their non-adopter counterparts.

Lagodimos et al. (2005) aimed at determining and explaining the certification trends within Greek economy and the actual penetration of ISO 9000 into Greek industries, by the end of 2002. First, they tried to determine possible systematic relations between the industrial activities of enterprises and their certification decisions. Additionally, they looked for possible preferences in the choice of certification agencies/bodies. In contrast with other researches which mainly use questionnaire surveys, they conducted retrospective analysis of published information regarding a cluster of 1,479 certified enterprises: a significant percentage of them were roughly equally distributed between services (23.12%) and commerce (21.98%).

Not long ago, Papadimitriou (2013) studied the carnival held in Patras, which is the largest in Greece and among the largest in Europe as measured by the number of visitors and international publicity. She explored perceptions of service quality (such as performance

and experience) and their effect on visitors' satisfaction, behavioral loyalty and willingness to pay more money. Her main research target was to investigate the interrelationships among performance and experience-based variables of perceived service quality with satisfaction and behavioral intentions.

Chatzoglou et al. (2013) examined an innovative public service organization that can be found only in Greece, namely Citizen's Service Centres, which were created in 2002 aiming at providing assistance to citizens and reducing the bureaucracy of the public administration. More specifically, they measured the level of public service quality in these centres using the SERVQUAL approach and underlined the importance of citizen participation in service planning and provision processes. In order to modify the SERVQUAL instrument they used, they asked the consultation of experienced practitioners.

The work of Tountas et al. (1995) is partially related to our review, as they presented the context of the new, at the time, Greek National Health System (ESY) and the efforts to implement it in practice, along with some background information on the situation in the health care system prior to the implementation of ESY (e.g. variation in the quality of care).

4. Findings

The publications that have been presented in this study are categorised depending on the type of Greek service companies they refer to in Table 2.

Table 2 about here

Considering the great amount of mostly applied research conducted on such issues, not only by academics, but also by practitioners (e.g. consultants, consulting firms etc.), one realizes that the part of it that has been published in scientific journals and is recorded in this article is rather limited: no more than 46 publications were identified, most of which, as we have already mentioned, were actually quite recent (Table 3).

Table 3 about here

More specifically, the majority of the articles that have been reviewed (27) were surveys that have been conducted through properly designed questionnaires. Four more publications used questionnaires and personal interviews for the collection of the necessary data, while one more was a combination of a literature review and a survey. Moreover, one paper found its data using past records and four more carrying out interviews (in one of them the interviews were conducted by telephone). Finally, we identified six case studies and three (pure) literature reviews.

Regarding the type and the method of analysis that was conducted in the studied publications we have discovered the following:

- **Factor analysis** was used by Glaveli et al. (2006), Karassavidou et al. (2007), Petridou et al. (2007) and Fotiadis and Vassiliadis (2013). Additionally,
 - **Exploratory Factor Analysis** was conducted by Tsoukatos and Rand (2006), Vouzas and Psychogios (2007), Gotzamani et al. (2009), Psychogios et al. (2009), Fotopoulos and Psomas (2010), Psomas et al. (2010), Psychogios (2010), Santouridis and Trivellas (2010), Tsoukatos and Mastrojianni (2010), Pantouvakis and Mpogiatzidis (2013), Psomas et al. (2013) and
 - **Confirmatory Factor Analysis** was used by Tsoukatos and Rand (2006), Fotopoulos and Psomas (2009b), Fotopoulos and Psomas (2010), Fotopoulos et al. (2010), Chatzoglou et al. (2013), Papadimitriou (2013), Avourdiadou and Theodorakis (2014).
- **Descriptive Statistics** were applied by Tsekouras et al. (2002), Lagodimos et al. (2005), Bellou and Andronikidis (2008), Kostagiolas and Kitsiou (2008), Psychogios et al. (2008), Politis et al. (2009), Psomas et al. (2010), Kakouris and Meliou (2011), Vassiliadis et al. (2014).
- **t-tests** and **Hypotheses Testing** generally were used by Lagodimos et al. (2005), Glaveli et al. (2006), Petridou et al. (2007), Fotopoulos and Psomas (2009a), Gotzamani et al. (2009), Karassavidou et al. (2009), Gotzamani et al. (2010), Pantouvakis (2010), Kakouris

and Meliou (2011), Fotiadis and Vassiliadis (2013).

