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## THE POSTGRADUATE STUDIES OF DANCE IN GREECE: ORGANIZATION AND FUNCTION

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### ABSTRACT

*Aim of this project is the study of students' points of view who specialize in Greek traditional dance with regard to the attendance of a postgraduate dance program, the investigation of their determination to participate, the possible existence of differences between the students accordingly to the origin of the Department of Physical Education Sports & Science (D.P.E.S.S.) as well as the criteria evaluation of their admission to this. The sample of the research was consisted of students who chose as specialty the Greek traditional dance from the five D.P.E.S.S. of Greece. The evaluation for the attendance of a postgraduate dance program by the students is moderately positive. The grade of candidate is evaluated as the most important criterion of admission. It follows his/her research and academic activity and with little difference his/her former experience and his/her further studies.*

*Keywords: Dance; Organization; Postgraduate Studies.*

### 1. INTRODUCTION

European sightseers, articles in newspapers, guide-books, associations' records, manuscripts and others composed the main source of information for dance in Greece, for approximately one and a half century (Simopoulos, 1976). These first attempts were characterized by amateurism and they went with the flow which was sealed by the intensive social – political – historical events and aimed to the cultivation of cultural consciousness (Zografou, 1999). Furthermore, the specific references had as their subject-matter the description of manners and customs and secondarily the dance. The approach of folk cultural events is characterized by an intensive ethnocentric tendency that appears not only in Greece but, generally, in the Balkan area (Damianakos, 1987). Aim of the bibliographic references about dance was the proof of

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Greek culture's succession from the Ancient Greece until today. The relevant publications are focalized in the "incomparable value of dances, as ancient Greek survivances" (Zografou, 1999; Lountzaki, 1992). The result of the above viewpoint is that dance should be studied as a stable and invariable matter through the passing of time and that motor clichés that refer to the past should be looked for. The learning of dances is focused in the performance of motor clichés without taking notice of the local versions (Zografou, 1999).

The 2<sup>nd</sup> World War constitutes a significant landmark for Greek society. After this period of time the radical changes that begin to appear in the economic, political and social sector have as result respective cultural changes. Greek society comes in a process of cultural alterations having as a result the gradual recession of folk culture elements (Varvounis, 1994; Zografou, 1989; Meraklis, 1986). The urbanization of Greek society in connection with the cultural changes that were carried into effect, influenced dance, too (Zografou, 1991).

A significant reason of dance supersession was the distinction of art and science that had as a result the avoidance of scientific approach of art. The above distinction in connection with the fact that, dance lasts as long as it is performed, conduced to its non-scientific study. The new conditions, that were set by virtue of the transition from the traditional society to the society of information, bring out the need of scientific study of Greek traditional dance, as well as the generation of staff scientific – investigatory potential. It is an accepted opinion that the scientific study of dance cannot depend on amateur practices.

In the decade of '80s it is found out a change in the study of dance in Greece. The first indicative studies that imprint that change are of Lountzaki (1981-82) and Rafti (1985). The first scientific works that formed the tendencies which were developed further to are presented in the end of '80s but mainly in the decade of '90s. The works of Zografou (1989), Dima (1989) and Prantzidi (1995) deal with the continuation and change in tradition. The study of Tyrovola (1994) attempts a morphological approach of traditional dance and the study of Serbezi (1995) is referred to the teachability of dance and methods of instruction. It follows the researching work of Koutsouba (1997) which studies the dancing identity of Lefkada and Cowan (1998) (Zografou, 1999). The organizational structure and function of dancing system was investigated by Goulimari (1998).

In the last decades, a remarkable bibliography has been published that approaches the multidimensional phenomenon of dance by various viewpoints. Indicatively, the books of Koutsouba (2005), Aligizaki (2005), Bournelli (2002), Schott – Billmann (1997), Tyrovola (1992), Zografou (1999), Royce (2005) and Adshead, Hodgins, Briginshaw and Huxley (2007) are mentioned. The first one is referred to the notation of dancing movement, the second one to Cretan dance and the physical exercise with its various parameters, the third one analyzes the kinetic creativity and presents a special program of its development, the fourth one is referred to the therapeutic

abilities of dance, the fifth one analyzes the Greek traditional dancing rhythms, the sixth one makes an introduction to the research of dance with references to the Greek dancing tradition, the seventh one examines the anthropology of dance, and the last one investigates the analysis of dance theoretically and practically.

## 2. THE STUDIES OF DANCE IN GREECE

Nodular point in traditional dance study in Greece constitutes the introduction of the corresponding specialty for the first time in 1978-79 in the studies' program of the National Academy of Corporal Education (N.A.C.E.) and the act to make the Departments of Physical Education & Sports Science (D.P.E.S.S.) of University level, where the traditional dance is taught as cognitive subject with purpose the proficiency of graduates in order to teach it in schools or associations (Serbezis, 1995). Thus, the first diplomatic or postgraduate works are elaborated, as well as the first doctoral dissertations that, at first, are in a clearly theoretical direction (Serbezis and Goulimaris, 2001).

In Greece there are limited possibilities for the accomplishment of studies in other forms of dance. The lack of studies of university level is evident. The gap is covered partly by the studies' program that is offered by State School of Dancing Art and by the private dance schools. Yet, the creation of independent department of dance in the frame of fine arts' school of the University of Peloponnesus has remained at a plane of announcement.

The weakness of studies accomplishment in dance in Greece in both undergraduate and postgraduate level can be covered by the foundation of independent department of dance that will provide studies based on the respective standards of abroad, as well as the creation of a postgraduate course with direction the dance. In the past, studies that investigated the students' intentions in the specialties of traditional dance in D.P.E.S.S. of Greece, found a positive attitude to the creation of an independent department of dance, as well as a definite tendency for postgraduate studies in dance with a high intention of participation (Serbezis and Goulimaris, 1997; Serbezis, Goulimaris, Pavlidou and Kateris, 1998).

An attempt of postgraduate studies effectuation with subject the dance has been done by the D.P.E.S.S. of Athens. In the frame of the postgraduate studies program "Physical Education and Sports", that has provided to the students since 1996, has been included the cognitive subject "Folklore – Anthropology of Dance". Students, who choose the particular subject between other subjects, attend a course oriented to the study of dance, too.

The dynamic development progress of postgraduate studies (P.G.S.) program in physical education by the D.P.E.S.S. of Democritus University of Thrace that for the first time has been enacted in Greece since 1993, led to the creation of a new and modern P.G.S. "Exercise and Life Quality" in which participates the S.D.P.E.S. of



University of Thessaly (Ministerial Decision 43320/B7/18-6-2002, Official Gazette 825/2-7-2002) ([www.phyed.duth.gr/gr/20years/default.asp#](http://www.phyed.duth.gr/gr/20years/default.asp#)). The creation of an independent direction with subject the dance has been predicted in the frame of the particular program. However, until today it has remained inactive.

### 3. STUDIES OF DANCE ABROAD

Studies for dance abroad were developed mainly in the 2<sup>nd</sup> half of the 20<sup>th</sup> century in the west societies. Nowadays, studies of university level have been provided in almost all the developed educational systems. Studies' programs for dance are provided in independent departments or institutes, like the dance departments of the School of Human Movement of the Universidade Técnica of Lisbon, California Riverside University, Ohio State University, University of Oregon and the Institute of Laban. Furthermore, relative educational programs are offered in departments or academies of theatre, music and dance, like in the University of Surrey and the University of Limerick, as well as in the departments for the arts of spectacles and instruction, like in Middlesex University. Finally, dance as cognitive subject is provided in schools of fine arts, like in the University of Surrey Roehampton and the departments of physical education, like in the University of Wolverhampton and the University of Jyväskylä. The level of the given studies covers all the breadth of possible choices. In the disposal of the interested persons there are studies of undergraduate level (BA, BS, BFA) of full attendance, with duration of mainly three or four years, of postgraduate level (MA, MS, MFA) of full attendance, with duration of one or two years, of researching level (Ph.D) and summer courses of short duration. In parallel, there is the possibility of partial attendance.

In their majority, the postgraduate programs for dance offer the capability to the student to focus his/her interest on a direction as choreography, performances, instruction, technologies, production, criticism, management, history or some other dance style. Furthermore, the student has the capability to shape, in a respectable degree, the form and the containment of his/her studies based on the options he/she is given. The University of Limerick of Ireland is one of the few universities that provide postgraduate program for the performances of the Irish traditional dance. For the acceptance of the students in many universities, mainly the Anglo-Saxon ones, beyond the degree of a tertiary institute, the former professional experience of the candidates is also taken into account.

The aim of the present work is the study of students' viewpoints, which specialize in Greek traditional dance regarding the attendance of a postgraduate dance program (P.G.D.P.), the investigation of their determination to participate, the possible existence of differences between the students accordingly to the D.P.E.S.S. they come from, as well as, the evaluation of their admission criteria to this.

In particular, there were examined the following cases:

1. The students of the traditional dances specialty of D.P.E.S.S. Declare a positive intention of participation in a P.G.D.P.
2. The students of traditional dances specialty of D.P.E.S.S. present differences as to how much they think to participate in a P.G.D.P.
3. The students of traditional dances specialty of D.P.E.S.S. are not in the same degree determined in order to participate in a P.G.D.P.
4. The criteria of admission in a P.G.D.P. are discriminated in three axes: the research, experience and grade.
5. The students of traditional dances specialty of D.P.E.S.S. present differences as to the way of admission criteria evaluation.

#### 4. METHOD

##### 4.1. Sample

The sample of research was consisted of 133 male and female students who chose as specialty the Greek traditional dance. The sample came from the five D.P.E.S.S. of Greece in which the choice possibility of the particular specialty is provided. The students' way of choice was random.

The percentage of students per department and certain demographic characteristic, like gender (%) and mean (M) of age appear in table 1.

**TABLE 1: DEMOGRAPHIC CHARACTERISTIC OF SAMPLE**

<b>D.P.E.S.S.</b>	<b>Students' (%)</b>	<b>Age (M)</b>	<b>Gender (%)</b>	
Komotini	39,1	22,2	17,3	82,7
Athens	15	22,2	5	95
Serres	6	23,6	12,5	87,5
Salonica	29,4	22,1	7,9	92,1
Trikala	10,5	23,4	28,6	71,4
<b>TOTALLY</b>	<b>100</b>	<b>22,4</b>	<b>13,6</b>	<b>86,4</b>

##### 4.2. Data collection

The method of self-completed questionnaire was chosen for the investigation of students' viewpoints. The students of Greek traditional dance specialties filled in a questionnaire which was created in order to be investigated whether they are determined to participate in a P.G.D.P. and evaluate the admission criteria in this. In the questionnaire's compilation, there were taken into consideration relative researches (Goulmaris and Serbezis, 1996; Serbezis and Goulmaris, 1997), suggestions from the bibliography, as well as the verdict of the academicians who pertain to the subject of Greek traditional dance. Furthermore, the viewpoint of the

educators and researchers who work in D.P.E.S.S. in the same subject field was asked. When it was compiled, it was experimentally put to in 25 students of the specialty with aim the clarification and completion of the questions, the omission of abstruse words and their best verbalization. Each question was measured by the seven-degree scale of Likert.

The questionnaire includes three unities with totally seventeen questions. The first unity examines the demographic characteristic of the students and, in particular, the gender, age and university department of origin. The second unity investigates by two questions how determined the students are in order to attend a relative program. The third unity investigates by twelve questions how significant are for the students the admission criteria in P.G.D.P.

For the data analysis, eleven questionnaires were excluded because of their deficient completion. The questionnaires were distributed in the areas of dance specialty's class conduct just before their beginning. The completion of the questionnaires was done under the supervision of the researchers or the class' responsible persons and lasted ten to fifteen minutes.

## 5. RESULTS

### 5.1. Diversities between the D.P.E.S.S. as to the students' participation

In order to be investigated and evaluated the participation's intention in a P.G.D.P. of the students of traditional dances specialty of D.P.E.S.S., they were examined whether they think of participating and whether they are determined to participate in a respective program. In table 2, appear the mean of their viewpoints per D.P.E.S.S. and totally for the entire sample.

**TABLE 2: MEAN OF STUDENTS' VIEWPOINTS FOR THE P.G.D.P.**

<b>D.P.E.S.S.</b>	<b>They think of ... ... attend(ing) postgraduate</b>	<b>They are determined to ... program for dance</b>
Komotini	4,6	3,1
Athens	5,5	4,4
Salonica	5,9	4,3
Trikala	6,4	6,2
Serres	6,1	4,8
<b>TOTALLY</b>	<b>5,4</b>	<b>4,1</b>

In order to be ascertained if there are differences between the viewpoints of the several D.P.E.S.S. students as to how much they think of attending P.G.D.P., it was applied analysis of variance (One-way ANOVA) with dependent variable the "I think of participating a postgraduate program for dance" and independent one the university

departments. It turns up from the results that there are statistically significant differences between the D.P.E.S.S. with  $F_{(4,127)}=6,80$ ,  $p<.05$ . In order to be ascertained which D.P.E.S.S. differ significantly between them, it was applied post hoc analysis (Scheffe's test). It was ascertained that the D.P.E.S.S. of Komotini with mean 4,6 differs from the D.P.E.S.S. of Salonica and Trikala with mean 5,9 and 6,4 respectively.

Further to, in order to be ascertained the possible differences between the D.P.E.S.S. students' viewpoints as to how much they are determined to attend a relative program, it was applied analysis of variance (One-way ANOVA) with dependent variable the "I am determined to attend postgraduate program for dance" and independent one the university departments. The results bring out statistically significant differences between the D.P.E.S.S. with  $F_{(4,128)}=17,45$ ,  $p<.05$ . In order to be ascertained which D.P.E.S.S. differ significantly between them, it was applied post hoc analysis (Scheffe's test). It was ascertained that the D.P.E.S.S. of Komotini with mean 3,1 differs from all the others (table 2). Furthermore, the D.P.E.S.S. of Trikala with mean 6,2 differs from the D.P.E.S.S. of Athens with mean 4,4 and the D.P.E.S.S. of Salonica with mean 4,3.

### *5.2. The criteria of admission in postgraduate program of dance*

In order to be checked on the structural validity of the questionnaire, a factor analysis was brought into effect in the 12 criteria of admission in the P.G.D.P. that were evaluated. The analysis was made by the method of principal components analysis and afterwards a varimax rotation of axes. The factors' number was defined by the criterion that the eigen values should be greater than 1.00. The minor charge that was used in order the questions to be distributed to the factors, was 0.40. The total variance that explained is 64,1%. Three factors were come up from the factor analysis (table 3). The 1<sup>st</sup> factor (research & academic activity) refers to the researching works that were acted out by the candidate. The 2<sup>nd</sup> factor (experience & studies) refers to the former experience and other studies that the candidate has carried out. The 3<sup>rd</sup> factor (grade) refers to the candidate's grade in the basic degree, as well as in the specialty.

In order to be examined, the coherence of the questions that compose the three criteria factors of admission in the postgraduate dance program and by extension to examine the reliability of the factors, a reliability analysis was carried out. The reliability test was based on the estimate of Cronbach's  $\alpha$ . Observing table 4, the reliability analyses of the factors "research & academic activity", "experience & studies" and "grade" showed that the factors have satisfactory degree of reliability  $\alpha=.85$ ,  $\alpha=.75$  and  $\alpha=.64$  respectively. All the variables contribute in a positive degree to the improvement of factors reliability.

**TABLE 3: FACTOR LOADINGS OF ITEMS**

Items	Research & Academic activity	Experience & Studies	Grade
Oral presentations	.87		
Posters	.85		
Publications	.77		
Diplomatic project	.64		
Participation in researching programs	.55		
Previous employment		.72	
Other postgraduate diploma		.72	
Dancing experience		.66	
Second degree		.64	
Grade in foreign language familiarity			.77
Degree grade			.74
Specialty grade			.56
<b>Eigen value</b>	4,7	1,5	1,4
<b>Variance %</b>	24,3	20,9	18,9

**TABLE 4: FACTORS' RELIABILITY ANALYSIS**

Factors	Items	Alpha if item deleted	Alpha
1 <sup>st</sup>	Oral presentations	.77	.85
Research & academic activity	Posters	.78	
	Publications	.80	
	Diplomatic project	.84	
	Participation in researching programs	.55	
2 <sup>nd</sup>	Previous employment	.74	.75
Experience & Studies	Other postgraduate diploma	.59	
	Dancing experience	.74	
	Second degree	.64	
3 <sup>rd</sup>	Grade in foreign language familiarity		
Grade	Degree grade	.49	.64
	Specialty grade	.39	
		.63	

Three new variables that represent the three criteria axes of admission in P.G.D.P. were made. In particular, there were made the variables “research & academic activity”, “experience & studies” and “grade” by the sum of the questions score in each factor divided by the number of questions in the factor. The mean of the three new variables are presented in table 5.

