

# Cultural diversity, manning strategies and management practices in Greek shipping

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The present paper examines the way Greek shipping companies and Greek seafarers perceive culture, and how this affects their approach to crew management and operation of the ships. The analysis focuses on the manning strategies employed by the companies, on the operational problems that might occur on-board, and on any possible disturbance of the relation between the ship, the office at shore and third parties. Finally, a number of management practices which, when implemented, help to overcome these problems is also examined. The research methodology includes a review of the existing literature and interviews conducted by means of questionnaires filled in by crew managers and seafarers. Results show that some of the predominant problems encountered aboard, as far as communication with multicultural crews is concerned, are rooted in cultural and linguistic incompatibility, as well as in inadequate and inappropriate training. Furthermore, crew managers and seafarers lack both a clear perception of culture, and share opinions on the implementation of manning strategies. The present paper concludes that culture management can enhance crew team cohesion, upgrade communication at all levels, and, finally, improve the quality of the working environment, the safety of the workplace and the overall performance of the team.

## 1. Introduction

It is a widespread belief that ‘a vessel is as good as the people who navigate her’, a true fact on board as well as ashore [1]. The seafarers’ ‘quality level’, which refers to their skills and capabilities, must be extremely high nowadays, to match the high level of technological advance the majority of merchant ships have. This level depends on the seafarers’ training and affects not only the ships’ safety, as well as the cargo, crew and environment, but also the revenues of the shipping companies. Since manning expenses represent somewhere between 33 and 50% of the operational cost [2], it is easily presumed that the goal of every company is to reduce and rationalize them while improving the crew’s performance. According to the ship-owners, the labour unit cost is a vital segment of operational costs and perhaps the only flexible one [3].

To achieve the goal of reducing the manning cost, shipping companies worldwide employ crews from countries where labour cost is low. For the last 25 years or so, 80% of the world merchant fleet is manned by multicultural and multilingual crews. The results of the BIMCO/ISF Manpower Report for the year 2000 [4] confirm that the centre of gravity of the manpower industry is constantly moving away from the majority of the traditional maritime regions, such as Europe and North America.

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Nowadays, countries in the Far East, the Indian sub-continent and Eastern Europe are the manpower's main sources. Seafarers from OECD countries constitute some 27.5% of the actual marine global workforce compared to 31.5% in 1995. Also, particularly substantial reductions of the number of junior deck and engine officers from OECD nations were observed. This overall decline of 4% in the proportion of OECD-originated seafarers over a five-year period suggests that the changes are evolutionary rather than revolutionary.

The multiculturalism of crews, along with the universally applied legal maritime system, are key elements of the shipping industry's universal character. Multiculturalism on-board, however, affects the performance of the crews in question, as the cultural difference is very often considered a weakness. As Moreby [5] stated almost 15 years ago, European and Scandinavian owners 'have adopted a policy of employing their own nationals as senior officers (Master, Mate and Chief Engineer) and Third World seafarers for the remaining positions', in order to overcome problems generated by multiculturalism. This is equally true for Greek owners [6]. This policy, however, was perceived as a temporary measure as early as 1990, because even then it was clear that 'the supply of European officers has dried up, very few cadets are being recruited, and this manning system frustrates the legitimate aspirations of the junior officers for promotion' [7, 8]. The statistics on seafarers from OECD countries confirm that there were not enough senior officers from these countries to enforce this policy [9, 10]. At the same time, seafarers from non-OECD countries are integrating the global workforce in increasing numbers, as officers or seamen.

The aim of this paper is to examine the influence of national culture on the performance of multicultural crews, focusing its analysis on both Greek-owned tramp shipping companies and Greek seafarers. This unique parallel analysis will contribute to the examination of the issue of multiculturalism in shipping by offering a more comprehensive approach of the matter. The issue of multiculturalism in shipping is discussed in section 2, while the methodology of the research is analysed in section 3. The results are presented and discussed in section 4, and conclusions are offered in section 5.

## **2. Multiculturalism in shipping**

Every person exists within a cultural frame consisting of socio-political features. Culture can be defined as a set of shared values, beliefs, norms and artifacts. These elements play the role of interpreting the internal and external environment. Each culture can be distinguished by a unique set of attributes, such as a language or dialect, religious faith, food preferences, shared traditions, values and symbols [11]. 'Culture serves as a lens through which we perceive the other. Culture distorts how we see the world, and how the world sees us. Furthermore, we tend to use our own culture as a reference point to evaluate the others' [12].

National culture and its influence on the performance of multicultural teams or organizations, has been extensively researched [13–22]. Until now, however, only a restricted number of studies [23–25] has highlighted the multicultural issues in the shipping industry. Nevertheless, recently a significant body of relevant knowledge has emerged [26–28]. Various studies focus on issues pertaining to national culture and multiculturalism, and their influence on the performance of the industry

concerning subjects such as maritime accidents, safety and quality, efficiency, communication, job satisfaction, and others, which will be analysed further ahead.

The MARCOM Project [29] was aimed at correlating the human factor with the risk of accidents. It is stated there, that in 96% cases of marine accidents the human factor, and more specifically the crew's synthesis, was involved. The report also demonstrates that decisions concerning manning strategy were taken according to criteria associated with tradition, seafarers' linguistic skills, general skills and training, and manning costs. The factors which turned out to be crucial in the performance of multicultural crews were their cultural background and linguistic skills.

