

HRM and TQM: How TQM Affects HRM Aspects

Vasileios Ismyrlis

Hellenic Statistical Authority, Greece

ABSTRACT : *The purpose of this paper was to examine the degree of Human Resource Management (HRM) practices utilized by Total Quality Management (TQM) implementing companies and if these aspects are affected by the existence of TQM. Based on previous literature, a questionnaire concerning HRM practices was constructed and addressed to Greek companies from all business sectors. The selected companies have been implementing a quality management system in accordance with the ISO 9001:2008 standard. 163 valid questionnaires were collected. It was concluded that companies implementing TQM, displayed better performance from the rest companies regarding the HR aspects. Aspects that were improved originated mainly from the "Involvement" and "Strategy" factors. In general, most HRM aspects were not highly appreciated by the Greek companies of the sample.*

KEYWORDS : *TQM, HRM, Quality management systems, HRM aspects, ISO 9001:2008*

I. INTRODUCTION

Quality management systems (QMSs) have an important role in improving and sustaining the quality of products and services in modern organizations, in their attempt to compete in a very challenging global market. They take the shape of formal standards (like ISO) or of theories and concepts (like TQM). One of these standards is the ISO 9000 series, which are internationally recognized and designed to demonstrate the capability of an industry to control the processes that determine the acceptability of the product or service being produced & sold, hence; it could be a source of competitive advantage and thereby enhancing firm performance. TQM is a concept or theory, but it is also considered a QMS and the fourth stage of quality management evolution. It is not presented in a formal type or certification, however, it is appreciated and implemented by many companies worldwide.

Human resources management (HRM) is an important aspect of management and it is considered to be totally connected with quality systems. The relationship between HRM and TQM has been many times examined and presented in the academic community. Yang (2006) stated that HRM practices have a significantly positive effect on the implementation of TQM. HRM can act as a catalyst for the implementation of TQM (Oakland and Oakland 1998; Palo and Padhi, 2000). Abu-Doleh (2012) stated that specific HRM practices (e.g. training and development, employee career planning and recruiting and selection) had great significant influences on the implementation of TQM. It has also been referred that TQM and HRM have many times considered that they pursue the same goals (Herbig et al., 1994) and they have the potential to affect a range of organizationally and individually desired outcomes (Boon et al., 2007).

Another important subject previously studied, includes the investigation of the effects of HRM and TQM on organizational level performance (e.g. Choi and Eboch, 1998). Indeed, many studies (e.g. Boselie and van der Wiele, 2002, Boselie et al., 2001) have outlined the significant effect of HRM and TQM on the performance of an organization. Abu-Doleh (2012) revealed in his study that HRM practices and TQM practices had a significant effect on organizational quality performance (e.g. employee quality awareness, customer satisfaction, company image).

This study points to a more specific scope: it attempts to evaluate which HRM aspects were benefited with the implementation of TQM methodology. With a questionnaire addressed to Greek enterprises, certified with ISO 9001:2008, there was an attempt to explore the connection between specific HRM aspects and TQM. Greece presents characteristics creating a much different entrepreneurship environment, and moreover, it is a country, where the economic crisis is a factor with major influence.

The remainder of the paper is structured as follows: theoretical aspects of TQM, HRM and their connection, Greece's special characteristics are illustrated. In Section 3 the methodology is presented, while in Section 4 the results are displayed. In Section 5 the results are discussed and finally, the limitations of the study and future research directions are also referenced.

II. THEORETICAL BACKGROUND

2.1 Quality management systems

As stated in the Introduction section, the organizations selected to participate in this research were all certified with ISO 9001 series and a short presentation of these standards and generally about QMS was considered necessary.

ISO 9001 series presents a formal procedure that an organization should follow, when it seeks to evaluate, register and improve continuously all its processes. This procedure is approved by another external organization and a certificate is issued. Besides 9001 series, many more specialized certificates were developed such as environmental-oriented (14001), about information security management (27001) and many others. ISO 9001 is globally accepted and utilized, and until the year of 2016, 1.106.356 certificates were issued (ISO, 2018).