**TABLE 5: MEAN OF THE THREE NEWS VARIABLES**

Research & Academic Activity	Experience & Studies	Grade
4,7	4,5	5,4

*5.3. Differences between the D.P.E.S.S. for the admission's criteria*

In order to check out if there is statistically significant difference between the viewpoints of the male and female students, as to the three new variables that came up from the factor analysis, three analyses of variance (One-way ANOVA) with dependent variables the three new variables and independent one the university departments were made. From the results, as they appear in table 6 it comes up difference between the D.P.E.S.S. only for the variable “research & academic activity”.

**TABLE 6: DIFFERENCE BETWEEN THE STUDENTS' VIEWPOINTS AS TO THE THREE NEWS VARIABLES**

Variables	DF	F	p
Research & Academic Activity	4,125	7,44	.00*
Experience & Studies	4,124	2,06	.08
Grade	4,127	0,37	.82

\*p<.05

In order to be ascertained which D.P.E.S.S. differ significantly between them, it was applied post hoc analysis (Scheffe's test). It was ascertained that the D.P.E.S.S. of Salonica with mean 4,0 differs from the other D.P.E.S.S. In particular, the D.P.E.S.S. of Trikala with mean 5,3, the D.P.E.S.S. of Athens with mean 4,6, the D.P.E.S.S. of Serres with mean 5,7 and the D.P.E.S.S. of Komotini with mean 4,8.

## 6. CONCLUSIONS

The evaluation for the attendance by the students of a postgraduate dance program in the total five D.P.E.S.S. is moderately positive. This fact agrees with the results of a prior relevant research (Goulimaris, Serbezis, Pitsiakou & Pavlidou, 2002). The result affirms the first researching work case, but not in a mighty way. In particular the students are moderately determined to attend a relevant program while they think of their participation more positively.

The students of the departments in which a great part of the studies programs has practical orientation, many times is difficult to comprehend the necessity and

significance of participation in postgraduate studies. The perception that the study of a cognitive subject, that includes practical training, is difficult to be combined with studies of postgraduate level seems to be strong. Far more, when the cognitive subject is dance, the “nature” of which is evanescent, its “aim” many times is entertaining and its evaluation difficult. According to students’ perception, the P.G.D.P. is an extension of their specialty. The clear definition of the function way and program’s aims will contribute to the increase of positive evaluation for P.G.D.P. The lack of informing for the access way and what is the thing that a postgraduate program for dance provides, constitutes suspending factor of interest exhibition. The obtainment of more knowledge and qualifications gives comparative advantages to the students.

The analyses’ results presented differences between the students according to their D.P.E.S.S. of origin in relation to a P.G.D.P. attendance intention as it was defined by the two questions. A fact that confirms the second and third researching work case. The law intention of Komotini’s and Trikala’s D.P.E.S.S. students, in comparison with the other students, to attend a P.G.D.P. can be combined with the fact that in the D.P.E.S.S. of Komotini there is postgraduate studies program which has been in function since 1993, while both departments provide, in collaboration, in the last years an inter-segmental program of postgraduate level. The students’ experience for the admission’s requirements, the attendance’s terms and the program’s degree of difficulty may compose the reason of law participation intention.

From the results comes up that the admission criteria in a P.G.D.P. are grouped in three axes. This finding confirms the fourth case of the work. The students evaluate the admission criteria above the average. In particular, the candidate’s grade is evaluated as the most significant criterion of admission. It follows his/her researching and academic activity and with little difference his/her prior experience and his/her further studies. The order of criteria significance rewards the performance, exactitude and ability of dance specialty students, as this is imprinted in the general grade, as well as in the subjects’ grade of dance specialty. The order of grade as the most significant admission criterion is related to the fact that grade is an inseparable element of all students’ studies and imprints with objectivity the performance of every student. However, the role and importance of researching & academic dimension for the admission of the students in a P.G.D.P. are not superseded, as well as the role and importance of the prior dancing and professional experience. This result shows that the students connect the postgraduate studies in dance with the overall background of candidates and they are not restricted in only one dimension of themselves.

The differences that were ascertained between the D.P.E.S.S. as to the axes of admission criteria in a P.G.D.P. confirm, in part, the fifth researching case. It seems that the D.P.E.S.S. of Salonica students evaluate the researching & academic activity lower than the other students. Perhaps, the small number of Instructive Researching Personnel in the cognitive subject of dance that exists in the particular D.P.E.S.S. and its law stage explains the law evaluation of academic activity as admission criterion.

In conclusion, the function of a P.G.D.P. is directly connected with the production of specialized staff potential who will upgrade the function of the cultural associations as well as the work that they produce. The quality improvement of the offered cultural services is related to the improvement of the ability and quality of people who offer them.

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## DOES MOVEMENT CREATIVITY EFFECT ENJOYMENT?

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### ABSTRACT

*The purpose of this study is to compare the effects on enjoyment that a creative program of gymnastics has between senior university students. The sample consisted of 267 senior university students. The students participated in a gymnastic lesson which was based on creativity. The Intrinsic Motivation Inventory was used for the enjoyment. The results showed that there was not any significant difference of the general enjoyment between boys and girls ( $t=2.69$ ,  $p=0.07$ ). This study has showed that the creative program in gymnastic can be enjoyable for both boys and girls. Also, it suggests that there is a relationship between creativity and enjoyment.*

*Keywords: Creative Gymnastics; Gender Difference; Enjoyment.*

### 1. INTRODUCTION

Creativity is an important part of the human personality, a determinant of human and social development. Creativity is part of what makes us human, as are genius, invention, and talent (Sawyer, 2006). Thus education should promote programs that develop creativity. As Piaget (1970) has argued, only an education based on energetic discovery can develop people who are able to discover new things and promote the development of society; hence learning is a procedure of creative invention and discovery. Moreover Rogers (1969) believes that an educated person is one who knows how to learn, who knows how to adjust and modify his/her knowledge, and who realizes that any knowledge is not certain but provisional, and that the only certainty is the quest for knowledge.

Maslow (1968), in an attempt to define creativity, noticed that there are two types of creativity. The first is creativity connected with a special talent and the second is creativity which is connected with self-actualization. Education should be concerned more with the second creativity, which comes from the personality and arises through everyday activities and, moreover, can be developed in every person if an appropriate environment is provided. As for the first type of creativity, education can offer an appropriate environment so the person will be free to develop this special gift – talent that he or she might have.

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Physical education and especially gymnastics can be creative if the appropriate factors that promote creativity are included. Such factors are a safe and free environment, without extrinsic judgment of creative accomplishment. This environment should give choices to the participants and encourages idea generation, creative collaboration, and a tolerance for ambiguity and allowing mistakes, as well. There should also be a full understanding of the problems of the creative person. In this environment “production” should be favored and supported (Sternberg, 2003).

Physical education is believed to be effective when it is based, not only on creativity but also on enjoyment. According to many researches enjoyment is believed to be one of the main factors for participation in physical activities (Nowicki & Nowicki, 2001; Roberts, 1992). Sports enjoyment is defined as the positive affective response to a physical experience, reflecting feelings such as pleasure, preference and fun (Scanlan et.al, 1991).

According to self-determination and intrinsic motivation theory, a person's behaviour is determined by intrinsic motivation based on enjoyment and satisfaction. Most of research concludes that the main factor in a person's participation in a physical activity is enjoyment (Canada Fitness Survey, 1983a; Buonomano et al., 1995; Mason, 1995). A longitudinal study on adolescents found that the feeling of enjoyment is one of the main factors in continued participation in moderate to vigorous exercise (Vira & Raudsepp, 2002). Moreover, persons who are not active claimed that they would start a physical activity if it was enjoyable, relaxed and something they learned from (Trigonis et.al., 2002; Lidgren & Fridlund, 1999).

The purpose of this study was to examine if a session in creative gymnastics would be enjoyable for senior undergraduate students. Our hypotheses were that: 1) the session would be satisfactorily enjoyable and 2) there would be no distinction between males and females.

## 2. METHOD

Participants: The participants were 267 senior undergraduate university students (143 males, 124 females,  $M = 18,46$   $Sd = 0.45$ ).

Procedure: The students participated in a gymnastics session which was based on creativity, with the use of music. The session consisted of: 1) exploration of the basic movements (Laban, 1975), 2) combination of these movements according to their own preference and 3) improvised choreography, correspondingly to the music.

The instrument: The Intrinsic Motivation Inventory (IMI) (McAuley et al., 1989) and more specific the subscale of enjoyment/ interest, adapted to Greek population (Doganis, 2000), was used for enjoyment. A five Lickert scale was used, with 1 = absolutely disagree and 5 = absolutely agree.

The IMI was initially constructed to be employed in a variety of settings, but its use in the sport and exercise setting has become increasingly popular following a

study by McAuley et al. (1989). It consists of 45 items and it can be divided in seven subsections (Ryan, 2001). This instrument measures participants' enjoyment/interest, perceived competence, value/usefulness, felt pressure/tension, effort, and perceived choice while performing a given activity. An advantage when using IMI is that it can be modified to fit specific requirements of testing in different situations as the test has been especially written to be easily adapted to a variety of settings (Cuddihy, et al., 2002).

Only the enjoyment/interest subscale was used in this study. The reliability of the scale was analysed by Cronbach alpha coefficient in this study and was 0.87 which is statistical significant.

Reliability and validity for the shorter version of the test was tested in the study by Cuddihy et al. (2002). The results showed that alpha coefficient for each of the four subscales was: enjoyment/interest (0.78), perceived competence (0.80), effort (0.84) and pressure/tension (0.68). They also validated their version using percentages of results and comparing them to those obtained from the long form of the IMI. The results were practically identical. These state that the short form results were almost identical to those of the long form of the IMI so from this study it can be said that shorter versions are reliable and valid.

### 3. RESULTS

An independent t-test was conducted to compare enjoyment scores for males and females. There was no significant difference in scores for boys ( $M = 3.68$ ,  $Sd = 0.78$ ) and girls ( $M = 3.92$ ,  $Sd = 0.65$ );  $t(265) = 2.69$ ,  $p = 0.07$ . Both groups had score for enjoyment above average. Below is a graph of comparing means.

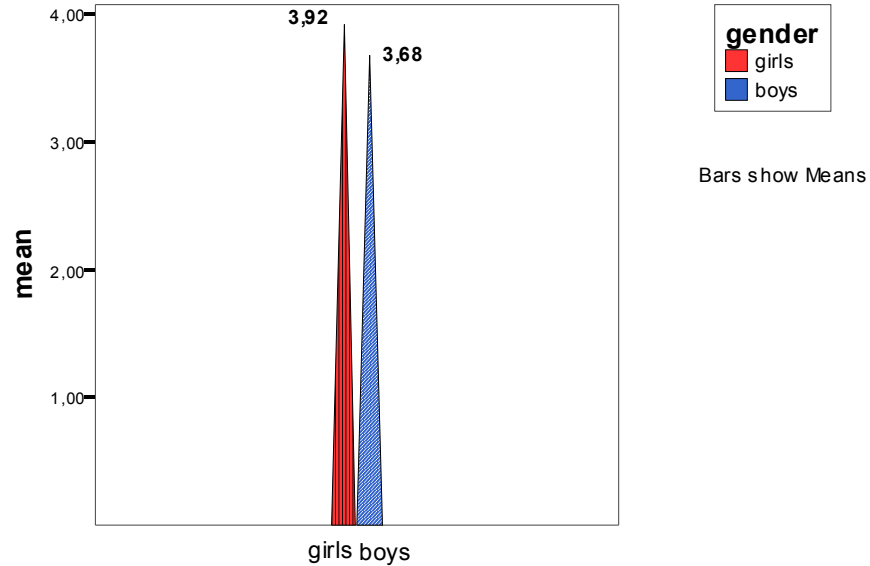
As it can be seen from the table below there was a significant difference of scores for males and females on comparisons over whether they liked the lesson, if it was interesting and if they thought about anything else than how much they liked the lesson as it was taking place. Nevertheless there was no significant difference between males and females over whether they found the lesson funny or an interesting experience.

### 4. DISCUSSION

The purpose of this study was to test if a session in creative gymnastics can be enjoyable in senior undergraduate students. The results have shown that generally students enjoyed the session and they found it interesting. These results are in agreement with the findings of other studies, which found that a creative program in the same age can be enjoyable, can increase intrinsic motivation, commitment and student's confidence (Dineen & Niu, 2008). The same authors also found that a creative program can be effective and enjoyable despite of the cultural differences.

From both studies it is suggested that there is a direct correlation between increased creativity and an increase in student enjoyment.

**FIGURE 1: MEANS FOR BOYS AND GIRLS**



**TABLE 1: MEANS, T-VALUES AND SIGNIFICANCE FOR THE FIVE QUESTIONS**

No of question	Gender	Means	t	p
1. like	Males	3.48	3.13	0.02*
	Females	3.84		
2. funny	Males	4.10	1.92	0.06
	Females	4.30		
3. interest	Males	3.58	3.00	0.03*
	Females	3.91		
4. think nothing else	Males	3.09	2.19	0.03*
	Females	3.35		
5. interesting experience	Males	4.14	0.44	0.06
	Females	4.18		

\*  $p \leq 0.05$

Although, in this study, there have been some difference in some questions between boys and girls the general idea was that the creative gymnastics session was funny and an interesting experience. The significant difference that was found between genders in the three questions (1, 3 and 4) in which females over scored, might be because the session had as last activity the choreography, which is more familiar to girls. Girls are more familiar with choreography as from young ages are involved in dance, artistic gymnastic and other forms of art, when boys are involved in team and competitive sports. Moreover there was no sense of competition during the session. However, when competition is involved, as in a study by Conti et al. (2001), boys were more creative and enjoyed more than girls the lesson which had a form of competition. They also suggest that to enable present challenge and provide positive competence information might contribute to intrinsic motivation (and enjoyment) and creativity. On the other hand, another study found that the presence of evaluation during a creative task affect self- competence (King & Gurland, 2007). As Deci (2005) suggests that feelings of incompetence undermine intrinsic interest, the findings of the previous study suggest that the evaluation in a creative activity might indirectly undermine intrinsic interest. Therefore there must be more research in this field.

To conclude, this study has showed that creative gymnastics can be enjoyable in both males and females. It also suggests that there is a relationship between creativity and enjoyment. This might happen because of the common factors between the development of creativity and enjoyment, like the feeling of success, the freedom of movements etc. It is suggested further research to be done in this field to examine the relationship between creativity and enjoyment, as in elementary and secondary school children.

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## JARGON AND COLLOQUIALISM IN HARVARD BUSINESS REVIEW CASE STUDIES

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### ABSTRACT

*Harvard Business Review case studies are the best illustration of the English language used in the corporate environment. The paper substantiates the fact that business jargon, appearing alongside colloquialisms and slang, carries value as a symbol of group membership and solidarity. The dissertation approaches the language material from the sociolinguistic vantage point and deals with notions such as variation, standardization and audience design in the corporate environment. The author strives to prove that the corporate environment, similarly to other speech communities, displays much diversity in language use and illustrates this amply with citational corroborations from HBR.*

*Keywords: Jargon; Colloquialism; Case studies; Speech Community; Corporate environment.*

### 1. INTRODUCTION

The professional pursuit of a sociolinguist is to observe how language is used in dynamic and complex speech communities (monolingual or multilingual social groups held together by frequent social interaction) and to record and describe variation together with its socially relevant patterns. A sociolinguist scrutinizes a given speech community and analyzes how internal divisions within a particular community affect language usage. A goal of the sociolinguistic study is to show how differences in grammar, pronunciation and vocabulary account for social, economic, cultural and political differences within the society. Peter Stockwell (2008) observes that one of the key concepts introduced by sociolinguistics is the notion of the social variable that influences a variation in language. Occupation is one of the social factors that contribute to this variation.

Speech communities do not necessarily use one language but a repertoire of languages or varieties. The corporate speech community is no different than any other one – ethnic, social, geographical or religious. Similarly to other speech communities it is bound by social interaction and displays a variety of repertoires. Harvard Business e-view case studies are an excellent record of corporate life which illustrates the variation of language used within the broadly understood corporate world and at the same time substantiate the fact that the corporate environment shares the characteristics of other speech communities.

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## 2. SCOPE OF RESEARCH AND THEORETICAL ASSUMPTIONS

The aim of this paper is to analyze the language of Harvard Business Review (HBR) case studies from the sociolinguistic vantage point and to demonstrate that apart from jargon, which is naturally expected to permeate a publication of business character, the case studies include colloquialism and slang. The article is centered on HBR case studies which offer present common managerial dilemmas and offer practical solutions from experts. It has been designed to look at the business speech community and the stylistic variation of language used in the corporate environment. It also presets the notions of accommodation and audience design as well as standardization of corporate language and its relation social class.