Studies by Østreng [30] explored the content and character of the workers' occupational identity in an eminently global workplace. Furthermore, her work shed light to the issues of working relations among Norwegian and Filipino sailors as well as to the stereotypical attitudes in the context of an empirical case. She noted that the social environment on-board is quite unique compared to other workplaces on shore. Her research on the ship as a multiethnic workplace, describes a segregated social environment, where social contact and interaction among sailors from different national, cultural and ethnic groups are rare, but where conflicts, communicational problems and inter-group hostility proliferate [31]. Finally, analysing how sailors from different national groups understand their work, she explores the paradox of a global, in theory, working environment which, in practice, is staffed by local people. 'Being in the world, interacting with people from alien cultures and acting in transnational markets does not necessarily mean being cosmopolitan.'

The shipboard-based study of mixed nationality crews [32] presented the problems generated on-board among culturally diverse crews, and analysed the manning strategies that specify the ratio of cultural diversification. Similar issues were discussed by Gerstenberger [33] in a study which presented some of the reasons for the deterioration of living and working conditions aboard merchant ships. She noted that seafarers are work immigrants, but, in opposition to people working in foreign countries legally, seafarers do not emigrate to another nation-state, but to the world market. 'If flagging out broke the genuine link between ship, crew and flag state, developments in the financing methods broke the link between ship owner and crew.' The author states that much of the recruitment in the shipping industry of our days is just a trade in human labour power. She also mentions that the stability of crew through the adjustment of the length of seafarers' contracts is a measure aiming to improve the working and living conditions on-board merchant ships.

Sampson and Zhao [34] focused their research on the job-related communication problems among multilingual crews. They claimed that miscommunication caused problems, ranging from mere irritations to potential hazards. The problems in question were aggravated by the unwillingness of individuals to admit they had difficulties in understanding or communicating with their peers, an unwillingness which was partially attributed to the working culture of the ships. According to Sampson and Zhao, poor communication either further damages poor relationships across the occupational hierarchy, or, in some cases inaugurates them. Many Chinese seafarers encounter communication problems; that and their lack of competence in the English language are mentioned as important factors which determine their experiences, feelings and perceptions aboard foreign ships. Zhao states that 'few of the Chinese seafarers with employment history on board foreign ships have positive memories from their overall experience in working for foreign ship owners'.

One would expect that Chinese seafarers would preferably work in homogenous groups in order to avoid the above-mentioned problems. On the contrary, according to findings of a Hong Kong survey [35], quite a number of them prefer working in multicultural environment, admitting that this is their only chance to improve their linguistic competency in English and their professional standards.

Unlike the Chinese, the majority of Filipino seafarers have apparently no major problem when working in mixed crews. A study examining problems faced by Filipino seafarers while collaborating with seafarers of other nationalities demonstrated that 66% did not face any problems, attributing this fact to their ability to develop good interpersonal relations [36]. However, it must be noted that the remaining 34% stated that communication problems did occur and that they were induced by the differences in language, attitude and culture manifested among the crewmembers. Knudsen [37] claimed in her research that the problematic and often biased relation between Danes and Filipinos would be eliminated in the next generation of Danes seafarers. With respect to the Filipinos, she mentioned that their marginalized position will not change unless an active programme, which will build up their legal status, their integration and their job security, is put to practice.

The results of a study [38] on the ability of Russian seafarers to understand and communicate efficiently in English, when working in the context of a culturally diverse crew, are equally interesting linguistic-wise. It was demonstrated that Russians had difficulties understanding individuals whose mother tongue was English. One of the difficulties consisted of the fact that English native speakers presumably did not help the Russians in their effort to understand them. One could argue that it is a reason closely connected to the cultural prejudices of both sides.

According to Kahveci and Sampson [39] the problems generated aboard among culturally diverse crews are related to linguistic skills, power relations in the context of the ship, discrimination and racism. Recreation and leisure as well as the management skills of senior officers, and the long-term stability of crews are also to blame. Manning strategies that can maximize the benefits of employing multinational crews include: (a) ensuring high minimum levels of fluency in one common language when recruiting officers and ratings; (b) encouraging stable crewing patterns; (c) the promotion of social activities on-board by the Master; (d) implementing anti-racist practices and policies; and (e) developing the personnel management skills of serving and newly appointed Masters. Moreover, as Thomas *et al.* mentioned [40], the negative aspects of seafaring occupation can be minimized by policies such as shorter trips, continuous employment (rather than employment per voyage) and opportunities for partners and families to sail along. Although these measures may have a negative financial impact, Horck [41] argued that the industry should focus on the human element, rather than spend increasing amounts of money on bridge layout and increased automation. He also claimed that the gap separating cultures as well as religions must be bridged through education and awareness, otherwise globalization may be hard to achieve.

In the case of Greek-owned shipping, a minor attempt to examine the working conditions of culturally diverse crews and Masters' satisfaction concerning them [42] did not initially clarify the matter. An introductory research was conducted later, being more of a breakthrough in this regard. The survey was conducted among a sample of both Greek-owned shipping companies and Greek officers [43, 44], and aimed to provide information on the matter by examining both sides' points of view. Greek-owned ships, and especially the ones integrating the bulk shipping markets,

are manned with multicultural and multilingual crews during the last decades. In 1990, non-Greek seafarers constituted 27% of the total number of seafarers working on-board Greek flagged ships and of those registered in the Seafarers' Pension Fund. In 2002 the percentage rose to 37%. However, given that the number of Greek seafarers is limited in the vast majority of Greek-owned ships under foreign flags, the percentage of non-Greek seafarers is actually bigger than the one shown in the national statistics. As indeed is the case with all shipping nations, the Greek shipping's choice of multiculturalism is mostly related to the cost advantage for the shipping companies. However, there are also various other advantages besides cost advantages and, eventually, some disadvantages, both of which affect the performance of the multicultural crews. Thus, it is of particular importance to examine the influence of this trait on effective crew management and ship operation, and the way both shipping companies and Greek seafarers perceive and manage the cultural issue. Cultural diversity is examined as a feature of the current working environment in tramp shipping companies and in respect to crew effectiveness, co-operation and effective communication on-board and between ship and shore. To perform this task, a survey among the Greek-owned shipping companies and Greek seafarers was conducted, the methodology and results of which are presented in the following section (section 3).