In the current study when talking about QMS, not only the ISO standards are meant, but also every other system with requirements for continuous quality improvement and effort for assuring quality in products or services, like the excellence model of European Foundation of Quality Management (EFQM), TQM, lean and SPC. In an ISO relevant vocabulary, QMS is defined as “management system which leads and manages the organization from the quality point of view“ (ISO, 2000).

2.2 TQM

As Eriksson and Hansson (2003) stated, no single definition of TQM can express the whole picture of the methodology, as it means different things to different people. TQM is considered a QMS as already stated, but it does not provide practitioners with a specific and certified model to be applied. It is more logical to consider it a concept that in order to be effective, it has to be firstly installed in people minds, on account of this, it is said that it calls for a cultural shift within the organizations (Shani et al., 1994). TQM presents some aspects (or sides) that are usually mentioned as soft and hard. The soft side is the more human-oriented, while the hard one includes the techniques and methods to fulfill its scopes. Similar views were expressed by Wilkinson (1992) and Evans and Lindsay (1996), which stated that the “soft” side or else management system, emphasizes the management of human resources. In general, it is evident that TQM is a holistic approach in the sense that it implicates all people in an organization.

2.3 HRM and its practices

HRM includes the efforts of an organization to liberate and strengthen human workforce with an ultimate scope to accomplish organization’s objectives. Consequently, it is considered a very important asset of an organization and in the last decades, it has been an important theme in management and business research. Companies have started to recognize the efforts of employees and have enclosed it with the philosophy of the HR department (Vouzas et al., 2007). Moreover, many changes to technology, innovation, social and environmental responsibility have required a more demanding and effective management of HR. These reforms forced changes to several fields of HRM, as strategy, policies and the employment system. Hence, in the reformed HR function, people should be considered and treated as assets of the organization and not as an additional cost (Vouzas, 2011).

This study also deals with HRM aspects (or practices), which are specific actions taken by an organization in order to control and manage its human resources.

2.4 HRM and quality systems

Many authors have outlined the importance of the human workforce to the implementation of a quality program (e.g. Monks et al., 1997; Chen, 1997; Oakland, 1989; Ishikawa 1986). It is evident that quality management is closely related with the appropriate exploitation of human resources. Total quality implementation is also enchanted when a close and direct connection between leadership and employees is enforced (e.g. Sila & Ebrahimpour, 2002; Soltani, et al., 2006). After all, it was the quality gurus which insisted that quality has to be part of every employee’s job and everyone should be responsible for it (Deming, 1986; Oakland 1989; Crosby, 1979).

HRM and TQM are becoming more interlinked (Boselie and v.d. Wiele, 2002) and it is also widely accepted that TQM implies a high human resource context as it implies a particular attitude on issues related to people management (Vouzas, 2011). Moreover, it is the HR professionals that played a central role in creating and communicating the TQM vision of the company (Palo and Padhi, 2005). In the past, managing and improving quality were the functions only of specialists in the quality field, while later, the responsibilities were distributed and one of the important tasks of HRM department nowadays, is to ensure quality across the organization (Waldman, 1993).

2.5 Greece's entrepreneurship special characteristics

Greece presents a particular social-context; Greek society has departed from a communal/tribal societal type, however, family still constitutes the fundamental nucleus of the Greek society (Stavroulakis, 2008). Such characteristics have created a business world, where the predomination of small family firm is a fact. Hence, personnel practices are imposed by the founders-owners and are more centralized, arbitrary, unprocedural and provide poor terms of employment and working conditions (Psychogios and Wood, 2010).

Moreover, Greek business world demonstrates the following attributes (Stavroulakis, 2008): short-term planning, resistance to change, highly centralized decision-making, badly organized and low-cost strategy, orientation to rational/personal interests, emphasis in hierarchy and bureaucracy, short-term orientation.