One of the basic tenets of sociolinguistics is that language and society influence each other in a variety of ways. There is a dynamic relationship between language and society as the former and the latter are mutually interdependent. Ronald Wardhaugh (1986) has pointed out that this interdependence may be bidirectional – social structure may determine and influence linguistic structure and, conversely, linguistic structure may determine and influence social structure. The goal of sociolinguistics as a science is, therefore, to analyze the relationship between language and society with a view to a better understanding of language as a system of communication. Another renowned sociolinguist, Bernard Spolsky (1998) observes that the primary goal of sociolinguistics is to “map linguistic variation on to social conditions”. Social and linguistic facts are always intertwined. The analysis of HBR case studies will substantiate these points. The case studies present the language used in a particular environment. The business environment is capable of exerting strong influence on the language used by people who function in the world of business and identify themselves with it. It shapes the language by ongoing coining of new expressions exclusive to the environment in which they are used. After the analysis of HBR case studies we may notice the powerful influence of the social environment on the type of language used.

Functioning in the business world presupposes the usage of jargon which is defined as “the technical vocabulary peculiar to specific occupations, used in carrying out a trade or profession, or pursuing an interest or hobby.” (Widawski, 2003). Jargon develops among experts in a field and facilitates their work. It helps them tackle everyday issues by providing them with language precisely defining their job-specific or field-specific activities and notions. Ian McKenzie (1995) says that if your job is highly specialized you need language that is most relevant to your professional needs. It implies the use of jargon.

It has been suggested that jargon is used mainly in writing. The analysis of HBR case studies will show that jargon abounds in speaking. The use of jargon, also referred to as in-group variety (Spolsky, 1998) serves to create bonds among its users. It builds the sense of belonging for those who know it and marks the borders for

outsiders. If you do not know my jargon you do not belong to my group. To belong and fit in with a group you have to master specific jargon. In this respect it is similar to cant – the language of thieves and underworld. The group solidarity aspect makes it similar to slang. One salient feature of slang is its power to establish bonds among users. Jargon seems to share this power. These two terms, though similar and at times overlapping, are not synonymous. Slang, unlike jargon, is socially stigmatized and strives to separate itself from the mainstream culture; it is a vivid, metaphorical, often ephemeral and playful way of expression and is used, among other numerous reasons, to freely express strong feelings. Robert L. Chapman (1986) calls it a therapy for wounded egos. Slang, similarly to jargon, originates as a specific language of hermetic groups and has the power to forge emotional closeness and solidarity among its users.

The notion of register is linked with jargon. Register may also be called the special variety. A register is a type of language, or its variety that is most likely to be used in a specific situational context with specific roles and positions involved. A selection of register presupposes the use of specific vocabulary and appropriate stylistic choices.

HBR is targeted at a specific group – people who studied business and are business practitioners. To understand HBR case studies, the reader has to be familiar with business jargon used in the texts. The protagonists of the cases and the reader share this knowledge and belong to the same in-group. By reading and analyzing HBR case studies the readers are branded as the business world members sharing the same interests and similar problems. Thus, the case studies build in-group solidarity – the reader easily identifies with the protagonist and the jargon, situation or dilemma presented in a case study may well belong to him.

HBR cases also contain colloquialisms – often mistakenly regarded as a synonym to slang. “Colloquialisms are informal expressions which more common in conversation than in writing, and often convey the feel of easygoing naturalness” (Widawski, 2003). Webster’s Encyclopedic Unabridged Dictionary of the English Language defines *colloquial* as “characteristic of or appropriate to ordinary or familiar conversation rather than formal speech or writing. Colloquial is often mistakenly used with a connotation of disapproval as if it meant “vulgar” or “bad” or “incorrect”, whereas it is merely a familiar style used in speaking rather than in writing.” HBR cases studies are of narrative character and present real life scenarios – the presence of colloquialisms is then inevitable. These citational examples present instances of colloquial language used in HBR case studies:

Dev, C. (2008). The Corporate Brand: Help or Hindrance. Harvard Business Review:

*“The goal, Abby had told Andre and others, was to create Lilypad junkies [= narcotics addicts (metaphorical)] – business and leisure travelers who would seek out the company’s hotels exclusively and who would pride themselves on collecting experiences.”*

*"That morning he had told Curtis he was jonesing for [= wanting something very badly] a chewy bagel instead of the crumbly rolls and the strong Brazilian coffee served at the hotel where he was staying."*

*"Eventually they got round to talk shop [=to talk business, to discuss a deal] as they always did."*

Bodrock, P. (2005). The Shakedown. Harvard Business Review:

*"It's a shakedown" [=an instance of or a demand for blackmail, extortion; victimization by a protection racket], Hnatyuk concluded."*

*"Hnatyuk picked him up in his beat-up [= battered and damaged by age and usage] Land Rover and seemed to think that despite the extortion threat, it was business as usual."*

*"Check it out," [=to look closely at, especially for evaluation; scrutinize] Hnatyuk said as he drove toward the city apartment they shared whenever Zhuk was in town."*

*"I don't have the stomach or the capital to pay off every thug [=a violent or dangerous male] in town."*

Roche, E. (2003). Do Something – He's About to Snap. Harvard Business Review:

*"I'm telling you, he's a freak [=a devotee or enthusiast]"*.

*"I'll get it done, I will – but I just can't stand the thought of being here all alone with Max. It skeeves me out. [=to discuss, to repel]"*

*"Hi guys. What's up [=a general enquiry or greeting]"*

### 3. HARVARD BUSINESS REVIEW AND CASE STUDIES

Harvard Business Review has been published since 1922. At the beginning it was an editorial project of Harvard Business school students. It has always been a general management magazine. The publisher, Harvard Business School Publishing is owned by Harvard Business School. It is a research based magazine for business practitioners. It enjoys reverence of academics, business leaders and consultants. It is a publishing forum for numerous scholars, experts and management thinkers. It also lends itself to sociolinguistic study – it is a place where business jargon is coined and where it gains global recognition. Words and phrases such as *marketing myopia*, *glass ceiling*, *globalization*, *reengineering*, *downsizing* and *core competence* appeared in HBR cases before gaining broader currency.

Wikipedia defines a case study as one of several ways of doing research. Rather than making use of samples and following a rigid protocol to examine a limited number of variables, case studies involve a longitudinal and insightful cross-examination of a single instance or event: a case. Case studies involve a systematic way of looking at events, gathering data and presenting findings. As a result the research may lead to a sharpened understanding of why a situation took place and what aspects might become important to look at more extensively in future research.

Case studies are a research strategy, an empirical enquiry that investigates a phenomenon within its real life context. They show real corporate life and dilemmas so the discourse is real life incorporating both descriptive and narrative elements. HBR cases are paradigmatic- they may be viewed as prototypes highlighting general characteristics of issues in questions. This goes in line with the ideas of Thomas Kuhn – a late 20<sup>th</sup> century intellectual and philosopher of science. According to Stamford Encyclopedia of Philosophy (2004) “exemplary instances of science are typically to be found in books and papers, and so Kuhn often describes great texts as paradigms (...). Such texts contain not only theories and laws but –and this is what makes them paradigms – the applications of these theories in the solution of important problems”. HBR case studies adhere to this kind of approach; they are stories presenting common, paradigmatic managerial problems and offer concrete ways of dealing with them. They may be used as reference points for business practitioners because of their realism and practicality. From the sociolinguistic point of view they present the corporate environment as a miniature of the urban speech community with its stratification and speech repertoire diversity. The cases present different social situations with typical places, role-relationships and topics. Bernard Spolsky (1998) says these three aspects constitute a set of specific domains, home and work being the most popular ones. Naturally, domains will determine linguistic and stylistic variation. HBR case studies are a good illustration of this.

#### 4. CORPORATE SPEECH COMMUNITIES AND IN-GROUP VARIATION

Before analyzing the language corporate environment it is necessary to precisely define the notion of speech community. The “speech community” community label can be ascribed to any gathering of people communicating with one another (Joshua A. Fishman, 1972). This general and simplistic definition needs further elaboration. The term does not imply a size or geographical location. It is any gathering or aggregate of people who use a particular speech variety and share conventions connected with its use. This community may happen to live in a particular geographical location (speech communities using rural dialects), but may also be scattered over the world (the community of Harley Davidson lovers is also a speech community bound by the specific jargon they use). Any contemporary corporate speech community shares its characteristics with the latter. Any professional (GE Money Corporation employees all over the world) or social (Star Wars fans all over the world) network is a speech community – they share the jargon and certain norms concerning the use of language. *To have a call, to give a pitch, leaders’ inclusiveness, communiqué, arrears and may the Force be with you, nerf herder, blaster magnet, plastic soldiers, boys in white* belong to GE Money Corporation employees’ and Star wars fans’ jargon, respectively. Speech communities are not isolated islands – their members interact with people belonging to other groups and assume different social

roles – corporate leaders are also fathers and husbands – for each of these identities or roles they would use a different linguistic repertoire. The corporate speech community, similarly to the urban speech community, is a heterogeneous entity “showing much diversity not only between one individual and another but also within one individual (...) the variation is intrinsic in the system”.

The corporate speech community is a diversified entity. Its members belong to different social classes and therefore speak different sociolects, they may come from a multitude of places and speak different dialects. Variation is a dominating linguistic element characterizing them. In this respect they do not differ from other speech communities such as a “local community” a “county” or a “country”. What binds them linguistically is “that some of the varieties within their verbal repertoires are primarily experientially acquired and reinforced by dint of actual verbal interaction within particular networks” (Joshua A. Fishman). Similarly to any other speech communities, distinct language, especially unique field vocabulary, is an identity provider for all corporate environments. Field-specific vocabulary enables community members to build solidarity and emotional bonds among themselves. The following citational evidence illustrates this point and presents jargon used in selected case studies:

Dev, C. (2008). The Corporate Brand: Help or Hindrance. Harvard Business Review:

*“Meanwhile, corporate branded hotels like the Four Seasons and the Ritz-Carlton enjoyed annual cross-property usage [= when one property helps another one to sell rooms by offering another one’s rooms at the same time as its own] rates of 10% to 15%.”*

*“Each came with its own set of intangibles [=something that a business has and can make money from, but that is not something physical and so cannot be easily valued, e.g. a recognizable company name or loyalty of customers] and its own sense of place.”*

*“They could sign up new properties, increasing the total number of units for sale, or they could increase the occupancy and cross-sell [=one business helping another to sell its products] rates of existing units, increasing the company’s revenue [=money that a business receives over a period of time] per room.”*

*“There was no denying the obvious scale efficiencies [=the advantages that a big organization has over a small one] Lilypad could create by putting all its properties under one brand.”*

*“To keep Betsy in the loop, Sam recapped [=recapitulated] Lilypad’s latest stats [=statistics].”*

Bodrock, P. (2005). The Shakedown. Harvard Business Review:

*“That proved a lucrative niche [=a specialized place on the market].”*

*“After five years, the start-up [=a business that has just begun its activities] employed 35 people and generated annual revenues of \$40 million, and reported profits.”*

*“The young software entrepreneur [=someone who starts a company, arranges deals and takes risks in order to make a profit] had just come to the kitchen when the telephone startled him.”*

*“Everyone there was talking about how two Ukrainian firms had beaten an Indian rival and won a contract to develop embedded systems [=customized computer networks] for a big American corporation.”*

Roche, E. (2003). Do Something – He’s About to Snap. Harvard Business Review:

*“Max seemed more than a little humiliated about what others would perceive as a demotion [=being given a job with a lower rank or position than one had before].”*

*“The conversation wound down with a status report [=a formal description of somebody’s position or condition at a given moment] on Derek’s current project.”*

*“She’d started as an intern [=somebody who is trained to do a job at a company he or she will probably work for] and was hired as a full-time programmer when she graduated from college.”*

*“He was pretty terrible in the ‘interpersonal skills’ [=skills which allow you to make and maintain good relationships with people] department - so bad that three years ago his position had to be reworked.”*

Internal diversity, stratification, multiple communication channels as well as internal relationships allow us to define the corporate speech community as a closed network. Martin Montgomery (1986) says that “a closed network (...) is one in which each member of the network has several ties with other members of the network. (...) In addition to the numbers of ties within a network it is possible to take account of the nature of the ties of work, kinship, friendship, recreation and so on “. This definitely accounts for the diversity of speech repertoires that the corporate community possesses and uses. The heterogeneity as well as the multitude of internal and external conversation events accounts for the fact that corporate English abound in jargon, colloquialisms and, occasionally, slang. Different registers are used depending on the domains referred to. This internal variation is the most conspicuous feature of corporate English. This fact is clearly illustrated by HBR case studies, which give a natural picture of the corporate environment. HBR case studies present managerial dilemmas of diverse business sectors; the protagonists have different roles in their professional and private lives. The linguistic variation presented by the HBS cases is the mirror image of this diversity. The citational corroborations listed below demonstrate the diversity of speech repertoires presented in HBR cases studies:

McNulty, E. (2007). Boss, I Think Someone Stole Our Customer Data. Harvard Business Review:

Jargon:

*“Brett Flayton, CEO of Flayton Electronics, stared intently at a troubling memo [=formal, written, internal communication] on his desk from the firm’s head of security.”*

*“They regularly examine their fraudulent [=intended to deceive] accounts for patterns, and we have shown up a common point of purchase for an above-average number of bad cards.*

*“If cardholders don’t pay close attention to their bills, fraudulent [=intended to deceive] debt could accumulate for months before it is caught.”*

*“We can’t knowingly let them be defrauded [=deceived].”*

*“With the firewall [=a system that is used by large financial or law companies to stop sensitive or confidential information being passed from one department to another] disabled, however, supposedly internal company data were essentially being broadcast.”*

Colloquialism:

*“We have to nail the bastard [=a man one dislikes or disapproves of, especially a mean self-serving man] who did this.”*

*“Maybe an employee tossed the files into the dumpster [=a container for rubbish].”*

Beer, M. (2006). Too Big Shoes to Fill. Harvard Business Review:

Jargon:

*“Consequently, marketing never developed as a strong function, and R&D [=Research and Development Department], though technologically sophisticated, never developed marketing savvy.”*

*“Innostat had never launched any major new products for the past four years, yet they were essential for profitable growth [=the development of a company in the direction of making higher profits].”*

*“Worse, the company seemed to have lost its innovating edge [=a technological advantage that allows a company to compete effectively on the market].”*

*“There’s no way you can win a wholesale reorg [=reorganization].”*

*“The board got Jack to call them in for a consult [=consultation].”*

*“Henderson had strongly urged Jack and other top executives to be less involved in the details of developing new products, limiting themselves to formulating strategy [=devising and officially presenting strategy], choosing the portfolio [=agreeing on a range] of new products, reviewing team progress [=making an occasional check on a team’s progress], and continually reprioritizing projects [=making new priority lists of projects] and reallocating money and people [=making new decisions concerning money and manpower available to particular units] based on emerging information.”*

Colloquialism:

*“A pharmacist son from a rough-and-tumble [=dangerous] Irish American stronghold of South Boston – Southie [=a person from the south] to the locals.”*

*“Once it happened, all hell could break loose [=things could become dangerous, turbulent].”*

Stevenson, H. (2008). How to Change The World. Harvard Business Review:

Jargon:

*“At some point down the line you could even cash in your chips [= shares in accompany], start the Jenny Memorial Foundation, and do that for the rest of your life.”*

*“The team had carefully considered all the cost and revenue synergies [=additional advantages produced by two people or organizations working together].”*

*“(...) first as a cofounder of a dot-com [=a company that exists only on the Internet] that sold out to a large software company, and then as a partner at a Silicon Valley-based venture capital firm [=a company which takes risks and invests in potentially successful start-ups] that was moving toward biotechnology.*

Colloquialism:

*“The deal had been a nail-biter [=an anxiety provoking situation; a close contest], and we’d flown many times to and from Zurich, putting hundreds of hours into the negotiations.”*

*“The sky had darkened, and a light, wind-whipped snow was falling, but the changing conditions hadn’t deterred the diehards [=those who oppose changes and refuse to accept new ideas].”*

*“Very quickly she’d made a mint [=made a great deal of money].”*

Weinberger, D. (2008). Authenticity: Is It Real or Is It Marketing? Harvard Business Review:

Jargon:

*“Currently the company was using an eco-friendly marketing pitch [= what a sales person says about a product to persuade other people to buy it].”*

*“We have a team of top-notch [=high quality] demo-ers and sales people.”*

*“Matt wrote e-mails that sounded like memos [= formal, written, internal communication].”*