- **Regression Analysis** (e.g. Linear, Multiple Linear, Non-linear, Mediated etc.) was used by Tsekouras et al. (2002), Karassavidou et al. (2007), Bellou and Andronikidis (2008), Karassavidou et al. (2009), Psychogios et al. (2009), Pantouvakis (2010), Psychogios (2010), Santouridis and Trivellas (2010), Tsoukatos and Mastrojianni (2010), Pantouvakis and Mpogiatzidis (2013), Psomas et al. (2013).
- **Reliability Tests** (through **Cronbach's alpha coefficient**) were conducted by several researchers, such as Glaveli et al. (2006), Tsoukatos and Rand (2006), Karassavidou et al. (2007), Petridou et al. (2007), Vouzas and Psychogios (2007), Fotopoulos and Psomas (2009b), Gotzamani et al. (2009), Psychogios et al. (2009), Fotopoulos et al. (2010), Fotopoulos and Psomas (2010), Psomas et al. (2010), Psychogios (2010), Santouridis and Trivellas (2010), Tsoukatos and Mastrojianni (2010), Chatzoglou et al. (2013), Fotiadis and Vassiliadis (2013), Pantouvakis and Mpogiatzidis (2013), Papadimitriou (2013), Psomas et al. (2013).
- **Structural Equation Modelling** was used by Fotopoulos and Psomas (2009b), Fotopoulos and Psomas (2010), Fotopoulos et al. (2010), Papadimitriou (2013).

Several other methods of analysis were used occasionally. These were the **Analytic Hierarchy Process** and **Analytic Network Process** (by Andronikidis et al., 2009), **Characteristic Comparison Method** (by Gotzamani et al., 2009), **Cluster Analysis** (by Gotzamani et al., 2010), **Gap Analysis** (by Tsoukatos, 2008, Fotiadis and Vassiliadis, 2013, Papanikolaou and Zygiaris, 2014), **IP Maps** (by Tsoukatos, 2008), **Logit Model** (by Tsekouras et al., 2002), **One-Way ANOVA tests** (by Fotopoulos and Psomas, 2009a, Psomas et al., 2013, Papanikolaou and Zygiaris, 2014), **Path analysis** (by Tsoukatos and Rand, 2006), and **Principal Component Analysis** (by Karassavidou et al., 2009). Finally **qualitative analysis** was done by Psychogios and Priporas (2007), Psychogios and Wilkinson (2007), Papadimitriou and Westerheijden (2010).

Considering the content of the reviewed publications, first we found out that the most popular QMS in the Greek banking sector is, not unexpectedly, BSQ; three out of five publications presented in this review (Table 2) deal with this QMS. As mentioned previously, BSQ is a QMS which was built specifically for banks and as such, it is the most appropriate system for companies belonging to this economy branch.

On the other hand, we found out that ISO 9001 is the most popular QMS not only in the Greek education sector, but also in Greek SMEs providing services. All the papers of this review which refer to the education sector and four out of six publications dealing with SMEs, present ISO 9001 applications. Since 2000 and the version of ISO 9001:2000 services - and not only products - gained significant importance as far as the developed QMSs are concerned. Consequently, a lot of Greek companies providing services started their quality assurance process. Therefore, it is not strange that in two major service sectors of Greece, ISO 9001 is proved to be the preferred QMS.

It has already been mentioned that TQM is by far the most favoured QMS in the public sector of Greece, which is actually the core national service sector: seven out of eight publications presented in this review refer to TQM. Surprisingly, in our opinion, public utilities consider TQM as the most appropriate QMS to use to improve the quality of the services they offer. Our comment arises from the fact that historically TQM was the last link at the chain of quality evolution and its proper application requires the experience and maturity of any involved company. However, public sector organisations in Greece can not at all be considered as mature and experienced regarding quality issues; consequently, this raises questions about their choice.

Finally, in health sector various QMSs are met, however SERVQUAL seems to appear more frequently in this branch of services; we found that four out of nine publications in our review study SERVQUAL principles in health sector service companies of Greece.