### 3. Methodology

This research took place in Greece from 1 July to 1 September 2003. The sample consists of 100 seafarers and 11 tramp shipping companies. For the requirements of the survey, no distinction is made between ship management and ship-owning companies. For the same reason, companies in this paper will be referred to as shipping companies, and, unless otherwise specified, are taken to be either ship management companies or ship owning companies. The research was conducted by means of two different questionnaires, which nevertheless shared several key questions. Data were collected by means of face-to-face interviews (90 out of 111 answers) or over-the-phone ones (16 out of 111 answers) or responses by e-mail (five out of 111 answers). The analysis of the Revealed Preference Data (RPD) from both questionnaires was conducted with the Statistical Package for Social Sciences (SPSS). To obtain a representative set of shipping companies, the sample was constituted from companies listed in the *Greek Shipping Directory* [45].

As the aim of this research was to explore the way shipping companies and seafarers perceive and manage cultural issues, it was deemed crucial to focus on companies the characteristics of which allow them to plan and implement strategies and policies concerning the said issues. A shipping company with a small fleet is usually deprived of this ability, because it can hardly offer permanent employment and systematic training to its crew. This was the case for the vast majority of small-size Greek-owned companies that flagged out during the 1980s [46]. Spruyt [47] corroborates the idea that diseconomies of scale emerge for companies the fleet of which is equal to or smaller than 12 vessels. Consequently, and in order to match the scope of the research, the sample consists of companies that operate fleets the size of which allows them to exploit economies of scale and to plan and implement strategies concerning the manning of their ships. Statistics concerning number and size of Greek shipping companies show that only 125 out of 729 companies managed fleets of more than nine ships [48]. The sample consists

of 8.8% of companies operating fleets of more than nine ships. One should note that the data were collected from the shipping companies by means of interviews and through a questionnaire. This method was chosen because, in several questions, respondents wanted to make further comments on their yes/no answers. The private interview allowed researchers to explore all questions in all cases. So, it is the nature of the research which demanded a more personalized approach. As Jobber [49] claims, 'in this situation the sample size should be lowered to a viable size'.

The sample may seem small, yet it is considered representative of the population, as well as relevant and adequate for the scope of the study. As a matter of fact, the authenticity of our claim to 'representativeness' lays in the fact that Greek-owned shipping companies on which the study focuses are considered a population of high homogeneity as far as their organizational culture [50, 51] and their organizational and managerial characteristics are concerned [52, 53]. The purpose of the study is to examine the influence of the national culture on the Manning strategies and management practices of Greek-owned shipping companies. In such a case, as McKelvey (54) states, 'narrower, more homogenous populations would limit the generalisability of any single study, but this would be offset by gains in the definitiveness of the findings, the levels of variance explained and the applicability of the results to the population'.

The 11 companies in question represent a total fleet of 303 vessels, 130 of which (42.9%) are registered under the Greek flag. The characteristics of the companies' sample are presented in tables 1 and 2.

The aim of the first questionnaire, which was addressed to Greek-owned shipping companies, was to detect the effects of multicultural crew composition on board as well as during ship-to-shore communication. The first part of the questionnaire included general questions which determine matters such as the type of the company, and the characteristics of the fleet (number, type, registry of ships). The second part included questions concerning Manning strategies, duties of the crew department, training of seagoing and shore-based personnel, management systems, problems among culturally diverse crews and any possible solutions. The last part of the questionnaire circumscribed attitudes and perceptions, using a marking scheme for the identification of the problems generated among mixed crews. It also aimed to identify any suggested solutions and the efficiency of different types of crew composition.

**Table 1. Companies' size.**

Size (no of vessels)	9–15	16–25	26–40	> 40	Total
No of companies (%)	2 (18.1%)	3 (27.3%)	3 (27.3%)	3 (27.3%)	11 (100%)

**Table 2. Ships' registry.**

Flag/Registry	Greek	Maltese	Cypriot	Panamanian	Bahamian	Other	Total
no of ships (%)	130 (42.6%)	47 (15.5%)	44 (14.4%)	31 (10.2%)	24 (7.9%)	27 (9.4%)	303 (100%)

The second questionnaire was addressed to Greek seafarers and aimed to describe the effects of multicultural crew composition on the living and working conditions on merchant ships. The population consisted of Masters and Engineers, the two groups holding a leader's position on-board, and whose opinion was considered of high importance for the scope of this research. The age breakdown represents the actual state of Greek seafarers, as it is revealed by the periodical surveys conducted by the Greek Ministry of Merchant Marine. Furthermore, according to the results of the BIMCO/ISF manpower report for the year 2000 [55], more than 40% of the officers from Europe, North America, Japan and other OECD countries are older than 50, while an 18% is older than 55. These results ring the alarm bell for traditional maritime countries, since they draw attention to their dependence on ageing officers. The danger was also confirmed by Glen and McConville [56], regarding English and open-register workers. The authors mention that open-register workers are, according to the distribution, progressively older, presumably due to the fact that they retire early and re-enter the market by integrating non-national based companies which have different retirement policies. Furthermore, it must be noted that, according to the research, ageing Greek seafarers have resumed their seafaring career even after being retired. They seem to continue working for several years in ships under flags of convenience (FOCs), while they are pensioners. As a matter of fact, the same ageing group of seafarers is also working in the offices of quite a number of shipping companies and their attitude towards multiculturalism is exactly the one described above. Therefore, data of this sort was suitable for our survey. The characteristics of the sample are presented in tables 3–6.