Colloquialism:

*“Gordon knew Marty Echt had the chops [=talent and skill] for the position.”*

*“There had been complaints about Marty’s use of salty language in the office, as if he were out with his biker buddies [=close friends].”*

*“Every member of Marty’s team had been taken for a spin [=taken for a ride] by someone from the track’s service crew.”*

Fryer, B. (2004). The Micromanager. Harvard Business Review:

Jargon:

*“He insisted on issuing a minimum of two press releases [=an official statement giving information to the press] each month, even when there wasn’t any real news to report.”*



*“He’d even asked the CFO to explain the company’s cash flow [=the amounts of money coming into and going out of a company and the timing of these] situation to her”.*

*“But 16 months later, revenues [=money that a business receives over a period of time] hadn’t rebounded enough to impress investors, and other firms were beginning to pick off Retronics’s market share [=a portion of the market controlled by a company].”*

*“She’d accompanied the sales force on client calls [=visiting clients] to see and hear from customers directly.”*

*“Please understand that the last thing I want to do is micromanage [=to exercise a very strict control over subordinates taking away any decision-making power],” he said.*

Colloquialism:

*“Mind if I take a peek [=have a look]?’ George called out.”*

*“When George takes an interest, hands-on isn’t the beginning of it. He’s elbow deep in the stuff [=things or activities in general].”*

*“He can be pretty [=rather] hands-on.”*

## 5. REGISTER AND STYLISTIC VARIATION IN THE CORPORATE ENVIRONMENT

It has been said in the first section of the paper that register choice is determined by the situation you find yourself in and the activity you are engaged in. It is influenced by three major variables – field, tenor and mode of discourse. Heidi and John Platt (1975) define field of discourse as “the area of operation of the language activity”. Registers classified according to field include operating in specific business sectors and performing different business tasks, entertaining guests at a party, playing particular sports and games, shopping, teacher training sessions for EFL teachers, etc. This is a type of language used in particular social situations. Tenor, also called style of discourse, refers to the relationship between or among people involved in a conversation event. It may be described as a variation in formality (Halliday, 1978). In the corporate environment we can enumerate different degrees of formality varying according to the situation and relationships among people participating in communication acts. Formality is measurable and gradable – it ranges from informal, through semi-formal and normal polite to super polite, depending on the direction of communication. Conversational exchange among friends is informal, downward communication (from a manager to his subordinates) tends to be formal/normal polite, sideways communication (among people at the same level in a company hierarchy) is most frequently semi-formal, whereas upwards or external communication (regional directors contacting the chairman of the board or a sales director apologizing to an irritated client he does not want to lose) is formal/super polite. Mode refers to the

channel of communication. The basic division is spoken vs. written but more detailed sub-divisions are possible (memoranda, business letters, press releases and reports presuppose the application of slightly different registers of language as well as graphic shapes).

HBR cases show that jargon permeates corporate life and is virtually omnipresent; it is used in all styles of discourse – from casual to frozen formal. It crosses domains – it appears in the domain of *home* or *holidays* where it is sometimes hard for in-group members to assume new roles and shift to different registers. Colloquialism is also conspicuous but it is restricted to situations displaying a degree of informality, friendly familiarity, and fraternity among people participating in conversation events. It is used both in the domain of *work* and *home*. It may enter any other domain. Slang sometimes enters corporate life – it is used for indicating emotional involvement in a situation or issue and serves to strengthen bonds among people – similarly to jargon it builds in-group solidarity. The use of jargon builds professional solidarity whereas the use of slang forges human solidarity and emotional interdependence. The participants of a conversation event where a slang expression is used automatically get closer. Slang is a strong binding element – it is not only an icebreaker but also a signal that people involved in a conversation act feel free to show emotions and they are ready to develop or assert friendly relationships with their interlocutors. These examples provide an illustration for this thesis:

Mullins, J. (2004). Take the Money – or Run? Harvard Business Review:

Jargon:

*“As he read the anti-dilution [=the act of increasing the number of shares that are available and thereby reducing the amount that each share will earn] clause something caught his eye.”*

*“He suggested they offer the first-round equity investors [=people who invest in business in the form of shares for a particular period of time] a 28% stake for an initial €4 million.”*

*“Unfortunately, venture capital investors [=those who take a risk and invest money in a new business hoping to make a profit] had grown very cautious following the dot-com bust, the downturn in technology company valuations, and recent dearth of IPOs[Initial Public Offering].”*

*“Philip estimated the funding requirements at nearly €42 million (of which €37million was capital expenditure [= money spent on equipment, cars, real estate]), phased over several rounds of equity and debt.”*

Colloquialism / slang:

*“If they are trying to screw [= to take advantage of, swindle, maltreat] us before our deal is even done, what will they do to us in the future?”*

*“The information would give the deep-pocketed [=wealthy] competitor an edge as additional leases were auctioned.”*

*"Once gas started flowing, whoever operated the pipeline would be drowning in cash [=extremely wealthy]".*

*"I think he would jump at the chance [=quickly accept the opportunity] ."*

Peebles, M. (2005). Into the Fray. Harvard Business Review:

Jargon:

*"I guess she wants to talk to Pierre about some new ideas for how we position our premium brands [= products of higher quality]."*

*"She was the general counsel at a regional clothing company, having given up a partnership-track position [=a job that leads you towards a promotion- becoming one of the main shareholders of a business enjoying equal participation in profits] at a law firm as a concession to her family and the demands of Michael's career."*

*"Michael could do the job – but could he convince the top brass [=top managers in an organization] in Paris of that?"*

*"(...) he's leaving Lafleur to join a start-up [= a company that has just started its business activities]."*

Colloquialism/slang:

*"Before long he spotted Albert Joffroy, a buddy [=a close friend] of his from finance."*

*"Albert seems to think she's got an eye on [=is interested in] my brands."*

Ariely, D. (2007). The Customer's Revenge. Harvard Business Review:

Jargon:

*"A few people actually got freebies [=something that you are given for free as an encouragement to buy something]."*

*"I think Marketing would say we need to think more about the effects of positive versus negative word of mouth [=when people hear something good about a company's product from their friends or colleagues]". "The customer feedback report [= a formal document describing the results of a customer survey measuring their level of satisfaction] lay on the round table."*

Colloquialism/slang:

*"I just spent another fun-filled hour on the phone trying to get them to pay for these damn [=an exclamation of disappointment, irritation, frustration] implants."*

*"Damn [=an exclamation of disappointment, irritation, frustration], Jim thought."*

Mobley, M. and Humphreys, J. (2006). How Low Will You Go? Harvard Business Review:

Jargon:

*"He had salespeople, of course, but deep down he thought the real key to his company's success was word of mouth [=when people hear something good about a company's product from their friends or colleagues] and quality that spoke for itself."*

Colloquialism/slang:

*"And if word got out that the company was making deals at sleazy [=disgusting, filthy, nasty] clubs, how many more employees might they lose?"*

## 6. ACCOMMODATION AND AUDIENCE DESIGN IN THE BUSINESS WORLD

Observing the corporate environment from the sociolinguistic perspective one may notice certain regularities or repetitive patterns concerning the use of language and linguistic variation. Style is related to the dimensions of formality (Spolsky) and varies according to the role relationships of interlocutors. Any corporate environment is a stratified and diversified speech community so there is a plethora of role relationships to enumerate. They determine the style of verbal or non-verbal interaction. Communication is multidirectional and its styles depend on the level of intimacy between people involved in speech acts. The corporate environment is the mirror image of any real-life speech community – different role relationships and situational contexts determine the type of language used. The language type spectrum may be wide - from formal and semi-formal language to colloquialism and slang. Another fact is that the corporate environment is a tightly-knit, often hermetic entity whose members assert their group membership by the use of field-specific vocabulary or jargon. Jargon is a common corporate tool enabling business people to function in the corporate world on a daily basis. It is not merely a branding system; it is a necessary prerequisite of existence and survival in the corporate world. The prominence of jargon in the corporate language leads us to the notion of accommodation (Spolsky). It is natural that we automatically adjust our speech to the speech of our interlocutor. Spolsky focuses on stylistic and phonetic accommodation. As for the former, when we address someone formally our interlocutor is most likely to respond in the same style. When we address someone informally a reaction at the same stylistic level may follow suit. As for the latter, this explains the fact why a person moving from a provincial area to the capital city alters his speech in the direction of a new standard.

Audience design is related concept – a speaker who is capable of controlling one or more variety of language chooses an appropriate one depending on the audience he or she is addressing (Spolsky). That is why EFL teachers often modify their language when they teach different people at different levels. The same teacher will use one variety when he or she addresses pre-intermediate children and another one when he or she deals with post-proficiency business students. Audience design takes place in the business world as well – when one addresses his or her peers he or she will adopt one variety, when one address his superiors, subordinates or outsiders other varieties will be at work. This is analyzable in multidirectional business communication, both written and spoken. HBR case studies show that the concept of audience design is not only related to stylistic variation – it is also a lexical phenomenon. When in-group members address one another jargon may predominate; when outsiders are addressed less or no jargon is used to facilitate communication.

Spolsky (1998) says that accommodation and audience design are “the most fundamental linguistic features involved in social bonding”. HBR case studies show that social bonding may be achieved not only by stylistic but also by lexical accommodation. They also substantiate the fact that audience design may determine the use of jargon or field-specific vocabularies.

## 7. PRESTIGE AND STANDARISATION OF CORPORATE LANGUAGE

If a speaker knows some type of jargon he or she is usually regarded to be a specialist or expert in some field. The notion of being an expert has positive connotations and evokes the concept of social prestige. Jargon and colloquialism may be linked with corporate language. It is interesting whether such a type of language carries the stigmata of social prestige and could be regarded as standard by its users. Robert Bell (1976) has suggested some criteria which can be used to measure the prestige of a language. They are as follows:

- Standardization – whether a variety has been institutionally approved, codified into dictionaries or used in prestigious publications;
- Vitality – whether there is a living community of speakers using that variety;
- Historicity- whether the speakers have the sense of the longevity of their code;
- Autonomy-whether the speakers consider their variety to be substantially different from others;
- Reduction-whether the speakers consider their code to be a sub-variety or a full code in its own right; whether it has a reduced set of social functions;
- Mixture- whether speakers consider their code ‘pure’ or as a mixture of other languages;
- ‘unofficial’ norms – whether speakers have a sense of ‘good’ and ‘bad’ varieties of their code.

It has been observed that the corporate language of HBR cases is an inter-play of jargon, colloquialism and standard language. Jargon, similarly to the standard language, has been encoded – Business English dictionaries are general business jargon dictionaries. Field- specific dictionaries offer jargon from particular business branches. There are self-study books and ELT course books solely devoted to teaching jargon. There are renowned magazines, HBR being one of the best, featuring different kinds of corporate jargon from different sectors of business and levels of management. Acquiring a specific business jargon makes it easier for outsiders to enter a particular, often perceived as exclusive, business community. It is a living language used in common encounters, both formal and less official. The users of business jargon are aware of the fact that their field- specific vocabulary is distinct from other job-specific vocabulary types. Marketing and IT experts often do not

understand each other's jargons. The sense of in-group membership is marked by lexical accommodation tendencies while communicating with outsiders – the tendency to use general descriptive terms rather jargon. As illustrated by HBR case studies, people functioning in the corporate environment use different varieties of language. The distinctive character of corporate language is amplified by the exclusiveness of jargon. The corporate language is characterized by the sense of historicity and novelty. The former is maintained by the use of standardized jargon; the latter is sustained by changeability of colloquialism. The language of the corporate world serves many social purposes – one of the most important ones being a tool of work enabling its uses to meet daily business objectives. The speakers consider their language specific and distinct due to the use of jargon. The code they use is a pure code (the standard variety) enriched by jargon. These considerations substantiate the fact that corporate language is a prestige variety.

Corporate language may be viewed as a standardized variety. It meets the criteria of language standardization proposed by Haugen in 1966. These are:

- Codification
- Elaboration
- Acceptance

Standard language, jargon and colloquialism fall into the domain of corporate language. Jargon, similarly to standard language, has been given longevity by dictionaries, literature, course books and magazines in which it is featured. Business education system also contributes to its codification and popularity. Business education and media have definitely played a role in diffusion of certain lexical items in society. Words such as *deposit account*, *bailout*, *mortgage loans* were originally jargon. Now they have entered popular lexicon. Corporate language serves a variety of social functions, including business and work related tasks. It has, therefore, achieved a high level of elaboration. Following Bernstein's line of reasoning Martin Montgomery (1986) says an elaborated code was viewed as "a product of middle class social relations". This definition fits in with notion of corporate language. Bernstein suggested that there are two varieties of language available to speakers (Trudgill, 1982) and has called these varieties 'elaborated code' and 'restricted code'. The former is used in more formal contexts and enables the speaker to impose his individuality on the utterance; the latter is used in informal situations and it stresses group membership. The language of HBR case studies shows that corporate language incorporates both elaborated and restricted codes. Jargon is used in both elaborated and restricted codes; colloquialism tends to prevail in restricted code. Corporate language and especially jargon as its most salient feature have been accepted as norm by its users. These considerations show that corporate language meets the criteria for standardization and may be regarded as an in-group standard *per se*. The fact that that it is used in different domains further substantiates this thesis. The linguistic behavior

of in-group members outside their professional groups often demonstrates their dependence on jargon as a way of expression.

## 8. CONCLUSIONS

The study of the above citational evidence allows us to conclude that jargon vocabulary items can vary according to the degree of formality, e.g. *chips*, *top bras* and *reorg* are less formal than *cash flow*, *synergy* or *fraudulent*. There is a fuzzy boundary between slang and colloquialism. The expressions featured under the heading *colloquialism* have been first used by street gangsters, members of the underworld or ethnic minorities. Most of them are to be found in slang dictionaries (Chapman, Greene) and definitely qualify as such. As slang, they were socially unacceptable and their users demonstrated rebelliousness against the “norm” and establishment. They symbolized the opposition to the appropriate “form” and proper social standards. Their appearance in the prestigious business magazine gives them currency by reducing their undignified tone. They move towards colloquialism as they are used by dignified, reputable people in daily conversation with an aim of achieving friendly easygoingness.

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# EVALUATION OF BMI, WAIST CIRCUMFERENCE AND PERCENTAGE BODY FAT RISK ASSESSMENT TOOLS IN DIFFERENT POPULATIONS: COMPARISONS AND RELATIONSHIPS

THELMA POLYVIOU\* and PHILIP BARLOW\*\*

## ABSTRACT

*This pilot study explored correlations between body mass index (BMI), percent body fat (%BF) and waist circumference (WC) in 34 Caucasians, 26 Asians and 5 Africans adults aged 17-34 years old. The study further looked at the differences between the three ethnic groups and evaluated the efficiency of the assessment tools (BMI, WC and %BF measurement) in assessing obesity and the associated health risks in Caucasians, Asians and Africans. The pilot study highlights that the health risk assessment tools are not always in agreement and suggests that specification is required as to which tool should be used on which occasions or possibly that all parameters should be considered before confirming a health risk.*

*Keywords: WC cut off point AND Asians, BMI cut-off points AND Asians, BMI cut-off points AND Caucasians, BMI cut-off points AND Africans, WC cut-off points AND Caucasians.*

## 1. INTRODUCTION

Overweight and obesity in US adults aged 20 to 74 years of age showed an increase between the first and the second National Health and Nutrition Examination Surveys in 1999 with a doubling of the rate (Flegal, et al 2002). Today obesity has reached epidemic proportions globally, with more than 1 billion adults overweight and at least 300 million of them being described as clinically obese (WHO, 2008). In order to define these escalating rates and to distinguish obese and overweight between healthy weight individuals, the National Institutes of Health (NIH) established cut-off points, using Body Mass Index (BMI) as the tool of measurement, for overweight at  $25\text{kg/m}^2$  and obesity at  $30\text{kg/m}^2$ . BMI is calculated by dividing an individual's weight in kilograms by the square of their height in meters ( $\text{kg/m}^2$ ) (WHO, 2000).