In Table 4 we present analytically the most popular QMSs and quality assurance

methods that have been applied in Greek service companies, according to the examined publications. Overall, considering that the major objective of the reviewed publications was to measure the quality of the offered services, our review has revealed that several Greek companies offering services, despite their small size in most cases, follow progressively the trends of international and competitive markets, implementing various QMSs.

Table 4 about here

Our literature review reveals that the popularity of ISO 9001 and its principles have become obvious. At the same time, it shows (e.g. Georgiou and Synelli, 2006, Nikolaidis, 2006, Fotopoulos and Psomas, 2009a, Chatzoglou et al., 2013 etc.) that the majority of companies ask for external quality consultants to help them with the proper design and implementation of the selected standards. On the other hand, this review reveals that only few publications presented exhaustively the methodology that was followed by service companies in order to design and/or apply a QMS. For instance, the reader should refer to Georgiou and Synelli (2006), Nikolaidis (2006), Nikolaidis and Terpos (2010) and Tountas et al. (1995) in order to find this type of information. This apparently strange and certainly disappointing conclusion can be attributed to the fact that most consultants or academics that could write such kind of publications, keep the methodologies of developing and implementing QMSs to themselves, as these are profitable, and apparently they do not want to share profitability! However, Greek service sector calls for this type of information and best practices in order to improve its quality level for the benefit of all citizens/customers.

Although each examined economy branch has its own particularities regarding the proper application of a QMS, there are a few ideas and suggestions that could be applied to all types of Greek companies offering services. These suggestions are:

- Whenever the application of a QMS is mandated by Greek law or funded by a European funding program, the dissemination of the whole project (i.e. the applied methodology, the difficulties that were overcome, the results, etc.) should be always requested in the

form of a conference or journal paper. Thus, the existing gap in QMS knowledge transfer will be bridged to a great extent.

- The aforementioned immaturity of Greek service companies on QM and QMSs will be at least mitigated, if their personnel are trained through various educational programs that focus on QM issues. This way, a great part of the difficulties met nowadays on QMS application will be solved.
- Despite the differences that can be identified between manufacturing and service companies as per QM issues, service companies not only in Greece but worldwide should learn quality assurance, management and methods from leading manufacturing companies (Sun, 2001).

5. Discussion and Conclusions

The present study constitutes a review of the recent (mainly of the period 2005-2014) literature concerning various quality assurance issues and QMSs in Greek service companies. The latter belong in various economic sectors such as: banking, education, health and social sector, hospitality, insurance, logistics, mobile telephony, SMEs providing services, sports and transport and, of course, public sector.

The potential of Greek companies providing services that have been certified according to any standards or have developed a different quality assurance technique seems to be hopeful. This can be concluded from their intention to adopt a new QM philosophy and from the fact that they have already included important TQM practices during the implementation of their QMS. In most cases the executives stated that the implementation of a QMS was only the first step into an ongoing process. Undoubtedly, the current economic crisis urges companies to reconsider many of the past practices and values.

To the best of our knowledge there are not many reviews worldwide similar to ours regarding quality assurance in service sector. Lewis (1989) attempted to bring together a

number of key references, information sources and examples as per the quality in service sector. In her review she tried to determine the factors which influence quality as well as ways in which these factors are measured. Moreover, in an interesting section of her review she drew attention to the quality programmes reported in literature which try to improve service quality. Several years later, Fryer et. al. (2007) examined the critical success factors for continuous improvement initiatives, focusing on the public sector. Focusing on UK public sector, they concluded that whilst almost every public sector organisation is involved with a quality programme, only a few of them reap the benefits to the same extent as manufacturing organisations.

Needless to say that if someone looked for publications regarding quality assurance techniques in services offered by specific economic branches - like the ones that we studied in this review - but one at a time, she would find numerous resources. These resources would enable the collection of excellent material, which would be suitable, though, for a completely different publication or review; one which would examine a specific branch of service companies, not only in Greece, but also abroad. This aim, however, was beyond the scope of this paper, but it is an excellent idea for future research.