**Table 3. Occupational Specialty of seafarers.**

Occupational Specialty	Master A', B', C'	Engineer A', B', C'	Other	Total
No of seafarers	54	41	5	100

**Table 4. Age of seafarers.**

Age (in years)	18–35	36–55	> 56	Total
No of seafarers	24	18	58	100

**Table 5. Seafarers' years of experience.**

Experience (in years)	< 1–5	6–10	11–20	21–30	> 31	Total
No of seafarers	22	7	21	42	8	100

**Table 6. Stability in the selection of seafarers by the companies.**

No of companies/career- stability	1–5	6–10	> 11	Total
No of seafarers	83	12	5	100

The second questionnaire consists of three sets of questions. The first set includes questions referring to general matters such as experience/voyage, years of experience, crew synthesis and the nationalities of the people the seafarers best co-operate with. The co-operation among crew members of different nationalities is examined in depth, marked according to its perceived efficiency. Other questions in the first part sought to describe the favourite style of leadership on board, the training of the seafarers and the multicultural crews' training. The categories of leadership style included: (a) authoritarian or exploitative autocratic; (b) centralized or benevolent autocratic; (c) participative; and (d) democratic [57]. This leadership classification model was chosen as the most appropriate for the scope of the analysis, since it classifies leadership in four basic categories which could easily be employed by senior officers to describe the styles they dealt with or applied during their service. The next section of the questionnaire analysed attitudes and perceptions, and included a marking scheme for the problems arousing among mixed crews, any suggested solutions and the efficiency of different kinds of crew composition. Finally, questions clarifying the seafarer's personal data were included in the last section.

#### **4. Results and discussion**

##### *4.1. Manning strategies*

Regarding the Manning scenarios, table 7 presents the implemented Manning strategies of the companies compared with the officers' experience in several crew syntheses. The Manning strategies include: (a) a 'Greeks-only' composition (GR1); (b) a combination of 'Greeks and foreigners of the same nationality' (GRF1); (c) a combination of 'Greeks and foreigners' of different nationalities (GRF); (d) 'foreigners of one nationality' (F1); (e) a combination of 'different nationalities with the exception of Greeks' (F). As the Greek registry allows the recruitment of a specific, albeit rather low, percentage of foreign crew, companies choose to make the registry of their ships 'open', a fact that gives them freedom of choice. Bergantino and Marlow [58] state that, although the main reason for flagging out is the minimization of both cost and restrictions imposed on operating freedom, a number of other factors has in all probability an important role to play in the decision-making process. In the case of Greek shipping companies, the flagging-out

**Table 7. Manning scenarios.**

Manning strategy	Experience in crew synthesis	
	Companies	Seafarers
GR1	n/a	25%
GRF1	37.4%	36.5%
GRF	18.8%	38.5%
F1	18.8%	n/a
F	25%	n/a
Total no of answers	16	244

Key: GR1: Greeks Only, GRF1: Mixed: Greeks and nationals of only one nationality, GRF: Mixed: Greeks and nationals of various nationalities, F1: Nationals of only one nationality, not Greek F: Mixed: Nationals of various nationalities with the exception of Greeks.

Note: Multiple answers are possible.

process which took place soon after World War II was attributed to several factors [59, 60] and various studies [61, 62] have shown the importance of crew cost as one of them, especially in periods of low freight rates. According to Sambracos and Tsiaparikou, the existence of flags of convenience and the escalating recruitment of foreign seafarers at low labour cost tend to compress the Greek seafarers' wages in comparison to the ones paid by land-based industries. The same factors also limit down an already low supply of Greek seamen [63]. Sambracos and Tsiaparikou also stated that the competitiveness of the Greek-owned fleet should be maintained by means of increased productivity and high work quality, which can be secured by employing Greeks as crew. One should also note that the seafaring workforce is not homogeneous; shipping companies can select seafarers from the offered variety of labour market segments. Ship-owners can indulge their preferences for specific groups based on skills, nationality and costs criteria [64, 65]. In that way, seafarers cannot replace exactly one another in the world seagoing manpower market, since they do not hold the same certificates, and, even if they do, they have neither benefited from the same education and training, nor acquired their experience under the same circumstances. The widely accepted point of view concerning low-cost east-European and Asian seafarers is also proven true in this survey. The seafarers' high concentration of work experience with GR1 crew composition is due to the high percentage of aged seafarers of the sample, who have worked for a long time, before the 'de-flagging' period, amid all-Greek crews.

A comparison is developed between the nationalities companies recruit the majority of seafarers from, and the ones they believe co-operate better with Greeks. By the same token, the commonest nationalities of seafarers Greeks have worked with are compared to the ones Greeks consider as most co-operative towards them, as presented in table 8. The seafarers do not necessarily agree with the companies' executives on the issue of the nationalities of those who co-operate better with Greeks. This disparity can be explained by the fact that to live with other people and to understand their culture are two very different things. Co-operation does not entail the same conditions for the seafarers and the employees ashore. The former are part of the multicultural team, while the latter simply communicate and interact

**Table 8.** Nationalities most frequently employed by the companies (Greeks excluded), and nationals Greeks most frequently work with, compared to nationals considered to co-operate with Greek seafarers optimally.

Nationality	Most commonly employed		Most cooperative	
	Companies	Seafarers	Companies	Seafarers
Filipino	26.5%	85%	24.2%	57%
Polish	26.5%	33%	9.1%	5%
Russian	11.8%	25%	9.1%	0%
Ukrainian	26.5%	27%	21.2%	0%
Bulgarian	11.8%	n/a	9.1%	n/a
Indian	4.9%	43%	6.1%	15%
Chinese	8.8%	n/a	3%	n/a
Pakistani	n/a	46%	n/a	17%

*Note:* Multiple answers are possible.

instantly with people of different cultures, and often lack the necessary experience to do so. The difference also indicates that a team's cohesion and co-operation cannot be achieved without taking into account the opinions and attitudes of the team members.