In the field of HRM practices, Greece presents a rather short history and it seems to follow developments in advanced Western countries from a distance (Stavroulakis, 2008). Louri & Pepelasis-Minoglou (2002) declared that Greece presents an incomplete transition from mercantile/familial economy to the joint stock/corporate capitalism. Papalexandris and Panayotopoulou (2004) presented results from a project regarding HR and societal culture in Europe, where it was evident that Greek companies underperformed in aspects as, performance orientation, uncertainty avoidance, institutional collectivism, future orientation, and human orientation. Higher scores were noticed in assertiveness, family collectivism, and power distance. Greece belongs to a European region that in some surveys (Nikandrou et al., 2005) has been identified as "south-eastern" and presents specific characteristics regarding HR practices. More specifically and compared to the "north-western" cluster, such countries position HRM in the lower position, produce less formalized HR policies, the involvement of managers is dominant compared to the involvement of employees in HRM. Lastly, it should be referenced that countries in the south cluster put more emphasis on training. From all the above, it is evident that Greek business world presents many special characteristics, typical of the "south-eastern" cluster, and those elements are of the kind that create obstacles and of course, they do not favor entrepreneurship.

III. METHODOLOGY

3.1 HRM practices' measures

In this study, a proposition of six factors for the HRM aspects is presented. From the literature review of the relevant HRM studies of Dale et al., (2007), Boon et al., (2007), Vouzas (2007), Wickramasinghe (2012), and some modifications made, the final proposition is the selection of the 38 HRM practices' elements which are presented in Table A1 (Appendix). In the same table, the mean averages and the standard deviations of each item are displayed.

A brief explanation of the factors of the proposed categorization follows.

- A. Strategy: Strategic decisions and policy of the top management for the HR management.
- B. Training, career counseling: Actions that contribute to skills improvement and the career development of the employees.
- C. Recruiting: Actions regarding the selection processes of the employees.
- D. Evaluation-appraisal system (reward, recognition): Practices with which the employees are evaluated and rewarded.
- E. Satisfaction and well-being of people: Practices that contribute to the satisfaction and well-being of people.
- F. Involving and empowering people (communication, teamwork, participation): How to encourage people to participate in the system.

3.2 Questionnaire-measures

The choice of ISO 9001:2008 certified companies, was considered appropriate since quality systems is an important subject of this study. These companies were selected because they had already implemented at least one quality management system, hence they have the appropriate experience in this field. They were also easier to communicate with, since they are usually registered in specific lists. The questionnaire before its final form had been tested on a small sample of firms which applied the ISO 9001 standard.

In the final questionnaire, the respondents which were the HR managers (or the quality managers) of the companies, were asked to rate the implementation maturity of specific HRM aspects in their company. These questions were expressed in the 38 items of the Table A1, had a 5-point Likert scale (1:"is not implemented"-5:"is implemented completely") and the question was: "Indicate the implementation level of the following HRM aspects in your company."

The managers were also asked to declare which of the following QMS (except ISO 9001) they also implemented: TQM, Six Sigma, Business Process Reengineering (BPR), Lean (lean manufacturing or lean six sigma), EFQM. In order for an organization to be considered it implements any of the above quality methodologies, it must have been implemented for at least two years.

3.3 Aim of the study- Research hypotheses

The purpose of the study was to investigate which HRM aspects are positively associated with the existence of TQM. Other quality methodologies were also investigated in order to examine their association with HRM aspects.

Therefore, the research hypotheses could be the following:

Research hypothesis 1: Is TQM positively associated with HRM practices? (is there a relationship)

Research hypothesis 2: Has TQM affected in a greater level HRM practices compared to other QMSs?

Research hypothesis 3: Which HRM practices were appreciated more by Greek managers?

3.4 Sample

The questionnaire survey was conducted in Greek companies of all the sectors of the economy, which were certified with the last version of ISO 9001:2008 standard. The companies were chosen from the ICAP (an information and consulting firm in Greece) catalog, which includes a total of almost 3000 certified companies. A random sample of 650 companies was selected, the questionnaires were sent by post and by e-mail and finally, a total number of 163 valid responses were collected.

3.5 Statistical methods

Correlation analysis was used in order to identify any interconnectedness between our variables (HRM aspects and the existence of TQM). This was assessed by statistical significance as well as the strength of the correlation.

We also conducted internal consistency analysis in order to test whether our measures were applicable to measure the constructs we were interested in. Furthermore, we tested discriminant validity of the constructs in our study.