Some additional future research on quality issues in Greek service companies, could certainly address any follow-ups on the developed QMSs and the applied quality assurance techniques in these companies. It could also emphasize on QMSs and quality techniques that are going to be implemented in the future, in not so "quality oriented" at the moment Greek service companies and organisations, such as hospitals, mobile telephony and electronic stores, transport and logistics companies, etc. (Table 2). Finally, not only academics but mainly practitioners in Greece will be unquestionably interested in information on the methodology that should be followed by service companies in order to implement any QMS, e.g. EFQM, QFD, TQM etc.

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Table 1: Journal titles and number of articles published in each journal

Journal	Number of publications
Total Quality Management & Business Excellence	6
Managing Service Quality	5
International Journal of Quality and Reliability Management	4
The TQM Journal	
EuroMed Journal of Business	3
International Journal of Productivity and Performance Management	2
Benchmarking: An International Journal	1
Disability and Health Journal	
European Journal of Engineering Education	
Health Expectations	
International Health Care Planning and Management	
International Journal of Business Excellence	
International Journal of Learning and Intellectual Capital	
International Journal of Productivity and Quality Management	
International Journal of Services Technology and Management	
Journal of Convention and Event Tourism	
Leadership in Health Services	
Library Management	
Measuring Business Excellence	
Public Organization Review	
Sport Management Review	
Supply Chain Management: An International Journal	
The International Journal of human Resource Management	
The Qualitative Report	
The TQM Magazine	
Total Quality Management	
<i>Conferences</i>	2
Total	46

Table 2: Reviewed publications according to the sector they belong

Sectors (alphabetically)	Publications
Banking sector	Glaveli et al. (2006), Petridou et al. (2007), Bellou and Andronikidis (2008), Andronikidis et al. (2009), Tsoukatos and Mastrojianni (2010)
Education sector	Georgiou and Synelli (2006), Kostagiolas and Kitsiou (2008), Stamatelos and Stamatelos (2009), Papadimitriou and Westerheijden (2010)
Health and Social sector	Nikolaidis (2006), Nikolaidis and Terpos (2010), Karassavidou et al. (2007), Karassavidou et al. (2009), Dimitriadis et al. (2013), Pantouvakis and Mpogiatzidis (2013), Fotiadis and Vassiliadis (2013), Vassiliadis et al. (2014), Papanikolaou and Zygiaris (2014)
Hospitality sector	Politis et al. (2009)
Insurance sector	Tsoukatos and Rand (2006), Tsoukatos (2008)
Logistics sector	Gotzamani et al. (2009), Gotzamani et al. (2010)
Mobile telephony	Santouridis and Trivellas (2010)
Public sector	Vouzas and Psychogios (2007), Psychogios and Priporas (2007), Psychogios and Wilkinson (2007), Psychogios and Szamosi (2007), Psychogios et al. (2008), Psychogios et al. (2009), Psychogios (2010), Kakouris and Meliou (2011)
SMEs providing services	Fotopoulos and Psomas (2009a, 2009b), Psomas et al. (2010), Fotopoulos et al. (2010), Fotopoulos and Psomas (2010), Psomas et al. (2013)
Sports sector	Tsitskari et al. (2006), Avourdiadou and Theodorakis (2014)
Transport sector	Pantouvakis (2010)
Miscellaneous	Tountas et al. (1995), Tsekouras et al. (2002), Lagodimos et al. (2005), Papadimitriou (2013), Chatzoglou et al. (2013)

Table 3: Time dispersion of reviewed publications regarding Greek service companies that have implemented QMSs/quality assurance techniques

	1995	...	2002	...	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Andronikidis, Georgiou, Gotzamani and Kamvysi									x					
Avourdiadou and Theodorakis														x
Bellou and Andronikidis								x						
Chatzoglou, Chatzoudes, Vraimaki and Diamantides													x	
Dimitriadis, Kousoulis, Markaki, Sgantzos, Hadjipavlou and Lionis													x	
Fotiadis and Vassiliadis													x	
Fotopoulos and Psomas									xx	x				
Fotopoulos, Psomas and Vouzas										x				
Georgiou and Synelli						x								
Glaveli, Petridou, Liassides and Spathis						x								
Gotzamani, Vouzas and Longinidis									x					
Gotzamani, Longinidis and Vouzas										x				
Kakouris and Meliou											x			
Karassavidou, Glaveli and Papadopoulos									x					
Karassavidou, Glaveli, Zafiropoulos and Kipenis							x							
Kostagiolas and Kitsiou								x						
Lagodimos, Dervitsiotis and Kirkagaslis					x									
Nikolaidis						x								
Nikolaidis and Terpos										x				
Pantouvakis										x				
Pantouvakis and Mpogiatzidis													x	
Papadimitriou													x	
Papadimitriou and Westerheijden										x				