Obesity is a multifactorial condition and is a risk factor for a range of conditions including insulin resistance, glucose tolerance, diabetes mellitus, hypertension,

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dyslipidemia, sleep apnoea, arthritis, hyperuricemia, gall bladder dysfunctions and certain types of cancer. The increase in the prevalence of obesity is contributed to by the increased consumption of energy dense foods, high saturated fats in combination with decreased physical activity along with a sedentary life-style. Increased dietary fat intake has been positively correlated to excess body weight (Fermín et al, 2006). It is therefore expected that the contribution of excess fat to body mass plays an important role in the risks associated with excess weight. A supplementary indicator of health risks which has been proposed by the NIH guidelines is waist circumference (WC) (WHO, 2000). The WHO report suggests that BMI and WC are used concurrently in assessing health risks but states that WC is population specific and is dependent on the absence or presence of other risk parameters. It is worthy of note that the guidelines for WC cut-off points came from a population of Caucasians only aged 20-60y and therefore might not apply to populations of different ethnicity. BMI and WC have been positively correlated in many industrialized countries. However, it is evident that these measurements reflect different body compositions. BMI variations may reflect lean or fat mass whereas WC variations may more likely reflect fat distribution. It is therefore of value to correctly assess body composition and to determine the relationship between BMI and percentage body fat (% Fat) and between WC and %Fat (Seidell et al, 2001).

Body fat can be measured by several methods, some more practical and less expensive than others. Although dual-energy x-ray absorptiometry (DXA) and underwater weighing are considered to be the gold standards, they are more expensive and less practical compared with the widely used bioelectrical impedance (BIA) and skin-fold thickness. However, the latter methods also have their own limitations such as inter- and intra- variation in terms of skinfold measure due to the dependant nature of the method on the examiner and the restraint of BIA to accurately detect short-term changes in body fat brought about by exercise or changes in the diet (Lohmjan et al, 1981; Wagner et al, 1999; Heath, 1998; Sartorio et al, 2000). BMI can also be used as a predictor of total body fat and is considered a practical and inexpensive method for this measurement as it can be used by an individual for self-monitoring and additionally can identify subpopulations at higher risk of the diseases referred to above. However, it has been suggested to be restrained by the fact that the relationship between %Fat and BMI can be affected by factors such as age, sex and ethnicity. Indeed, the Centre for Disease and Cancer Prevention has recognized the possible differences in relationship between populations (Seidell et al, 2001). A study on women aged 20 to 45 years showed a significantly higher correlation between BMI and %Fat in the upper BMI quartile (Wellens et al, 1996). Moreover, studies by Lohman and Smalley (1981) have demonstrated the unreliability of BMI for predicting body fat (Lohmjan et al, 1981).

In view of the above suggestions and debates it was deemed useful to design and implement a pilot study which set out to investigate differences in the relationship of

% Fat, BMI variations and WC cut-off point between Caucasian, Asian and African students of the University of Nicosia, Cyprus.

## 2. SUBJECTS AND METHODS

Sixty five healthy volunteers (Table 1) were voluntarily recruited in the University; 26 Asians, 34 Caucasians and 5 Africans aged 17-34 y with BMIs of 17.3-32.1 were studied. Ethnicity was defined by the background of both parents. Asians included 1 Bangladeshi, 7 Chinese, 4 Indians, 2 Indonesians, 1 Nepalese, 2 Pakistani and 4 Philipinos. Caucasians comprised 25 Cypriots, 2 Americans, 1 Bulgarian and 6 Russian subjects.

Posters and information sheets were used for recruitment. The study was approved by the University's Director but as no names or other identifying parameters were recorded no ethical committee approval was deemed necessary. Each subject completed a questionnaire regarding their age, ethnicity and years they had lived in Cyprus.

Body weight was measured by the use of Tanita scales BF555 with subjects in light clothes and no shoes. Body fat was measured with the use of the bodystat Quadscan 4000 which uses the method of bioelectrical impedance. Subjects were asked to lie on a gym mat with no socks while electrodes were placed on their right arm and leg. Height was self reported.

**TABLE 1: PHYSICAL CHARACTERISTICS OF STUDIES SUBJECTS\***

Variable	Males			Females	
	Caucasians <i>n</i> = 16	Asians <i>n</i> = 14	Africans <i>n</i> = 5	Caucasians <i>n</i> = 18	Asians <i>n</i> = 12
Age (y)	23.3 ± 2.446	24.7 ± 4.6	26.6 ± 3.2	21 ± 2 <sup>5</sup>	24.5 ± 5.1 <sup>5</sup>
BMI (kg/m <sup>2</sup> )	23.9 ± 2.6 <sup>4</sup>	23.9 ± 3.7	26.5 ± 3.1	21.4 ± 3.4 <sup>4</sup>	22.3 ± 3.9
Percent body fat (%)**	14.5 ± 4.7 <sup>3</sup>	14.8 ± 6.9 <sup>2</sup>	17.4 ± 6.9	22.5 ± 6.7 <sup>1,3</sup>	27.9 ± 6.3 <sup>1,2</sup>
Waist Circumference (cm)	83.6 ± 8.7	82.5 ± 11.8	84.8 ± 9.4	76.5 ± 12.1	78.3 ± 6.6

\*Mean ± SD.

\*\*Measured by bioelectrical impedance.

<sup>1</sup>Significant difference between Caucasian and Asian females: *P* = 0.034.

<sup>2</sup>Significant difference between Asian males and females: *P* = 0.000.

<sup>3</sup>Significant difference between Caucasian males and females: *P* = 0.000.

<sup>4</sup>Significant difference between Caucasian males and females: *P* = 0.27.

<sup>5</sup>Significant difference between Caucasians and Asian females: *P* = 0.034.

### 3. STATISTICAL ANALYSIS

The data was examined for normality and screened for outliers. No outliers were removed from the data set as each observation was considered unique due to the relatively small sample size. Independent sample T-test, ANOVA and their non-parametric equivalents (Mann-Whitney test for data not normally distributed) were used to compare the BMI, body fat and WC between the ethnic groups and between sexes of the same ethnic group (Table 1). Cohen's Kappa test was performed to measure the agreement of the BMI, body fat and waist circumference tools. Cohen's Kappa test is a non parametric test that provides agreement between tests that measure the same parameter. Although the data tested was normally distributed apart from WC in Asians and %BF in Caucasians, an equivalent parametric test is not available. The variables were categorized for the purpose of the test (BMI: 1 = underweight, 2 = normal weight, 3 = overweight, 4 = obese; %BF: 1 = underfat, 2 = healthy range, 3 = overweight, 4 = obese). In order to explore the measure of agreement of waist circumference categories (1 = healthy, 2 = at risk) with BMI, a dummy variable was created for BMI with two categories (1 = <18.5-24.9, 2 = 25-≥30). The crosstabulations did not account for gender due to the small number of subjects available in each gender group of each ethnic group. Correlations were performed to examine the relationship of BMI, WC and %BF within groups. The level of significance for all statistical tests was set at 0.05. Statistical calculations were performed by using SPSS (Statistical Package for Social Science) for Windows, version 16.0.

### 4. RESULTS

Table 1 shows that there were no significant differences in age between Caucasian and Asian males. However there was a significant difference in age between Caucasian and Asian females. Caucasian males had a significantly higher BMI than females of the same ethnicity while the percentage body fat of Caucasian males was significantly lower than Caucasian females. Asian males and females did not significantly differ in their BMI while Asian females had a significantly higher body fat percentage than males. There were no significant differences in waist circumference between males and females of the same ethnicity.

Males of different ethnicities did not significantly differ in their BMI, %BF or waist circumference measurements. Female Caucasians had a significantly higher body fat percentage than female Asians while no significant differences were found in the BMI or the waist circumference of the two ethnic groups.

Relationships of BMI, %BF and waist circumference were explored in Caucasians and Asians males and females and in African males via Pearson's and Spearman's

correlations. BMI was positively correlated to %BF and WC in both Caucasians and Asians whereas BMI was only correlated to %BF in Africans (Tables 2, 3, 4).

**TABLE 2: CORRELATIONS BETWEEN % BF, BMI AND WC BETWEEN CAUCASIANS MALES AND FEMALES**

Accounting for gender								
	Caucasians				Asians			
	Males		Females		Males		Females	
	%BF	WC	%BF	WC	%BF	WC	%BF	WC
BMI (kg/m <sup>2</sup> )	r=0.748* P=0.001	r=0.600* P=0.18	r=0.890* P=0.000	r=0.779** P=0.000	r=0.757** P=0.002	r=0.572* P=0.41	r=0.837** P=0.001	r=0.889** P=0.000
%BF		r=0.569* P=0.27		r=0.748** P=0.000		r=0.668* P=0.13		r=0.784** P=0.004

\*Correlation significant at the 0.05 level (2-tailed).

\*\*Correlation significant at the 0.01 level (2-tailed).

**TABLE 3: CORRELATIONS BETWEEN % BF, BMI AND WC IN AFRICANS**

Africans		
	% BF	WC
BMI (kg/m <sup>2</sup> )	r = 0.951* P = 0.13	r = 0.859 P = 0.069
%BF		r = 0.728 P = 0.163

\*Correlation significant at the 0.05 level (2-tailed).

\*\*Correlation significant at the 0.01 level (2-tailed).

The above relationships arose when taking into account the gender of the subjects. When not accounting for gender differences %BF was not correlated to WC and BMI in Asians (Table 4). This was thought to occur due to the larger sample size in the dataset when both genders were combined. It therefore seemed reasonable to further test the relationships of the variables in question by the Cohen's Kappa test.

Cohen's Kappa test indicated that 100% of Asians that belonged to the underweight category were classified as underfat in the body fat category. However, 84.2% of the subjects with a normal BMI were categorized as healthy range in the body fat category while 10.5% of the normal weight subjects were classified as underfat and 5.3% were classified as obese according to their body fat. 25% of the overweight Asians had a body fat within the healthy range while 50% of the obese

subjects had a body fat percentage that corresponds to an underweight individual according to the body fat classification.

**TABLE 4: CORRELATIONS BETWEEN % BF, BMI AND WC IN CAUCASIANS AND ASIANS**

Not accounting for gender				
	Caucasians		Asians	
	%BF	WC	%BF	WC
BMI (kg/m <sup>2</sup> )	r= 0.419* P=0.33	r=0.785** P=0.000	r=0.242 P=0.168	r=0.757** P=0.000
%BF		r=0.468** P=0.21		r=0.131 P=0.469

\*Correlation significant at the 0.05 level (2-tailed).

\*\*Correlation significant at the 0.01 level (2-tailed).

In Caucasians 25% of the underweight subjects had a healthy body fat percentage while 14.3% of normal weight subjects had body fat percentage under the healthy range and 4.8% had body fat equivalent to an overweight individual. 75% of the overweight subjects as defined by the BMI tool had a healthy range body fat.

Fifty percent of the African subjects that were defined as overweight by the BMI were classified as healthy range in accordance with the body fat classification.

The cross-tabulation between the BMI dummy variable and the waist circumference showed that 7.7% of normal weight Caucasians was at risk whereas 71.4% of the overweight or obese Caucasians were not at risk according to their waist circumference. In Asians 66.7% of overweight or obese subjects were classified as healthy when using the WC as the assessment tool.

The Cohen's Kappa test provides the Kappa value which indicates with a value of 1 agreement between the assessment tools while a value of 0 indicates an agreement due to chance (Table 5). In this case the Kappa value indicates a weak agreement between the assessment tools in question with a value less than 1 in all groups while a stronger agreement in comparison to the other groups appears in Asian and African males.

The Kappa test indicates significant differences between the BMI and %BF assessment tools in Caucasians and Asians as well as between BMI and WC tools in Asians.

**TABLE 5: CROSS-TABULATION BETWEEN BMI - % BF AND BETWEEN BMI-WC IN CAUCASIANS, ASIANS AND AFRICANS**

BMI*BF cross-tabulation				BMI*WC cross-tabulation	
	Caucasians	Asians	Africans	Caucasians	Asians
Kappa	0.267	0.606	0.688	0.248	0.429
Approximate Significance	0.018*	0.000*	0.22	0.133	0.011*

\*Significantly different at 0.05 level.

## 5. DISCUSSION

Various studies have assessed the ethnic differences in body fat composition and BMI. A cross-sectional study examined the relationship between body fat percentage and body mass index (BMI) in three different ethnic groups in Singapore (Chinese, Malays and Indians) in order to evaluate the validity of the BMI cut-off points for obesity (Deurenberg et al, 2000). The authors report that %body fat for the Singaporean Chinese, Malays and Indians was under-predicted by BMI when an equation developed in a Caucasian population was used. It was also found that for the same amount of body fat as Caucasians who have a body mass index (BMI) of 30 kg/m<sup>2</sup> or above (cut-off for obesity as defined by WHO), the BMI cut-off points for obesity would have to be about 27 kg/m<sup>2</sup> for Chinese and Malays and 26 kg/m<sup>2</sup> for Indians. This current study found significant differences in percentage body fat between Asian and Caucasian females without a significant difference in BMI. This finding suggests that the weight to height relationship does not reflect the ethnic differences in body fat assessment.

Another study assessing the ethnic differences in the BMI-%BF relationship between Japanese and Australian-Caucasian males found that Japanese males had significantly ( $p < 0.05$ ) greater %BF for given BMI values than Australian-Caucasian males (Kagawa et al, 2003). The authors suggested that the newly proposed Asia-Pacific BMI classification of BMI  $> 23$  as overweight and  $> 25$  as obese would be more appropriate for assessing obesity and its related health risks in the Japanese population. Several other studies agree with the above findings (Sampei et al, 2001; Rush et al, 2004; Kagawa et al, 2006; Kagawa et al, 2007; Pan et al, 2008; Wen et al, 2008). This recent pilot study did not show significant differences in percentage body fat and BMI between the different male ethnic groups. However, the Asians had higher percentage body fat than Caucasians for the same BMI and Africans had the highest percentage body fat than all three male ethnic groups. The small sample of the pilot study may not have allowed for any significant differences to appear. However, it is apparent that the BMI cut-off points used to classify normal weight and overweight/obese Caucasian subjects, underestimated the body fat of the Asian male population of this study.



World Health Organization (WHO) and National Institutes of Health (NIH) have recommended classifying body fat percentages for ages 20-40 y for females and males as under 21%, 21-33%, 33-39%, over 39% and under 8%, 8-19%, 19-25%, over 25% respectively. Moreover the NIH recommended that BMI was categorised to underweight (less than 18.5), normal weight (18.5-24.9), overweight (25-29.9) and obese subjects (30 or greater).

Moreover, WC cut-off point has been set at 102 cm (40 in) and 88 cm (35 in) respectively for men and women respectively for identifying risk of cardiovascular disease (CVR) (NIH, 1998). However, this cut-off point has been recommended for Caucasian populations and studies examining whether this cut-off point is appropriate for populations from other ethnic groups are limited. One reported study evaluates a group of Colombian subjects to determine and evaluate the level of WC capable of identifying subjects with CVR. The study demonstrated a higher prevalence of CVR in the Colombian population at lower levels of WC than those suggested previously in Caucasians (Perez et al, 2003).

This study finds that Asians that are considered as normal weight on the BMI scale are actually classed as obese or underfat on the body fat recommendations. Moreover, Asians that belong to the healthy range in the body fat scale are considered overweight when taking into account the BMI recommendations and belong to the healthy range according to their waist circumference. Similarly, obese Asians according to the BMI classification are found to be underweight according to their body fat. Overweight Caucasians as defined by the BMI, fall into the healthy range body fat category while they also have a waist circumference that reflects not at risk subjects. Africans that have a healthy body fat are classified as overweight when using the BMI tool.

The findings of the current pilot study highlight that the health risk assessment tools are not in agreement and that according to which tool is used to determine obesity, a different decision could be made. The findings further emphasize the fact that the BMI and WC recommendations have been based on Caucasian populations and that these recommendations may not be appropriate for an Asian or an African population.

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## ANTIBIOTIC BIOSYNTHESIS BY MICROMONOSPORA SP. ISOLATED FROM DEWART ISLAND, ANTARCTICA

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### ABSTRACT

*Actinomycete strain 18 was isolated by the dilution spread plate method from ornithogenic antarctic soil in Dewart Island, East Antarctica. The culture was observed by classic taxonomical methods according to ISP and chemotaxonomic assay. The results gave a reason to consider the strain a member of genus Micromonospora. Its resistance to different antibiotics was studied. The high level of the sensitivity was established to the following antibiotics: erythromycin, chloramphenicol, tobramycin, tylosin and aminoglycoside antibiotics. Micromonospora sp. 18 produced antibiotic composed from 3 components active against Bacillus subtilis ATCC 6633, Bacillus idosus, Staphylococcus aureus 209P, Sarcina lutea.*

*Keywords: Antibiotic Biosyntheis; Micromonospora; East Antarctica.*

### 1. INTRODUCTION

In the last years the microflora of Antarctic regions has been studied more intensively as a source of new genera, species and biological active substances (Rainey et al., 1996; Reddy et al., 2000; Russell, 2000; Zechinon et al., 2001; Fernandes et al., 2002; Vasileva-Tonkova and Gesheva, 2005, Gesheva, 2008). The researchers have noted that the actinomycetes were scarce and usually the genus Streptomyces may be isolated more often then other actinomycete genera (Boyd et al., 1966; Greenfield, 1981; Broady et al., 1987; Rainey et al., 1996; Gesheva, 2005, 2008).