IV. RESULTS

In order to test the content and construct validity of the factor loadings of the perspective HRM aspects, a pilot study was conducted. The explained variances were from 52.45 to 91.24 which confirm the construct validity of the factors created. Cronbach's alpha-values were computed for all six factors and were all greater than 0.85, which confirms the high internal consistency of the questionnaire.

Table 1 presented below, illustrates the quality methodologies and the percentage of their utilization in the Greek companies of the sample.

Table 1: Percentage of quality management techniques and standards implementation in the Greek companies of the sample

Standard/Technique	Percentage %
T.Q.M.	23.31
6s	9.20
Lean	14.72
E.F.Q.M. model	10.43
BPR	6.75

As it is shown in Table 2, most of the companies were of small and medium size (74.84%), almost half of them were from the manufacturing sector and as for the years of existence, there was an almost equal number of companies in all the five categories of this variable.

Table 2: Companies' characteristics

Characteristic	Description	Percentage
Size (number of employees)	Small <50	38.03
	Medium <250	36.81
	Large >=250	25.15
Industry	Manufacturing	49.69
	Service	25.77
	Trade	24.54
Years of existence	1-10	19.63
	11-20	20.24
	21-30	20.24
	31-40	16.56
	>40	22.09

In Table A1-Appendix, the mean scores of the 38 items of HRM aspects are displayed. Most of the items of the questionnaire displayed medium scores and few of them distinguished positively (grades 4 or 5 were considered to be satisfying). As it is apparent, the most important elements of HRM aspects, were: ‘‘Employees are encouraged to fix problems they encounter’’, ‘‘Recognition of HR’s importance by leadership’’, ‘‘Employees can decide the best way to do their work’’ ‘‘Regular feedback is given to employees’’, ‘‘Top management involvement’’ On the other hand, ‘‘Training of employees to other specialities’’, ‘‘Effective Informative system’’, ‘‘Systems of retirement’’ were the least important HRM aspects. (Answer to Research Hypothesis 3).

In the following Table 3, the mean averages of the factors are presented.

Table 3: Factors and mean averages

Factor	Description	Total Items	Mean average
A	Strategy	10	3.63
B	Training	6	3.57
C	Recruitment system	4	3.62
D	Evaluation system	6	3.49
E	Employees’ satisfaction and wellbeing	5	3.57
F	Involvement-Empowerment	7	3.74

From the above table, it is obvious that ‘‘Involvement-empowerment’’ was the most important factor, followed by ‘‘Strategy’’, while the ‘‘Evaluation system’’ was the less appreciated.

4.1 Results on Research hypotheses 1 and 2

We performed a Pearson test to check Research Hypothesis 1. TQM seems to correlate with almost all the items (32 of the 38) of HRM aspects, as they presented statistically significant correlations. Only one aspect

(HRM5) displayed a negative correlation with TQM. The items that seem to be more affected by the implementation of TQM are presented in Table 4.

Table 4: Most significant correlations of HRM aspects and TQM

No of Item	Short description of the HRM aspect (item)	Corell. coeffic.	Sig.	Factor
1	Identification of training needs	0.310	0.000	B
7	Clarity in determination of duties	0.379	0.000	A
20	Recognition of HR importance	0.335	0.000	A
25	Written HR policy	0.340	0.000	A
28	Offering equal chances to work and to promote	0.307	0.000	E
29	Systems of securing quality to the HR department	0.377	0.000	A
30	Effective informative system for HRM	0.336	0.000	A
34	Employeess' Encouragement to fix problems	0.315	0.000	F
38	HRM procedure manual handbook available	0.430	0.000	C

To check for Research Hypothesis 2 we also performed a Pearson correlation test. We present below the most important correlations (all of which were considered statistically important) between HRM aspects and the usage of quality methodologies in the following Table 5.