The research demonstrated that east-Europe (Ukraine, Russia) and Asia (the Philippines, Pakistan) are major sources of the less expensive sea labour supply. This result corroborates the BIMCO/ISF Manpower Report [66]. The questionnaire was designed so as to examine the initial reaction and subsequent behaviour of the correspondents faced with multiculturalism, as well as their ultimate one, the one emerging after becoming profoundly familiar with the purposes of the survey. The choice of this framework of questions was indeed tested. As a matter of fact, an initial 54.5% of the companies declared that there were no cultural problems among culturally diverse crews. In the course of answering the questionnaire only 18.1% maintained the same opinion, after admitting the existence of linguistic problems and cultural differences. Indeed, 44.6% of the companies' sample believes that Filipino and Ukrainian seafarers in particular are more compatible with Greek seafarers and co-operate better with them when living and working on board.

As demonstrated in table 8, the most commonly employed nationals according to the shipping companies (26.5%) and the ones considered to co-operate better with Greeks (24.2%) are one and the same group: the Filipinos. It is worth pointing out that one of the reasons that the Philippines remain the highest provider of labour to international fleets is that its population has the ability to communicate effectively in English [67]. Furthermore, the establishment of Philippines Seafarers' Promotion Council (PSPC) became the means for the Philippines to promote with marketing tools a double objective: seafaring as a career to its nationals on the one hand and, on the other, the Filipino seafarer to recruiters. PSPC is also bound to ensure high standards of maritime training and education [68]. The Ukrainians are placed in the second position; they are the group most commonly employed by shipping companies (26.5%) and perceived as co-operative by 21.2% of them. Poles and Bulgarians follow, who are both thought the most commonly employed by 11.8% of the shipping companies, and perceived as willing to co-operate with the Greeks, by 9.1%. The Chinese are next: they are designated as most commonly employed by 8.8% of the shipping companies and perceived as willing to co-operate by 3%. Finally, Indians are rarely recruited (a mere 4.9% of the shipping companies declares they do so), but are perceived as more willing to co-operate than the Chinese, by 6.1%.

It has already been mentioned that the seafarers' perception of the above-mentioned nations differs significantly from those of the shipping companies. As seen in table 8, the seafarers of the sample have a history of co-operation with Filipinos (85%), Pakistanis (46%), Indians (43%), Poles (33%), Ukrainians (27%) and Russians (25%). However their opinions differ from those of the representatives of the shipping companies on another subject as well, namely, as to whom they consider more co-operative. Despite the fact that their answers (supported by a significant rate of 57%) place Filipinos in the first place as did those of the shipping companies, the seafarers then point to the Pakistanis (according to 17%), the Indians (15%) and the Poles (5%) as more willing to co-operate with them. One should pay attention to the fact that Ukrainians and Russians are not even mentioned, a fact that should classify them as the least co-operative nationals towards the Greeks. To put it differently, the seafarers' group seems to agree with the shipping companies

on the assumption that the Filipinos are the most willing to co-operate with Greeks, while Ukrainians and Russians are less compatible with their Greek colleagues. The difference in the answers of the two groups can be accounted for by the difference in the way culture is perceived by an ‘insider’, such as the seafarers, someone who has an everyday close contact with members of a multicultural team, and the way it is understood by an ‘outsider’ who observes and communicates with the culturally diverse team from a distance, such as the company’s personnel ashore. It also hints at the preference shown by the shipping companies to reduced crew cost over team cohesion and to effectiveness of decisions over selection of the crew nationality.

National culture can influence communication both ways, notably how leaders interact with subordinates and how subordinates respond to their leaders [69]. Hofstede’s research on cultures [70, 71], analysing a sample of employees of the subsidiaries of a large multinational corporation in 40 countries around the world, determined the main criteria by which national cultures are identified. These criteria are termed dimensions, and include power distance, uncertainty avoidance, individualism–collectivism, and masculinity–femininity. Power distance indicates the extent to which a society accepts the fact that power in organizations is distributed unequally. Uncertainty avoidance indicates the extent to which a society feels threatened by uncertain and ambiguous situations and tries to avoid them. Individualism implies the existence of a loose social framework in which people are supposed to take care of themselves, while collectivism is characterized by a tight social framework, in which people are grouped. Masculinity expresses the extent to which the dominant values in society are assertive, money-prone, uncaring, while femininity stands for the opposite values.

Hofstede’s research showed that Greeks and Filipinos share a similar rate in the individualism index (35 and 32 respectively), while Indians score a higher 48, Russians 41 and Pakistanis a lower 14. This shows that the Greek and Filipino cultures are relatively less individualistic, a common feature which could be an asset when co-operation between the two groups is essential. Furthermore, Hofstede’s research showed that Greeks are rated with 60 in the power distance index, while Filipinos score 94, Indians 77, Pakistanis 55 and Russians 40. These elements can be used as tools to interpret the results of the current research since they imply that the Filipinos are more obedient, thereby establishing a more co-operative environment when working with Greek Officers. It is also implied that all nationalities favoured by the Greeks have a power distance score that is either the same, or higher than the Greeks’ own. This means that nationalities with a power distance score lower than the Greeks’ cannot co-operate with the latter effectively, because they might question their position and behaviour. Such is the case with Russians, whose scores in all analysed cultural dimensions are extracted from the Naumov and Puffer research [72]. It must be noted that Hofstede’s estimations concerning Russia [73] originated from national statistics and regional studies recorded in literature and history, and not from large-sample empirical studies, therefore, they could not be used in the context of this study. The uncertainty avoidance index showed that Greeks score a high 112, while Pakistanis score 70, Russians 68, Filipinos 44 and Indians 40. Groups of people who mark high uncertainty scores, in other words, people with a pronounced tendency to avoid uncertain situations, prefer to co-operate with people of the opposite tendency, that is, low uncertainty. Finally, with regard to the Masculinity index, Greeks’ score is 57, Filipinos 64, Indians 56, Russians 55 and

Pakistanis with 50 are at the bottom of the list. These results demonstrate that most of these nations show an average to high level of masculinity.