Although some authors observed the metabolic activities of Antarctic communities there is little known about antibiotic activity of Antarctic microorganisms especially actinomycetes (Siebert et al., 1996; Negoita et al., 2001; Onofri et al., 2000; De la Torre et al., 2003; Ivanova et al., 2001; Gesheva, 2005, 2008; Giudice et al., 2007).

The aim of this research is to investigate the features of the strain 18 and to study its antibiotic biosynthesis.

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## 2. MATERIALS AND METHODS

### *2.1. Strain and growth conditions*

Actinomycete strain 18 was grown in 500 ml Erlenmeyer flasks with 100 ml soya medium (SM) for 5 days on rotary shaker, 220 rpm at 37°C. The SM contained (g/l): glucose, 10; soya meal, 10; NaCl, 10; CaCO<sub>3</sub>, 1. Morphological and biochemical characteristics of the strain 18 were studied according to ISP methods. The cell amino acid composition was determined as described by Vasileva-Tonkova and Gesheva (2005). Resistance of the strain 10 to different antibiotics was observed on meat extract pepton agar at 37°C.

### *2.2. Enzyme assays*

$\alpha$ -amylase, protease and  $\beta$ -lactamase were performed to Gesheva and Gesheva (2000). DN-ase and RN-ase activities were carried out by using DN-ase and RN-ase tests. Keratinase or cellulase was detected by growth on agar supplemented with leather hydrolyzate at concentration of 0.3 % (w/v) or paper strip in mineral medium of Hutchinson.

### *2.3. Antibiotic determinations*

Antibiotic activities of cultural broths and extracts were assayed by agar diffusion method against test cultures *Bacillus subtilis* ATCC 6633, *Escherichia coli*, *Candida utilis*, *Cladosporium cladosporoides*. The mycelia harvested by centrifugation were extracted by methanol. Extracts were evaporated at reduced pressure to dryness and residues were dissolved in methanol. Thin-layer chromatography was carried out on silica gel 60F<sub>254</sub> with available solvent systems. The bioautography was performed with test cultures *B. subtilis* ATCC 6633 and *Candida utilis*.

## 3. RESULTS AND DISCUSSION

### *3.1. Features of actinomycete strain 18 and its taxonomical determinations*

The strain 18 was isolated from ornithogenic soil in Dewart Island (Frazier Islands), East Antarctica. It is known that the similar soils are rich with organic matter and they especially they contained increased amounts of P, N, Ca and Mg (Beyer et al., 2000). Culture 18 was thermotolerant and might grow from 22 to 44°C.

**TABLE 1: FEATURES OF THE STRAIN 18.**

Test	Property
Colour of aerial mycelium	none
Colour of substrate mycelium	sandy to brown
Temperature optimum	37°C
Temperature growth range	22-44°C
Formation of melanin	none
Production of soluble pigment	none
Cell wall aminoacid	meso-DAP

**TABLE 2: BIOSYNTHETIC ABILITIES OF THE STRAIN 18.**

Characteristic	Activity
<b>Antibiotic activity against:</b>	
Bacillus subtilis ATCC 6633	+
Staphylococcus aureus 209P	+
Escherichia coli	-
Candida utilis	-
Cladosporium cladosporoides	-
<b>Enzymatic activity:</b>	
$\alpha$ -amylase	+
Protease	+
Cellulase	-
Keratinase	+
DN-ase	+
RN-ase	+
$\beta$ -lactamase	+

+, positive; -, negative

It did not form aerial mycelium (Table 1). Substrate mycelium varied from sandy to brown colour and formed single spores. Actinomycete culture 18 had antibacterial activity against Gram positive bacteria and produced some enzymes (Table 2). Cell wall amino acid assay showed that the strain 18 contained meso-diaminopimelic acid (meso-DAP) which gave a reason to assume that culture may be considered a representative of the genus *Micromonospora*.

Strain *Micromonospora* sp. 18 is sensitive to aminoglycoside antibiotics, macrolides and resistant to ampicillin (Table 3). Actinomycete strain 18 was weakly sensitive to penicillin and related antibiotics.

### 3.2. Antibiotic biosynthesis by *Micromonospora* sp. 18

Preliminary investigations established that the strain 18 had antibiotic activity against Gram positive bacteria in solid and liquid media. The methanol extract had no antibacterial activity. After acidification to pH 3 the extract restored its antimicrobial activity. Different solvent systems were used (Table 4) for detection of the antibiotic. It was established that the systems 6 and 7 were more favourable for dividing the antibiotics in three spots. It was detected visualized by authography with *Bacillus subtilis* ATCC 6633. It was found that the spraying with 1 % ninhydrine in ethanol and heating at 110°C for 3 min. Also may be used to visualize the antibiotic. It was effective against Gram positive bacteria *B. subtilis* ATCC 6633, *B. idosus*, *B. pseudoanthracis*, *B. mesentericus*, *Sarcina lutea*, *S. citrina*, *Staphylococcus aureus* 209P. The results showed that the Antarctic soils presented a potential for actinomycetes producers of antibiotics.

**TABLE 3: INHIBITION OF THE STRAIN MICROMONOSPORA 18 BY ANTIBIOTICS**

Antibiotic	µg/ml	mm
Penicillin	10	8
Ampicillin	10	0
Oxacillin	10	14
Carbenicillin	100	12
Nalidix acid	10	0
Novobiocin	10	6
Bacitracin	10	8
Erythromycin	15	30
Chloramphenicol	30	34
Tetracycline	30	22
Tylosin	20	38
Apramycin	20	28
Tobramycin	20	40
Gentamicin	30	38
Kanamycin	30	30

**TABLE 4:** RF-VALUES OF THE ANTIBIOTIC FROM  
MICROMONOSPORA SP. 18

N	Solvent system	RF
1	Acetone:methanol 1:1	0.22
2	Chloroform:methanol 19:1	0.14
3	Chloroform:methanol:ammonia 40:20:20	0
4	Ethanol:water 70:30	0.30
5	Chloroform:methanol:water 65:25:4	0.13
6	n-Butanol:acetic acid:water 60:25:15	0.59; 0.64; 0.71
7	n-Butanol:ethanol:chloroform:ammonia 4:5:2:5	0.22; 0.26; 0.58

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## EXPERIMENTAL STUDY OF LOCAL SELECTION ON EVOLUTIONARY COURSE TIMETABLING

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### ABSTRACT

*Course timetabling is a multi-dimensional NP-Complete problem encountered virtually in every educational institute throughout the world. Evolutionary Algorithms (EAs) have been applied to the course-timetabling problem since early 90s. Solving this problem with EAs, selection traditionally operates on the entire population. This paper studies the effects of local selection EAs on the course-timetabling problem. Here the decision for parent choice is performed locally only. Local selection algorithms operate in parallel on small overlapping neighbourhoods. We tested a lot of different configurations in order to enhance our understanding of the effects of neighbourhood size and shape.*

*Keywords: Local Search; Evolutionary Algorithms; Course Timetabling.*

### 1. INTRODUCTION

The problem of creating the proper course timetable can be viewed as a multi-dimensional assignment problem in which students, teachers (or faculty members) are assigned to courses, course sections or classes; events (individual meetings between students and teachers) are assigned to classrooms and times. Problem definition and terminology varies from one institute to another (Carter and Laporte, 1998). The timetable must satisfy a number of constraints that concern the capacity and suitability of the rooms, the availability and suitability of the instructors, the relation with other courses, etc.

There have been several attempts to solve this type of problem with Evolutionary Algorithms (EAs) (Adamidis and Arapakis (1999); Burke, Newall, and Weare (1996); Paechter et al. (1998); Paechter, Rankin and Cumming (1994); Ross, Corne and Fang (1994)).

Selection in EAs usually operates globally on the entire population. In nature, we rarely find global mating pools. This leads to the introduction of a continuous population structure that is a population of uniformly distributed individuals over a geographic region, which might be linear, planar or spatial. In this context, the selection of parents for recombination and the selection of individuals for survival are restricted to a neighbourhood i.e. geographically nearby individuals. Genetic

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information propagates through overlapping neighbourhoods and thus this model is also referenced as *diffusion model* to reflect this process. They're also referred as *finely-grained* or *massively parallel EAs* since they can be easily implemented on a massively parallel system.

Diffusion models have already been introduced in EAs; some examples of these can be found in Collins and Jefferson (1991); De Jong and Sarma (1995); Gorges-Schleuter (1998); Sarma and De Jong (1996, 1997). Besides their nice properties concerning parallelization, the local selection EAs have a different behaviour compared to their global selection counterparts. It is claimed that they promote global diversity and especially in those cases where we have a multi-modal, nonlinear environment, they frequently give better results (Collins and Jefferson (1991); (Gorges-Schleuter (1998)).

In order to implement such systems one must decide on the neighbourhood size, its shape, and the particular selection algorithm to be used. Only little research has been done on diffusion models applied to timetabling problems. For example, Turner et al. (1996) describe the "tribe method", a system that improves the efficiency with which an EA can obtain multiple distinct solutions to a timetabling problem.

## 2. PREVIOUS WORK ON EVOLUTIONARY COURSE TIMETABLING

The basic element of a course timetabling problem is a set of events  $E = \{e_1, e_2, \dots, e_n\}$ . There is also a set of times  $T = \{t_1, t_2, \dots, t_s\}$ , a set of places  $P = \{p_1, p_2, \dots, p_m\}$ , and a set of 'agents'  $A = \{a_1, a_2, \dots, a_t\}$ . Each member of  $E$  is a unique event requiring assignment of a time, a place, and an agent (lecturer, tutor, technician etc.). An *assignment* is a four-tuple (e,t,p,a) such as  $e \in E$ ,  $t \in T$ ,  $p \in P$ , and  $a \in A$ , with the interpretation "event  $e$  starts at time  $t$  in place  $p$  involving agents  $a$ ". A lecture timetable is simply a collection of  $n$  assignments, one for each event. The problem is to find a timetable that satisfies, or minimally violates a collection of constraints (Ross, Corne and Fang (1994)).

There are several kinds of constraints, the most common being an 'edge constraint' between two events, which states that a given pair of events must not overlap in time. There are several other kinds of constraints such as unary, capacity, and agent constraints (Corne, Ross and Fang (1994); Ross, Corne and Fang (1994)).

In applying an EA to a problem, central considerations are the choice of representation, the design of the fitness function and the genetic operators used to evolve the population.

There are essentially two different types of representation that have been used in evolutionary timetabling. The direct representation which encodes the actual timetable, where an individual is a vector of symbols  $n \times e$ , where  $e$  is the number of events and  $n$  is the number of genes for each event (Corne, Ross and Fang (1994); Ross, Corne and Fang (1994)). The implicit representation, on the other hand, encodes

a set of instructions as to how the timetable should be built (Corne, Ross and Fang (1994); Ross, Corne and Fang (1994)).

The algorithm used has its origins in our work presented in Adamidis and Arapakis (1999), in which we used a “panmictic” population. The problem remains the same i.e. the course timetable of the Dept. of Informatics of Alexander TEI of Thessaloniki.

In brief, each individual represents an entire weekly timetable and is initially assigned random values within some range. An individual is an array  $n \times e$ , where  $e$  is the number of events and  $n$  is the number of genes for each event. There are 180 different events to be scheduled (columns of the array). An individual may be created using both recombination and mutation, one of them, or no operator at all. We use multiple-point recombination and the number of cutting points depends on the number of events. The mutation operator used has the advantage of avoiding creating unfeasible solutions. It replaces the value of a gene with some allelic value within the proper range. We have also used elitism.

### 3. LOCAL SELECTION EVOLUTIONARY ALGORITHMS

One way to think of the local selection methods is that they introduce a rather crude distance bias in which individuals within the neighbourhood are “visible” and those outside “invisible” from the point of view of interaction. One can imagine other forms of distance bias in which the probability of interaction decreases as a function of the distance. This induces both a neighbourhood size and shape.

There is a variety of local selection EAs that have been proposed and studied (see, for example Collins and Jefferson (1991); De Jong and Sarma (1995); Gorges-Schleuter (1998); Sarma and De Jong (1996, 1997)). In these EAs the population is distributed over a grid-like topology, and selection, mating, reproduction, etc. operate in a distributed fashion within local overlapping neighbourhoods. These spatially structured EAs behave quite differently from the more familiar and better understood “panmictic” EAs where interactions are allowed between any individuals. The main source of these differences is due to the effects of local (rather than global) selection (Sarma and De Jong (1996, 1997)).

We assume a two-dimensional toroidal grid as the spatial population structure. Each grid point contains one individual of the population. The EA selects parents from the neighbourhood of that grid point in order to produce offspring, which replace the current individual assigned to that grid point. The overlapping neighbourhoods offer a means for migration of genetic information throughout the whole population. The amount of overlap (and as a result the flow of information) is a function of the neighbourhood size and shape.

**FIGURE 1: NEIGHBOURHOOD SHAPES**

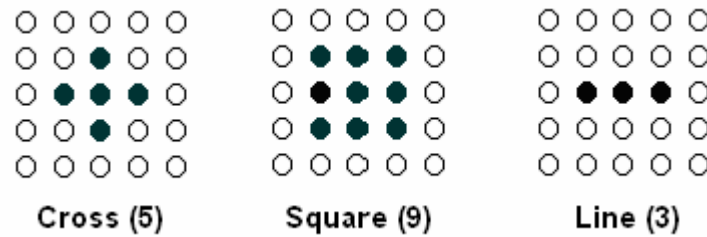


Figure 1 illustrates three neighbourhood shapes used in this paper. The number in parenthesis gives the size of the neighbourhood. We used several neighbourhood sizes ranging from 5 to 19 for cross-shaped neighbourhoods, 9 to 100 for square-shaped and 3 to 10 for line-shaped neighbourhoods.

The selection methods used on the local neighbourhoods are typically the same ones used for “panmictic” EAs. In this paper we use tournament selection.

#### 4. IMPLEMENTATION AND EXPERIMENTAL RESULTS

##### 4.1. Implementation

Some problem constraints have already been encoded in the representation of the problem (Adamidis and Arapakis (1999)). The constraints used and the penalty values for each constraint violation are given in Table 1. A view of the interface and the whole set of available constraints (some of them used and some not) are shown in Figure 2.

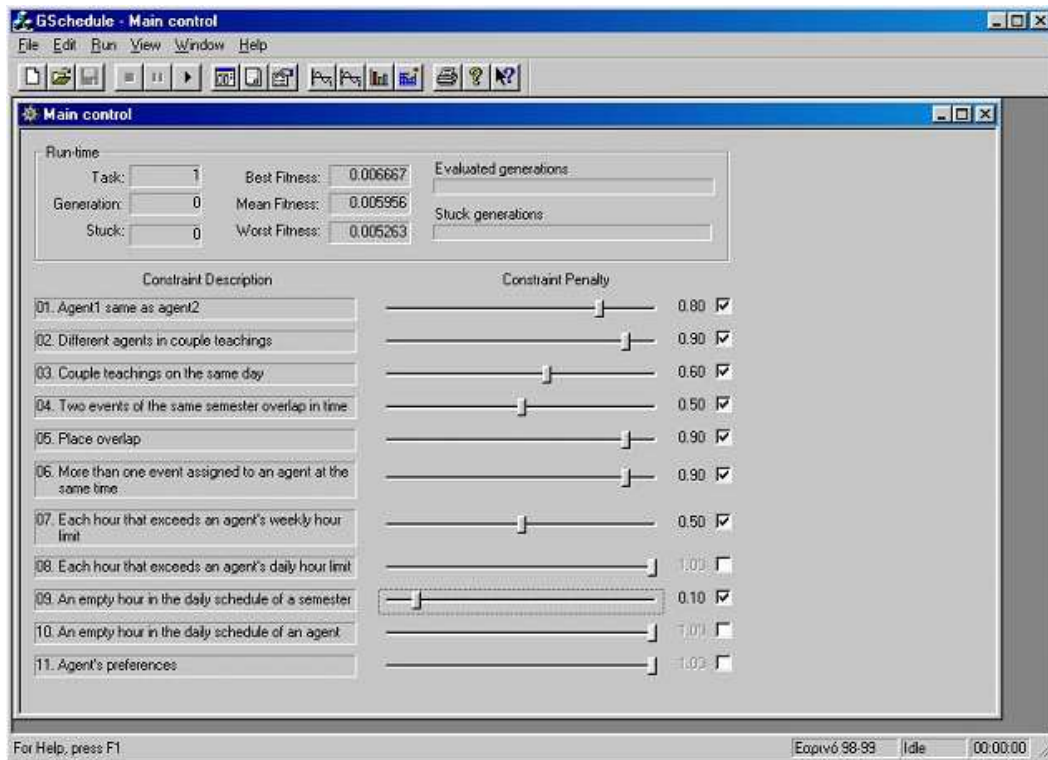
The algorithm terminates when a number of generations is completed, when the global optimum is reached (i.e. no constraints are violated), or when the best individual is not improved for a certain number of generations. In all our experiments the algorithm terminates when the best individual does not improve for 500 generations.