Table 5: Correlations between HRM aspects and other quality methodologies

No of item	HRM aspects	Six Sigma	BPR	Lean	EFQM
34	Employees are encouraged to fix problems they encounter	0.276*	N.I**	N.I.	0.280
26	Training of employees to their expertise	0.265	0.255	0.266	0.273
25	Written HR policy	0.297	N.I.	N.I.	0.302
6	System of employee's security and health safety	0.278	N.I.	0.208	0.288
5	Administers employee satisfaction survey on a regular basis	0.206	N.I.	N.I.	0.256
17	HR strategies form an integral part of the corporate plan	0.205	N.I.	0.223	0.240
1	Organization identifies training needs regularly	0.190	N.I.	0.188	0.245
18	Top management has a personal involvement in developing HR plans	N.I.	N.I.	N.I.	0.258
7	Clarity in the determination of duties and responsibilities	N.I.	N.I.	N.I.	0.247

*: correlation coefficient (similarly, all the numbers in the last four columns)

** not important

From the examination of the previous table, we conclude that TQM was associated with most HRM aspects and performed better than the other methodologies. The methodology that was also provided many strong correlations was EFQM, followed by Six Sigma.

V. CONCLUSION

As referenced in the theoretical section, Greece presents many specific and peculiar characteristics that combined with the ongoing economic crisis, produce an unfavorable business context. It was reported that in the last decades, Greek firms are trying to adopt HR practices and policies of the multinational companies who already operate in the country (Stavroulakis, 2008). Hence, there are indications that Greek organizations trying to move towards the right path in their attempt to survive and compete in the global competition. From the analysis of the data, it was obvious that organizations recognize the importance of the human resources, however as also reported later, many aspects of HRM were not much appreciated.

Despite the optimistic signs evident in Greek business environment, it was also deduced that the importance the quality managers of the Greek firms attribute to the HRM aspects was not considerable in most of the elements. This means that many aspects were underestimated by the companies and this situation creates obstacles for the HRM efforts, which the companies try to develop. Analogous results were present in the study of Vouzas et al. (2007), where only a few items of the questionnaire displayed high values, like the commitment of leadership, quality culture and understanding the importance of the employees. Therefore, despite some positive indications, administration of the organizations does not put in practice its beliefs and as stated by Vouzas (2004), one could argue that the importance given to the employees' vital role is just rhetoric. Another sign for this conclusion was evident in the present study, where actions that promote employees' satisfaction and wellbeing were the least appreciated. More specifically it was noticed that actions as "career counseling", "systems of retirement", "caring for employees' security and health safety", received low grades from the Greek companies, in the implementation scale of the questionnaire.

The management of the organizations studied, seemed to believe and rely more on their employees and assigned them responsibilities to solve problems and to define the way they work. This confidence in employees is an important fact and it contradicts the statement of Vouzas (2004), that specific actions that really involve employees in the HRM practices are neglected. It is evident that Greek organizations understanding the importance of people, move forward and make efforts in involving employees in many processes.

In this study, it was noticed that organizations seem to give initiatives to their employees to decide the way they work and to fix potential problems in their working environment. At the same time, their supervisors provided them often feedback about their performance. On the other hand, Greek companies have a major disadvantage in training employees to other specializations and providing systems of retirement, or career counseling, which are practices that seem not to be popular in the Greek business world. The actions that favor the development of qualitative and quantitative goals for HR operations were also not very much appreciated by the Greek firms.

Strategic actions in HR practices were appreciated in Greek companies, but maybe not as much as it was expected. In the study of Wickramasinghe (2012), it was noticed that HR function and HRM practices move towards a more strategic approach to HRM.

Informative systems of HRM is another problematic aspect of the HRM system, as the companies did not seem to exploit their potential in organizing and providing data concerning the HRM department, a process that helps the administration to acquire quality strategic decisions related to human capital.

Greek companies did not seem very interested in possessing and implementing a written HR policy. This subject was also referred in Myloni et al. (2004) and Vouzas (2004), as a general problem of Greek managers, which seemed that they never have a written plan on how to run their companies and consequently HR planning procedures were not a characteristic of Greek firms.