In general, the research showed that the Greeks as well as all nationals mentioned above share cultural tendencies. Such evidence can become the foundation of better co-operation. As the scores indicate, Russian culture can be deemed ‘compatible’ with the Greek one. The Hofstede’s research also demonstrates that the Russian culture should have been deemed ‘compatible’ with the Greek one. On the other hand, according to our data, Russians are not considered willing to co-operate with Greeks and this opinion is expressed by seafarers and shipping companies’ executives alike. The above analysis is of course indicative only, as Hofstede’s research was conducted on nationals who did not share the seafarers’ professional profile and within the context of a company with a very strong corporate culture, a fact which may have distorted findings [74, 75]. Hofstede’s model can nevertheless be used to evaluate cultural similarities and differences and to help us understand better the convergences between cultures.

The main reasons for companies to change their manning strategy are: the effort to reduce operational cost (according to 40% of the companies’ sample), the effort to improve the crew’s working performance (24%) and as a consequence of a change of registry (20%). Such a change is usually the result of another: that of the company’s economic policy which in turn guarantees advantages, such as tax reductions. Furthermore, companies may be inclined to change their manning strategies for commercial reasons, such as charterers’ requirements (8%) or because of a shortage of Greek seafarers (4%). The companies that acknowledge only two needs, the need for quality and safety, and that to improve the crew’s working performance, often choose to man a ship with low-paid seafarers sharing a unique culture-nationality.

#### *4.2. Operational problems*

In order to examine the effectiveness of culturally diverse crews the research focused on problematic aspects related to the ship operation. These are in detail: (a) problems between ship and offices of the company; (b) problems among members of crew of different cultures; and (c) problems emerging between ship and third parties, such as pilots, port authorities, etc.

The results showed that 31.3% of the companies’ respondents believe that no problem related to communication and interaction with the ships of multicultural crew ever arise. The rest believe that the commonest problems are: the language of communication or problems of a similar linguistic nature (25%); delays in responding to offices’ calls (18.8%); and problems of other nature (disobeying the office’s commands 12.5% and disagreements 12.5%). The vast majority of the companies’ executives mentions the existence of problems arising among members of the crew, while only two of the respondents seem to believe that they do not exist. It is not surprising, then, that these companies’ manning strategy is of the GRF1 or F type, meaning that they employ either Greeks combined with nationals of only one nationality or nationals of one nationality exclusively, combinations which both reinforce the team’s cohesion. The problems most frequently encountered by the companies’ executives were related to the different cultures of the crewmembers. These problems are: the reflection of the divergent cultural ethics and perceptions (29.3%); the mother-tongue difference (20.8%); the differences resulting from religion, traditions (12.5%); and from food preferences (12.5%).

The fact that, despite being part of culture, language is examined separately must indeed be analysed. In fact, language describes culture and is part of it, but one can hardly substitute one for the other. Notable is also the fact that in countries such as India and the Philippines, major seafaring labour suppliers both of them, English language skills are well developed.

With regard to the most important problems arising in the process of the ship's communication and interaction with third parties, which are relevant to the cultural diversity of the crew, the vast majority of the companies' executives (83.4%) mentioned the following: problems occurring during Port State Control or during contact with Port Authorities (mentioned by 66.6%) and the ones arising during the control of ISM procedures—Safety Management System (mentioned by 33.3%). According to the companies' executives' opinion, the above-mentioned problems can be imputed to the difference in the language of communication (31.6%), to the variety of cultures (26.3%), and to psychological and personal problems of the seafarers such as fear or lack of confidence (21.1%). They can also be ascribed to lack of familiarization with technological means (10.5%) and lack of skills and training (10.5%). The majority of these problems are closely associated with the cultural issue.

Contrary to the executives' beliefs, Greek seafarers hardly mention any problems concerning interaction and communication between the ship and the office ashore as well as between the ship and third parties. As far as the first is concerned, it is hardly surprising since communication and interaction have no cultural filter because these matters are managed habitually by senior officers. When it comes to the second it should be noted that 100% of the respondents spoke and understood English, 36% spoke and understood Spanish and 12% German. One should also take into account the fact that respondents occupied leading positions on the ship and thus, they would admit the existence of problems between the ship and third parties or the offices of the company reluctantly, if at all. However, they mentioned several problems arising between Greeks and members of culturally diverse crews, which were attributed to alcoholism and the lack of skills/training (both considered as very important). Not understanding the language of communication and having difficulty in transferring written and verbal orders were also mentioned as generators of problems.

#### 4.3. *The management of diversity*

The survey suggested solutions for the elimination of the above-mentioned operational problems examining them from three perspectives: (A) that of authority and leadership, which refers to the management and communication system; (B) that of training, which refers to the selection process among several training methods and seminars on multicultural management issues; and (C) the work perspective, which refers to several issues related to crew management practices.