We use integer-valued encoding of each gene, with values within some range. The genetic operators used are recombination and mutation. We also use multiple-point recombination. The mutation operator used here replaces the value of a gene with some allelic value within the proper range for the specific assignment. More on the representation and the operators used in this paper, as well as on the evaluation function can be found in Adamidis and Arapakis (1999).

**TABLE 1: CONSTRAINTS AND PENALTY VALUES**

Description	Penalty values (0-1)
Agent 1 is the same as agent 2	0.8
Different agents in couple teachings	0.9
Couple teachings on the same day	0.6
Two events of the same semester overlap in time	0.5
Place overlap	0.9
More than one event assigned to an agent at the same time	0.9
Each hour that exceeds an agent's weekly hour limit	0.5
An empty hour in the daily schedule of a semester	0.1

**FIGURE 2: THE USER INTERFACE**



The neighbourhood shapes that we used here as mentioned earlier are: Cross, Square, and Line (see Figure 1). For each shape we used 8 different sizes (24 different neighbourhood configurations):

- Cross: 5, 7, 9, 11, 13, 15, 17, 19
- Square: 9, 16, 25, 36, 49, 64, 81, 100
- Line: 3, 4, 5, 6, 7, 8, 9, 10

**FIGURE 3: SETTING NEIGHBORHOOD SHAPE AND SIZE**

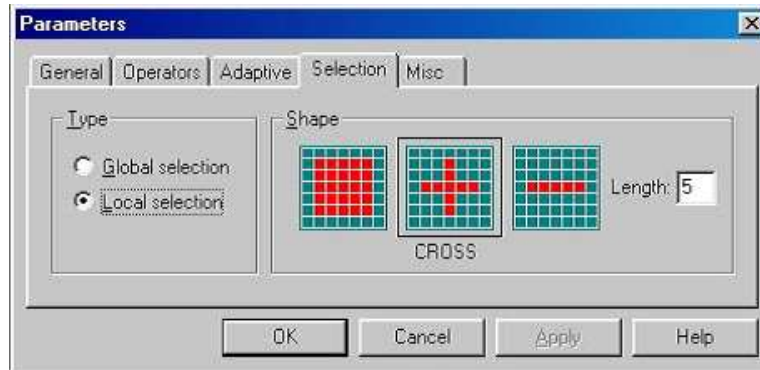


Figure 3 shows the programming interface that allows us to choose the neighbourhood shape and size. For each neighbourhood configuration we used 4 different recombination and mutation rates. Table 2 gives the different operator configurations.

**TABLE 2: CONFIGURATIONS OF OPERATOR RATES**

Rate configuration	Mutation	Recombination
1	0.2	0.8
2	0.4	0.6
3	0.6	0.4
4	0.8	0.2

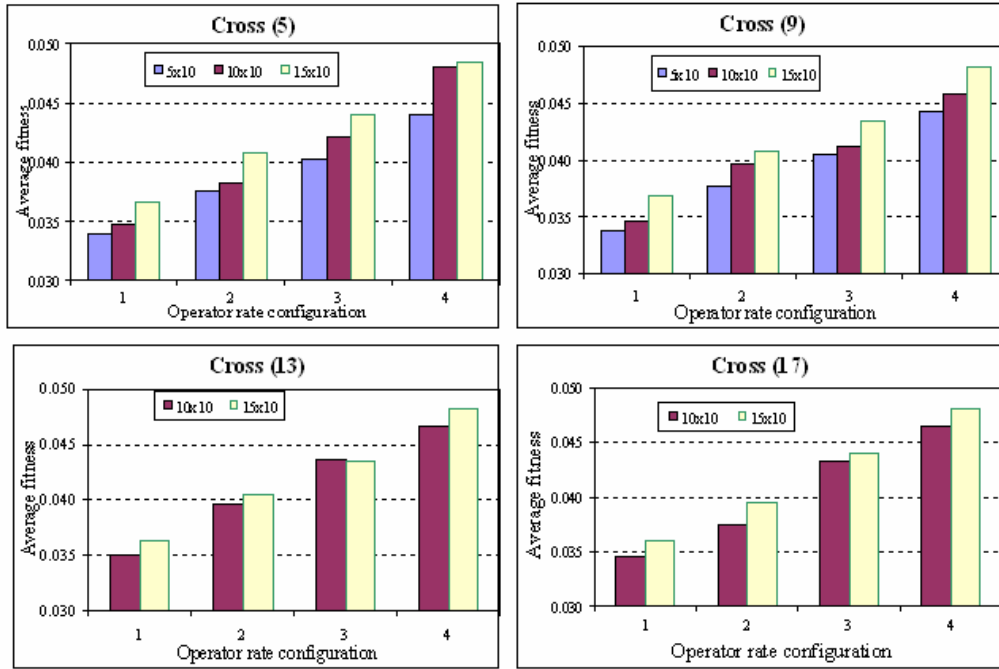
#### 4.2. Experimental results

We used three different population sizes: 50, 100, 150 individuals. (The population size with 50 individuals can be tested only for the first three neighbourhood sizes).

The results from the different local selection configurations are compared with the global selection (“panmictic”) algorithm.

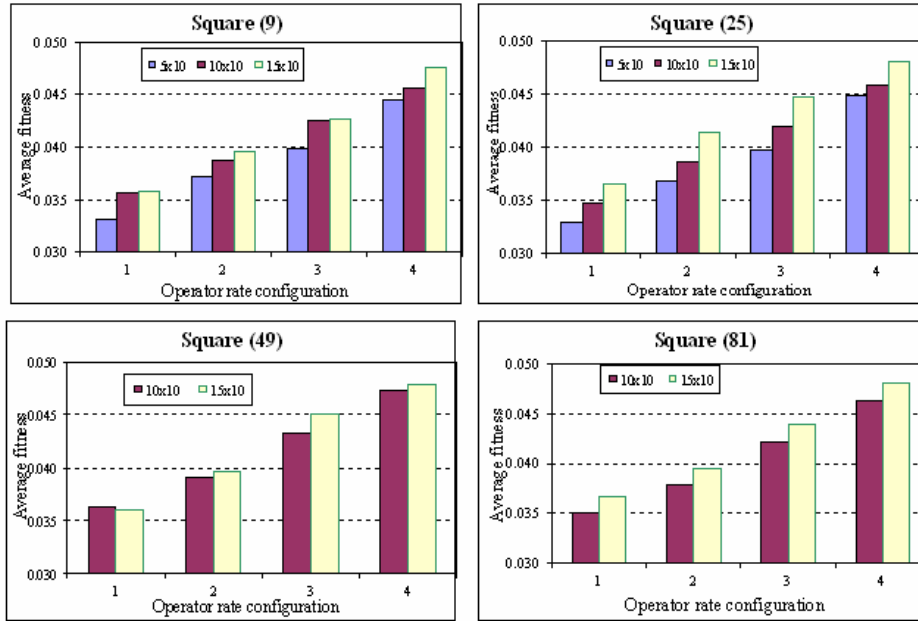
Figures 4, 5, and 6 show the effect of different operator rates and different population sizes on the behaviour of the three neighbourhood shapes, for half of the used neighbourhood sizes. The behaviour is the same for the rest neighbourhood sizes as well. The results are the average of 50 runs. We observe that we get better results with the fourth operator rate configuration, which has a high mutation rate and a small recombination probability. This agrees with the behaviour of the global selection algorithm (“panmictic” population), which has also been reported by Adamidis and Arapakis (1999). Better results are also obtained using the bigger population size with 150 individuals.

**FIGURE 4: BEHAVIOR OF THE CROSS SHAPED NEIGHBORHOOD**





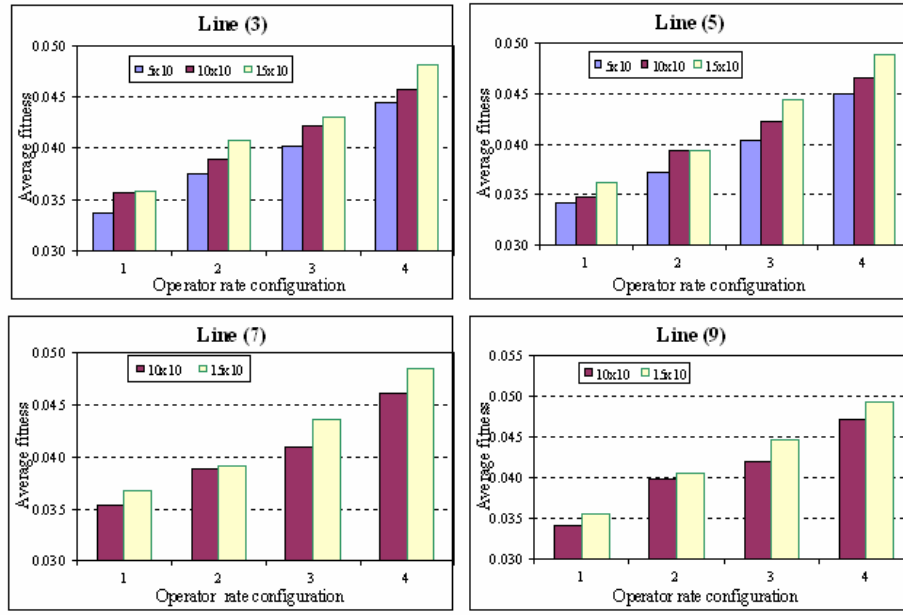
**FIGURE 5: BEHAVIOR OF THE SQUARE SHAPED NEIGHBORHOOD**



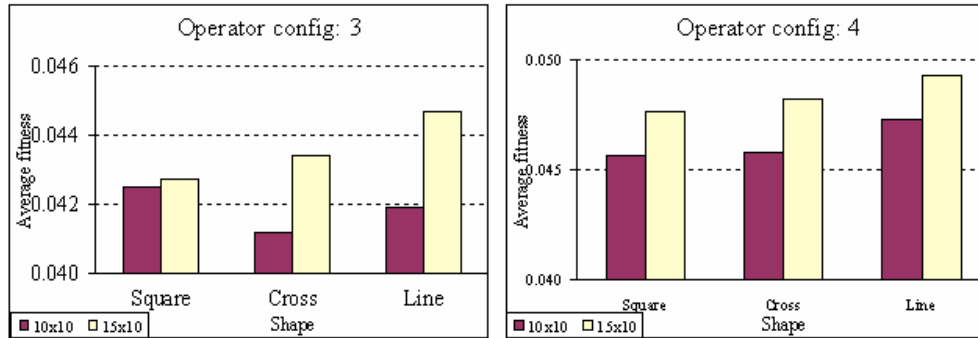
A question that we can ask is: “Is it better to use dense or sparse neighbourhood shapes?” Figure 7 illustrates the behaviour of the three neighbourhood shapes with the same size (9 individuals), for the two operator rate configurations with best performance (i.e. 3 and 4), and for two population sizes (100 and 150 individuals). We observe that the average performance of sparse neighbourhood shapes is better since line neighbourhood has a better performance than cross and square shaped neighbourhoods. The densest shape (square) has the worst performance.

Another issue is the neighbourhood size. Our results (Figure 8) show no clear advantage of the use of a large or small neighbourhood size, and this is true for all neighbourhood shapes either sparse or dense. Even more, local selection algorithms do not show a better performance over global selection algorithms on the timetabling problem.

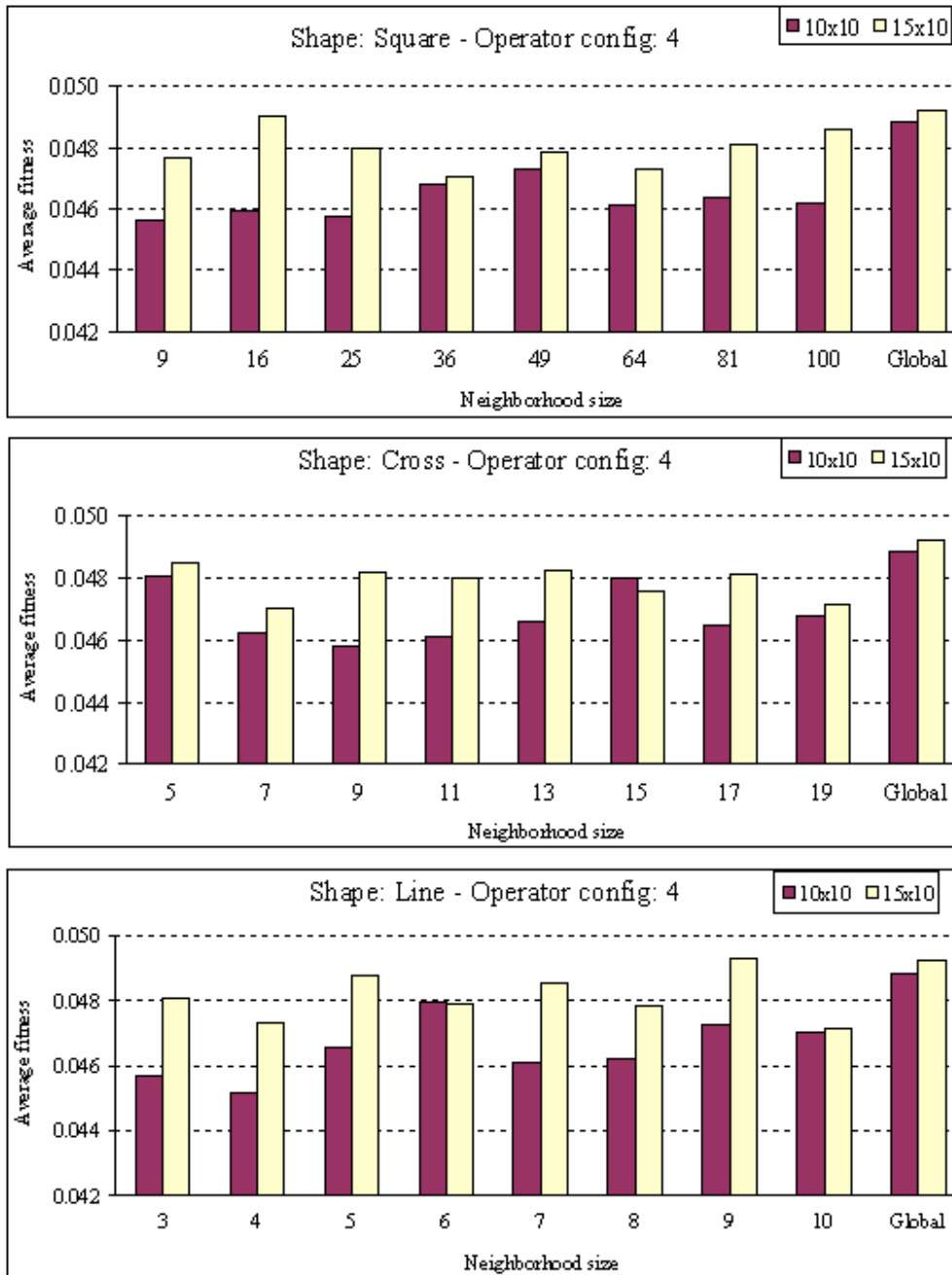
**FIGURE 6: BEHAVIOR OF THE LINE SHAPED NEIGHBORHOOD**



**FIGURE 7: BEHAVIOR OF DIFFERENT SHAPED NEIGHBORHOODS USING BEST OPERATOR RATES**



**FIGURE 8: EFFECT OF NEIGHBORHOOD SIZE**



## 5. DISCUSSION

This paper presents an experimental study of the effects of local selection EAs on a real course timetabling problem using three different neighbourhood shapes (square, cross and line). Selection is usually studied alone i.e. no mutation or recombination is active. In this paper we have also studied the effects of different operator configurations on the different local selection schemes. We tested a lot of different genetic operator probabilities. Our results indicate that it is better to use a high mutation rate and a small recombination probability and this holds for all three neighbourhood shapes and all neighbourhood sizes that we have studied.

The analysis of the three local selection neighbourhood shapes, suggest the use of sparser neighbourhood shapes. Of the three neighbourhood shapes studied, the line shaped neighbourhood appears to have the best performance.

The analysis of our results on the neighbourhood size is not clearly in favour of a large or small neighbourhood size. This is something that seems to need more experimentation.