Regarding the selection system of employees, it was reported that most of the relevant aspects were not adopted by Greek managers. Myloni et al. (2004) also stated that in Greece there is an internal recruitment, which does not give equal chances to many candidates and in general, firms did not adopt the foreign way of recruitment (e.g. interviews, references, and CVs)

The favoritism that influences the performance appraisal and reported in Myloni et al. (2004), was not obvious here (due to the nature of the questionnaire), but it was obvious that performance evaluation aspects were not much appreciated. Myloni et al. (2004) referring to the evaluation systems of the Greek companies, stated that there is a favoritism influencing the performance appraisal and that is typical only for Greek firms.

TQM had indeed made a difference and companies with TQM culture installed were more HRM strategy-oriented and performed better in most HRM aspects. From these results, it can be concluded that the Greek companies were positively affected by TQM concerning HRM aspects and improved mainly their strategy, but many more HRM aspects as well. Another scholar Wickramasinghe (2012), presented changes in

the way HRM practices were performed due to the implementation of TQM. As mentioned before, TQM and HRM are closely related and their interaction with the human side of the companies is vital and can produce a strong backup and of course better performance.

TQM did also perform much better than the other quality systems examined in this study, concerning the appreciation of the specific HRM aspects of the questionnaire. Its correlations with HRM aspects were more important and stronger. Hence, another superiority of TQM was obvious in this subject.

Limitations and direction for further research

The study was based on the perception (subjective data) of only one manager/representative of each company. In a future attempt, employees working in the HR or quality departments could also be able to express their views, in order to strengthen the results.

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APPENDIX

Table AI: Average means and standards deviations of items

No	Factor	Description	Mean	STD
1	B	Organisation identifies training needs regularly	3.68	0.80
2	A	Top management has a personal involvement in HRM strategy-policy	3.83	0.97
3	F	Effective communication between different departments	3.69	0.77
4	D	Incentive system and motives for development of appraisal	3.50	0.95
5	E	Administers employee satisfaction survey on a regular basis	3.81	0.77
6	E	System of employee’s security and health safety	3.44	0.81
7	A	Clarity in the determination of duties and responsibilities	3.80	0.85
8	D	A specific evaluation system of employees based on their performance	3.68	0.98
9	F	Employees are encouraged to take initiatives and submit proposals	3.64	0.67
10	D	There are clear qualitative and quantitative goals for HR	3.40	0.75
11	F	Regular feedback is given to employees	3.86	0.85
12	B	Organisation has a method of evaluating training and development programmes	3.47	0.73

13	B	Career counselling for employees is done regularly	3.41	0.96
14	D	All employees are aware of their line of promotion	3.45	0.84
15	C	Organisation has clearly focused recruitment and selection process	3.61	0.97
16	C	Job specifications are clearly spelt out for vacant positions	3.76	0.86
17	A	HR strategies form an integral part of the corporate plan	3.77	0.80
18	A	Top management has a personal involvement in developing HR plans	3.73	0.96
19	E	Administers perform employee well-being survey on a regular basis	3.55	0.97
20	A	Recognition of human resources' importance by leadership	3.89	0.72
21	A	Quality culture to human resources policies	3.71	0.87
22	B	Develop employee's abilities and knowledge	3.92	0.76
23	A	Committed resources to the development of human resources	3.55	0.95
24	F	Continuous communication between employees and leadership	3.44	0.84
25	A	Written HR policy	3.43	0.97
26	B	Training of employees to their expertise	3.81	0.77
27	E	Programs of social support of the employees	3.55	0.82
28	E	Offering equal chances to work and to promote	3.51	0.88
29	A	Systems of securing quality to the human resources department	3.46	0.94
30	A	Effective Informative system for HRM	3.34	0.88
31	B	Training of employees to other specializations	3.13	1.14
32	D	Systems of retirement	3.41	0.95
33	F	Encouragement in the creation of teams	3.68	0.73
34	F	Employees are encouraged to fix problems they encounter	3.93	0.65
35	F	Employees can decide the best way to do their work	3.89	0.75
36	F	In the company, workplace decisions are made through consensus	3.79	0.71
37	C	Organization provides induction program for all new recruits	3.63	0.95
38	C	HRM procedure manual/employee handbook is available to new recruits	3.49	0.79