	1995	...	2002	...	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Papanikolaou and Zygiaris														x
Petridou, Spathis, Glaveli and Liassides							x							
Politis, Litos, Grigoroudis and Moustakis									x					
Psomas, Fotopoulos and Kafetzopoulos										x				
Psomas, Pantouvakis and Kafetzopoulos													x	
Psychogios										x				
Psychogios and Priporas							x							
Psychogios and Szamosi							x							
Psychogios and Wilkinson							x							
Psychogios, Michalopoulos and Szamosi								x						
Psychogios, Wilkinson and Szamosi									x					
Santouridis and Trivellas										x				
Stamatelos and Stamatelos									x					
Tountas, Stefanson and Frissiras	x													
Tsekouras, Dimara and Skuras			x											
Tsitskari, Tsiotras and Tsiotras						x								
Tsoukatos							x							
Tsoukatos and Mastrojianni										x				
Tsoukatos and Rand						x								
Vassiliadis, Fotiadis and Tavlaridou														x
Vouzas and Psychogios							x							
Total	1		1		1	5	6	4	8	10	1	0	6	3

Table 4: Popular QMSs and quality assurance methods in Greek service companies

	BSQ	EFQM	ISO 9001	QFD	SERVQUAL	TQM
Andronikidis, Georgiou, Gotzamani and Kamvysi				x		
Avourdiadou and Theodorakis						
Bellou and Andronikidis						
Chatzoglou, Chatzoudes, Vraimaki and Diamantides					x	
Dimitriadis, Kousoulis, Markaki, Sgantzios, Hadjipavlou and Lionis		partially	partially			
Fotiadis and Vassiliadis					x	
Fotopoulos and Psomas (2009a)						partially
Fotopoulos and Psomas (2009b)						x
Fotopoulos and Psomas (2010)			x			
Fotopoulos, Psomas and Vouzas			x			
Georgiou and Synelli			x			
Glaveli, Petridou, Liassides and Spathis	x					
Gotzamani, Vouzas and Longinidis						
Gotzamani, Longinidis and Vouzas						
Kakouris and Meliou					x	
Karassavidou, Glaveli and Papadopoulos					x	
Karassavidou, Glaveli, Zafiroopoulos and Kipenis						
Kostagiolas and Kitsiou			x			
Lagodimos, Dervitsiotis and Kirkagaslis			x			
Nikolaidis			x			
Nikolaidis and Terpos		x				
Pantouvakis					x	
Pantouvakis and Mpogiatzidis						

	BSQ	EFQM	ISO 9001	QFD	SERVQUAL	TQM
Papadimitriou						
Papadimitriou and Westerheijden			x			
Papanikolaou and Zygiaris					x	
Petridou, Spathis, Glaveli and Liassides	x					
Politis, Litos, Grigoroudis and Moustakis		x				
Psomas, Fotopoulos and Kafetzopoulos			x			
Psomas, Pantouvakis and Kafetzopoulos			x			
Psychogios						x
Psychogios and Priporas						x
Psychogios and Szamosi						x
Psychogios and Wilkinson						x
Psychogios, Michalopoulos and Szamosi						x
Psychogios, Wilkinson and Szamosi						x
Santouridis and Trivellas						
Stamatelos and Stamatelos			partially			partially
Tountas, Stefanson and Frissiras						
Tsekouras, Dimara and Skuras			partially			
Tsitskari, Tsiotras and Tsiotras						
Tsoukatos						
Tsoukatos and Mastrojianni	partially				x	
Tsoukatos and Rand					x	
Vassiliadis, Fotiadis and Tavlaridou					x	
Vouzas and Psychogios						x
Total	3	3	12	1	9	10