Results examined from the first perspective (A) are presented in table 9. It may be safely deducted that seafarers as well as companies believe that extreme management styles, such as the despotic one, either bear no result or have the opposite of the desired effect. It can also be pointed out that crews appear to be more effective when all crew members participate in the decision process and work under a flexible leadership and management style. This would explain why Greek officers are willing to work with nationals who score lower than them in the uncertainty avoidance dimension, provided that the latter score higher in the power distance one.

One should also note that seafarers who prefer either the despotic or the democratic leadership style are experienced in working with combined crews, that is to say crews consisting of Greeks and foreigners of one or more nationalities. Given that the relationship between management and employees often mirrors the one between employees and customers, it is clear that supportive management provides an opportunity for positive employee behavioural outcomes. Testa [76] observed that in high-diversity teams, efforts to individualise crewmembers and to address specific needs should result in positive behavioural outcomes. In the case of high-diversity teams, a participative and democratic style of management would help to overcome any temporary problems stemming from the communication between crew and third parties.

From the perspectives of (B) area of training, and (C) area of work, the suggested solutions that appeal to both the seafarers and the companies are the following: the solution approved by the highest score regarding both the companies' (19.1%) and the seafarers' (23.2%) answers was on-board training and education (for language and safety). Training programmes on language and safety organized by the company were both companies' (17%) and seafarers (23%) second choice, while the third place is occupied by training programmes and/or provision of information on multicultural issues (MCC training). The latter was approved by 18.5% of the seafarers, a percentage in proportion to the companies' 15%. One should also note that those of the seafarers who were reluctant to attend MCC training were those highly experienced in working with multi-cultural crews, while 19% of the overall number have already received such kind of training. Despite the current survey's initial hypothesis, that distance learning would be widely accepted as a solution, e-learning (covering subjects such as language and safety) actually ended up last in the list of preferences (voted by the seafarers' 5.8%, as well as by the companies' 4.3%). The fact can be attributed to two factors. First, Greek seafarers are not adequately trained to be able to use the Internet and any relevant IT tools, and, second, there is no sufficient former experience on relevant training methods, an observation other researchers did not fail to make [77–79]. The remaining solutions include performance checks from the company, hiring seafarers of one nationality, redundancy or transfer to another ship of seamen who cause problems, visits from the seagoing personnel manager whenever the crew composition changes and/or serious problems arise. They scored an average 7–9% of the seafarers', and 15–17% of the companies' preferences, respectively. The fact that redundancy or transfer of the seafarers who cause problems are repressive measures which neither leave margin for improvement nor teach one how to improve his performance and

**Table 9. Leadership style.**

Leadership style	1. Despotic	2. Centralised	3. Participative	4. Democratic
Companies (%)	0	58	42	0
Seafarers (%)*	13	25	34	27

Key: 1. Despotic: The decisions are imposed, low level of communication, trust and team work, 2. Centralised: Decisions imposed, but in a climate of trust and collaboration, 3. Participative: Opinions of the subalterns are taken into account, but in the absence of feeling of ultimate trust, 4. Democratic: Opinions of subalterns are taken into account, subalterns decide for themselves in a climate of trust.

Note: 1 missing value.

behaviour under problematic conditions must also be taken into account. In fact, these measures do not guarantee that problems will not arise again in the near future. Performing checks and visits is a measure that may function pro-actively as well as a remedy to the above mentioned problems. As for the solution of hiring seafarers of a single nationality, it is altogether a more complex one. Indeed, a single nationality crew, in addition to cost advantages, may in theory eliminate any cultural and lingual problems of the sort mentioned above. Nevertheless, it questions other issues. The members of which nationality can guarantee a high level of safety and quality? Which nationality must be employed exclusively in order to offer more advantages, which one shows high performance and efficiency levels when employed, while reducing manning cost?

#### 4.4. Attitudes and perceptions

Attitudes and perceptions are usually examined in parallel with other important matters. Questions which outline attitudes and perceptions of both the shipping companies and the seafarers are used in order to double-check important issues of the survey. For that reason, part three of both questionnaires includes three questions on the attitudes and perceptions of the respondents. These are marking and/or evaluation questions. Their purpose is to certify and strengthen answers given to previous important questions, and to examine the issues in question in depth. Executives and seafarers were asked to pick from a list of problems the ones they thought real, and to mark them according to their importance. Results are presented in table 10.

Companies perceive disobedience as a very important problem in multicultural crews. Furthermore, language problems, inability to transfer written and verbal orders, inadequate communication during work, inhibiting customs, tradition and religion-related causes of dissent are also perceived as important. Shipping companies consider food preferences less important, while problems such as lack of training, education and skills, as well as the alcohol-related ones are considered non-existent. In fact companies hold that before recruitment all seafarers are checked for holding all certifications required, and that the alcohol ban is always respected. One can, of course, put the validity of several certifications in doubt, and whether the rules concerning alcohol on-board are respected by all seafarers remains a matter of

**Table 10. Attitudes and Opinions of Companies' executives and Seafarers in regard to communication and other operational aspects.**

Problems	Companies	Seafarers
Language problems, inadequate written and verbal orders' transfer	Important	Important
Disobedience	Very important	Nonexistent
Lack of communication in the work field	Important	Nonexistent
Customs, traditions, religion	Important	Nonexistent
Lack of sociability	Important	Nonexistent
Lack of Training, Education, Skills	Nonexistent	Important
Alcohol problems	Nonexistent	Important
Food preferences	Less important	Nonexistent

*Note:* The question was a multiple choice one; respondents could give more than one answer, results show the sum of the responses.

conjecture. On the other hand, seafarers point to language problems, the inability to transfer written and verbal orders, the lack of training, education and skills, and alcohol problems as important issues. Surprisingly, disobedience, problematic communication during work or lack thereof, and problems associated with customs, traditions and religion are considered as non-existent by the seafarers.

Since the shipping companies' and the seafarers' attitudes and perceptions towards the operational problems are significantly different, an in-depth reliability analysis of the final results of table 10 was judged necessary. For that reason, the Cronbach's alpha coefficient of reliability (or consistency) was used. The sample included both the companies' and the seafarers' answers. Cronbach's alpha measures how well a set of items or variables measures a single unidimensional latent construct. In a sample of 111 answers (by companies and seafarers) the analysis showed that Cronbach's alpha was 0.78. Since this rate is inferior to 0.8, the acceptable minimum rate in most social science applications, a factor analysis was also conducted. The analysis in question attempts to identify underlying variables or factors that can explain a pattern of correlations within a set of observed variables. It is often used in data reduction in order to identify a small number of factors that can explain most of the variances observed in a much larger number of manifest variables. The results of the factor analysis are presented in table 11.

According to the analysis, component 1, which comprises working problems (problematic communication during work, language problems, inadequate transfer of orders, lack of skills and alcohol abuse), is characterized by an alpha of 0.74, while component 2, focused on social problems (religion, traditions, food preferences and sociability), scores an alpha of 0.82. We can thus deduce that the reliability of component 1 ('working problems') is low, since its alpha is below the 0.8 limit. On the contrary the reliability of component 2 ('social problems') is high, since its alpha is above the 0.8 limit. The results imply that the correlation between items of component 2 is higher than the one between items of component 1. But both are close to the qualifying rate, so both types of problems are important.

**Table 11. Factor Analysis- Rotated Component Matrix.**

Problems	Component	
	1	2
Lack of communication in the work field	0.814	0.149
Language problems, inadequate written and verbal orders' transfer	0.893	0.009
Lack of Training, Education, Skills	0.620	0.178
Disobedience	0.419	0.446
Customs, traditions, religion problems	0.158	0.801
Food preferences	0.174	0.853
Lack of sociability	0.069	0.855
Alcohol problems	0.626	0.173
Extraction Method: Principal Component Analysis		
Rotation Method: Varimax with Kaiser Normalization		
Rotation converged in three iterations.		

*Note:* The answers of sample 111 represent both the companies' and seafarers' point of view.

## 5. Conclusion

The conclusion of the analysis of Greek-owned shipping companies' and Greek seafarers' attitudes and perceptions regarding multiculturalism is that the origins of problems arising in culturally diverse crews can be identified with cultural incompatibility, language differences and lack of adequate and appropriate training. All three problems can be observed in ship-to-shore as well as in ship-to-third parties communication, and they manifest themselves mainly among members of multicultural crews. Greek seafarers do not share the companies' executives' opinions concerning the implementation of manning strategies. It is quite obvious that the results from the two samples differ in several aspects. The divergence is highlighted and evidenced by their differences in position and in experience, but it nevertheless indicates the existence of an additional problem. The results show that the relation between the multicultural crew and the crew managers is certainly problematic, even in cases where no actual problems among the members of a multicultural crew are reported. Proof of this lies in the diverging opinions concerning the manning issues. The results point to the fact that companies and seafarers assess the co-operation between members of a multicultural crew as well as the value of the latter in different manners. This difference is quite an important element, to be seriously considered and further examined by the companies, especially when they make decisions concerning manning issues.

In order to cope with the aforementioned problems, seafarers choose and indicate several solutions directly associated with their level of education. Moreover, they place emphasis on the improvement of management practices, such as a more participative leadership style on board, the introduction of performance checks from the company and the maintenance of a level of stability concerning the selection of seafarers and crew composition. The development of appropriate management practices will allow shipping companies to eliminate the disadvantages stemming from multicultural crews. This way, employing seafarers of different nationalities would turn out to be an advantage for the companies.

The survey made the fact that both the shipping companies and the seafarers were not familiar with the cultural issue quite obvious. A specific necessity to organize MCC training programmes and the willingness of both parties to attend were made equally obvious. The research showed that Greek seafarers are not only ignorant of the cultural issue as a whole but also of those of its aspects pertaining to their working life. A review of the educational material of the Greek Merchant Marine Academies indicated that no sufficient preparation is provided with regard to cultural differences, which future captains and engineers will face during their trips. It must be noted that in the main textbook [80] for the course of 'Issues of Human Relations- human relations in the frames of the on board society' a volume 170 pages long, only five pages are dedicated to the subject of multiculturalism.

Finally, the limitations of this survey should be taken into account. These include the fact that the sample consists of Greek seafarers only, and of shipping companies located and operating in Piraeus exclusively. Admittedly, the weak point of the survey is its difficulty to draw safe conclusions from its findings because of the nature of its Greek-based sample. However it should be taken into account that no study on matters related to culture can be generalised, unless the sample consists of population with similar cultural characteristics. In this context, the findings of this study could form the foundation for an extended research in the field of bulk shipping industry.

The research showed that cultural diversity is not a problem *per se*. The problem is how to manage multiculturalism. Therefore, the recruitment of a single nationality crew is considered the least advantageous solution, since the low manning expenses that may be achieved by hiring crews from countries of low-cost labour, cannot counterbalance the advantages of a qualitative combined crew, and the safety the latter guarantees in the long term. In this case, the answer to Horck's [81] fundamental question is that mixed crewing is neither a disadvantage, nor an advantage; it can be a risk if it is not properly supported. Only people from both sides, aboard and ashore, can make the difference. Mixed crews can become quality crews under certain conditions. This research is the first step of a long survey in the field of multiculturalism in tramp shipping crews and as such it focuses on the development of efficient management practices related to multiculturalism, rather than on cataloguing its disadvantages and listing its problems. It is part of an extensive survey on the issue, which aims to examine multiculturalism and the conditions under which it can become a core competency for a shipping company.

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