In this paper we used constant mutation rate and recombination probabilities. An interesting open question is what the effect of adaptive operator probabilities on the performance of the different neighbourhood shapes and sizes will be. In addition, it would also be interesting to experiment on the effects of population re-initialization to local selection.

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## JOB SATISFACTION AMONG DANCE AEROBIC INSTRUCTORS

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### ABSTRACT

*The purpose of this study was a) to evaluate the job satisfaction of Physical Education teachers who work as dance aerobic instructors in private or municipal centres and b) to investigate whether the factors 'sex', 'private or municipal centres' and 'professional stability' differentiate the levels of job satisfaction. The sample consisted of 207 (66 men and 141 women) aerobic instructors from Greece all of whom were employed in private fitness centres (N=108) and municipal centres (N=99). The results showed statistically important differences for both work environment and professional stability, while there were no statistically important differences because of sex. Dance aerobic instructors who work both in private and municipal centres, appear to be satisfied with the internal factors of their job and dissatisfied with the external factors.*

*Keywords: Pay; Promotion; Job Itself; Supervision; Organization as a Whole; Dance Aerobic Instructors.*

### 1. INTRODUCTION

Undoubtedly, work plays a prominent role in people's life. In addition to occupying a lot of their time, it also provides them with the financial means to ensure their lives. Thus, the work environment of employees should be attractive and contribute to their satisfaction. It is believed that job satisfaction may influence various aspects such as efficiency, productivity, absenteeism and intention to quit (Maghradi, 1999).

It is, therefore, justifiable that job satisfaction has been the subject of various studies in management and Managerial Psychology (Chelladurai, 1999), which is defined as "the total of emotions experienced by an employee while at work, in combination with past experiences, present expectations and alternative moods" (Balzer, Smith, Kravitch, Lovell, et al., 1990). From earlier periods (Roethlisberger, 1941) to today (Jhalukpreya and Chunderpaul, 2005), researchers have dealt with the multi-dimensional concept of job satisfaction for both individual reasons, since it is connected to the physical and psychological health of employees (Balzer et al., 1990) and managerial reasons, since it can influence the professional behavior of employees towards customers.

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The study of job satisfaction is concerned with the factors causing satisfaction or dissatisfaction. Chelladurai (1999) reports that the factors offering job satisfaction to coaches and athletic trainers are mainly financial, moral and humanitarian. Consequently, the investigation of job satisfaction in the athletic field is very important. The findings of various researches have connected job satisfaction to efficiency in the work environment, constant presence, and absence of mistakes and good relationships among fellow-workers.

A lot of researchers have focused on the study and application of two distinctive directions: the satisfaction of employees and the satisfaction of customers. The satisfaction of employees has been a very popular subject of study, since it is considered as one of the main factors, which influence productivity, absenteeism and intention to quit (Koustelios and Kousteliou, 1998), as well as the buying behavior of customers (Kotler, 1991).

Likewise, in the area of athletics, researchers seem to focus on the above two directions, producing a great number of studies, in relation to the satisfaction of both employees and customers, which investigated various groups of employees like coaches (Li, 1993) and (Pastore, 1993), Physical Education Teachers (Danylchuk, 1993) and (Koustelios and Kousteliou, 1998) and executives of athletic organizations (Koehler, 1988) and (Koustelios, Kellis and Bagiatis, 1999).

Despite the big number of researches about job satisfaction in general, there are very few studies concerning the job satisfaction of physical education teachers who work in private or public centres as dance aerobic instructors and who are very important for the application of any athletic program or activity. Dance aerobic instructors guide, train and entertain participants, offering a sense of euphoria (Claxton and Lacy, 1991). Also, Scarff-Olson, Williford, Blessing and Brown (1996), support that the instructors of this activity are unique, not only methodologically, but also because they are personally involved in the execution of the program.

The aim of the present study was a) to evaluate the job satisfaction of physical education teachers, who work as dance aerobic instructors, in private or municipal centres at programs like "Sport for all", and b) to investigate whether the factors 'sex', 'private or municipal centres' and 'professional stability' differentiate the levels of job satisfaction.

## 2. METHODS

### *2.1. Sample*

The subjects of the present study were physical education teachers, who were specialised in aerobic dance exercise. The Questionnaire (ESI) was distributed to 290 physical education teachers, who were employed as aerobic dance instructors in health fitness centres in the region of Athens, Greece. A total number of 230 questionnaires

were completed by instructors and were sent back. Twenty three out of these questionnaires were not included in the study because they were half completed and sixty more, were not sent back. The remaining 207 questionnaires were the sample of this study. All the teachers who filled in the questionnaires were employed as aerobic dance instructors in private fitness centers (N=108) and in “Sport for all” programs in municipality centers (N=99). The participants were 66 men (31.9%) and 141 women (68.1%). Furthermore, 117 (56.5%) of these instructors were permanently employed, while 90 (43.5%) were part-time employees. Their ages ranged from 21 to 38 years and their mean age was 29.7 years ( $SD \pm 6.3$ ).

## *2.2. Instruments*

To measure job satisfaction, the Employee Satisfaction Inventory (ESI) was used (Koustelios, 2001) and (Koustelios and Bagiatas, 1997). This inventory measures an employee's satisfaction with six aspects of his or her job:

1. Working conditions: five items ('for example, best I ever had');
2. Pay: four items ('for example, 'paid for what I do');
3. Promotion: three items ('for example, 'good opportunities');
4. Job itself: four items ('for example, 'my job is worthwhile');
5. Supervision: four items ('for example, 'my supervisor stands up for me');
6. Organization as a whole: four items ('for example, 'the organization looks after its employees).

Researchers informed all subjects that their participation was completely voluntary and that individual responses would be held in strict confidence. Respondents were instructed to indicate the extent of their agreement with each item on a five-point scale ranging from strongly disagree (1) to strongly agree (5). To the above Inventory, extra questions were added, requesting information over demographic and physical data, years of working experience, frequency and duration of aerobic dancing.

## *2.3. Statistical methods*

For the statistical analysis of the data, the method used was the analysis of frequencies, reliability analysis, correlation and multivariate analysis of variance (MANOVA) from the SPSS 11.0 statistical package. The aim was to investigate the level of job satisfaction among aerobic dance instructors in Greece, and to determine any differences in relation to the job environment (private or municipal centres), the professional stability (permanent or part-time job)) and the sex (men or women). The level of statistical significance was set at  $p < .05$ .



### 3. RESULTS

The internal consistency of the scales that was used in this study was measured with Cronbach's  $\alpha$  coefficients. The fluctuations were: .74 for the 'working conditions' subscale, .85 for the 'pay' subscale, .77 for the 'promotion' subscale, .90 for the 'job itself' subscale, .88 for the 'supervision' subscale and .82 for the 'organization as a whole' subscale. Reliability coefficients were similar to those found in previous studies using the ESI (Koustelios, 2001). The means, standard deviations and Pearson correlation coefficients regarding satisfaction of aerobic dance instructors with specific aspects of their job are presented in Table 1. Dance aerobics instructors appear to be satisfied mainly with the job itself ( $M=3.95$ ), and the supervision ( $M=3.95$ ) while there is less satisfaction with their working conditions ( $M=3.64$ ). In contrast, they were dissatisfied with their salaries ( $M=2.80$ ), opportunities for promotion ( $M=3.17$ ), and organization as a whole ( $M=3.36$ ).

Multi-variance analysis (MANOVA) was performed, with the six factors of job satisfaction as depended variables and sex (men-women), job environment (private – municipal centres) and the professional stability (permanent or part-time job) as independent variables, to examine any possible differences among the factors of the questionnaire and the employees' job satisfaction.

Results indicate that, there was no statistically important interaction for the independent variables (sex \* professional stability \* job environment), or any differences because of (sex \* professional stability) and (sex \* job environment). On the contrary, there was a statistically important interaction for both independent variables: professional stability and job environment (*Wilks' Lambda* = .909,  $F_{6, 194}=3.92$ ,  $p < .01$ ). More specifically, the LSD test revealed statistically important differences in the 'working conditions' factor in relation to part-time job,  $F_{1, 199}=5.87$ ,  $p < .05$ , with the employees of private centres presenting higher scores ( $M=3.99$ ,  $SD=.97$ ) than those who worked in municipality centres ( $M=3.24$ ,  $SD=.79$ ).

There were also statistically important differences in the 'promotion' factor ( $F_{1, 199}=10.61$ ,  $p < .01$ ), and in the 'organization as a whole' factor ( $F_{1, 199}=9.48$ ,  $p < .01$ ) in relation to professional stability (permanent job) and job environment (private or municipal). Those who had a permanent job in private centres presented higher means in the 'Promotion' and 'Organization as a whole' factors than those who worked in municipal centres, both permanent and part-time (Table 2).

**TABLE 1: MEANS, STANDARD DEVIATIONS AND CORRELATION OF ASPECTS OF JOB SATISFACTION**

	M	SD	1	2	3	4	5	6
<b>Working conditions</b>	3.64	.80	1.00					
<b>Pay</b>	2.80	1.13	.203**	1.00				
<b>Promotion</b>	3.17	1.04	.501**	.504**	1.00			
<b>Job itself</b>	3.95	0.84	.346**	.344**	.505**	1.00		
<b>Supervision</b>	3.99	0.86	.492**	.179**	.427**	.375**	1.00	
<b>Organization as a whole</b>	3.36	0.94	.536**	.445**	.707**	.556**	.600**	1.00

Note: \*\*  $p < .01$

**TABLE 2: MEANS AND STANDARD DEVIATIONS OF JOB ENVIRONMENT AND PROFESSIONAL STABILITY IN RELATION TO THE SIX FACTORS OF THE EMPLOYEE'S SATISFACTION INVENTORY**

	Permanent Job				Part-time job			
	Private centre		Municipal centre		Private centre		Municipal centre	
	M	SD	M	SD	M	SD	M	SD
<b>Working conditions</b>	3.85	.73	3.40	.80	3.99*	.97	3.34*	.79
<b>Pay</b>	3.12	1.15	2.93	1.33	3.10	0.93	2.46	1.02
<b>Promotion</b>	3.63**	0.89	2.60**	1.11	3.25	1.05	2.71	0.98
<b>Job itself</b>	3.53	0.77	4.30	0.45	4.05	0.82	3.69	0.96
<b>Supervision</b>	4.03	0.78	3.57	0.89	3.60	1.36	3.94	0.88
<b>Organization as a whole</b>	3.88**	0.79	2.96**	0.74	3.63	1.03	3.21	1.01

Note: \*  $p < .05$ , \*\*  $p < .01$

#### 4. DISCUSSION

The results of the present study, as regards job satisfaction among physical education teachers who work as dance aerobic instructors in private and municipality centres, revealed that the teachers were satisfied mainly with their job itself (M. =3.95) and the supervision (M. =3.99) and less satisfied with the working conditions and the organization as a whole. In contrast, they were dissatisfied with their salary and the promotional opportunities. These findings are in line with the results of Oshagbemi (1999), who found that UK academics appeared to be generally satisfied with their job itself, physical conditions/working facilities and supervision and not satisfied with their salary and promotional opportunities. Koustelios and Kousteliou (1998) reported similar findings regarding job satisfaction among teachers in primary and secondary schools in Greece and Koustelios, Theodorakis and Goulmaris (2004), among

physical education teachers in Greece. They found that teachers were satisfied with the job itself and the supervision, but were dissatisfied with their salary and promotional opportunities.

There were also statistically important differences concerning those who had a permanent employment in private centres, since they appeared more satisfied with the organization as a whole and the promotional opportunities than those who worked in municipal centres.

The dissatisfaction of the municipal employees may derive from the particular nature of their working relationship, since they sign annual contracts, which they have to renew, losing thus, their opportunity for promotion. In addition, every Municipality has different rules and regulations as well as various qualification criteria, which are not always accurate. Similar studies have shown that the lack of administrative support and organization had a negative impact in relation to job satisfaction (Wallace and Weese, 1995) and (Snyder, 1990). The General Secretariat of Sports in Greece should provide all Municipalities with a central framework concerning the personnel management for the programs "Sports for all". As Doherty (1998) underlines, job satisfaction is a definitive factor for human resource effectiveness and wider organization success.

As concerns sex, the findings of the present study did not reveal any statistically important differences between men and women. The results of similar studies about job satisfaction and sex do not seem to be in agreement (Smucker and Whisenant, 2005).

Pastore (1993), in one of her researches found that despite the similarities in job satisfaction for both sexes, men declared less satisfied with their salary than women, although the money was the same. Nevertheless, Herrera and Lim (2003) found that men coaches were more satisfied than women coaches, concerning their salary. Witt and Nye (1992) supported that there were no differences between men and women, although women are more likely to have fewer promotional opportunities, lower salaries and lower posts (Brush, Moch, and Pooyan, 1986).

The above findings support the conclusion that dance aerobic instructors who work both in private and municipal centres, appear to be satisfied with the internal factors of their job and dissatisfied with the external factors. According to Herzberg (1987), the improvement of working conditions (acknowledgement, salary, organization etc) is expected to increase job satisfaction.

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## BUSINESS PROCESS REENGINEERING THROUGH BUSINESS PROCESS SIMULATION: A CASE STUDY

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### ABSTRACT

*This work was conceived during a period of continuous change in the global business environment. Corporations are undergoing massive restructuring. Global competition, sluggish economies and the potential offered by emerging technologies are pushing firms to fundamentally rethink their business processes. A lot of firms prescribed Business Process Reengineering (BPR) as a means to restructure processes in an attempt to achieve the strategic objectives of increased efficiency, reduced costs, improved quality and greater customer satisfaction. Among the technology-oriented consultants and business academics there is a general sense of great opportunity in the air. The opportunity is to apply information technology to the redesign of business processes. The aim of this paper is to show the value of using BPR through Business Process Simulation (BPS). Such a project was developed in British Petroleum (BP) installation in Greece.*

*Keywords: Business Process Reengineering; Business Process Simulation; Information Technology; Business Process Change; Petrochemical Industry.*

### 1. INTRODUCTION

An approach for radical improvement in materials management of BP's main installation in Greece through BPR is presented, by analyzing current processes, identifying key issues, deriving paradigm shifts and developing re-engineered processes of "materials planning and procurement" and "warehousing and surplus disposal" using Information Technology (IT). The re-engineered processes for materials management function trigger a number of improvement projects that were identified by the group of executives who took part in the re-engineering effort. Those projects were implemented in an integrated framework with the application of information technology tools.

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## 2. BUSINESS PROCESS CHANGE

Probably one of the most well known approaches is BPR. The concept of BPR was firstly introduced by Hammer (1990) and Davenport (1990). It was later further popularized by Davenport (1993) and Hammer et al (1993) who defined BPR as “the fundamental re-thinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed”.

BPR has arguably been the most popular and sweeping change management approach of the past decades. A survey conducted by Deloitte and Touche in 1993 among 534 Chief Information Officers in various industries found that 85% of them had been involved in at least one BPR project (Davenport et al 1993). The same survey five years later shows that BPR still remains an important business tool for Information Systems (IS) management (Davenport and al 1998).

### *2.1. The role of IS in business process change*

Apart from the focus on processes, another characteristic of recent change management approaches is the heavy importance they generally place on the role of IS in enabling process change. During the last two decades, an unprecedented rate of development in computer hardware and software has created new opportunities for organisations to collect and analyse data, convert them into useful information and utilise this information as a strategic resource able to bring competitive advantages (Porter 1985). This has given rise to new methods of conducting business that would have been unthinkable only a few years ago, for example electronic commerce (Kalakota and Whinston 1996).

In practical terms, the proliferation of IS has related in enormous investments in such systems by most organisations. However, not all businesses have always been able to enjoy commensurate financial returns. Indeed, the widespread use of IS has coincided with lower macroeconomic figures of productivity and profitability in both the manufacturing and service sectors. Brunjolfsson (1993) has used the term “IT productivity paradox” to describe the alleged inability of IS to deliver in practice the benefits they promise in theory. In an effort to explain this paradox, some researchers have pointed that IS has been mainly used to automate existing processes rather than as an opportunity for business process change (Hammer and Champy 1993).

In other words, business processes are seldom structured with the possibilities of new technologies in mind and therefore the full potential of IS cannot always be realised. Even worse, other researchers argue that most organisations have never designed their business processes at all, but existing processes have rather evolved over time (Hansen 1994). Due to this ad hoc evolution, many processes are far from

being streamlined, cost effective and aligned with the overall organisational goals and strategy (Hammer and Champy 1993).

These observations have spawned significant amounts of research towards addressing the alignment of business process change and IT introduction in organisations. In the context of this paper the term “business engineering”, introduced by Meel and Sol (1996), will be used to refer to this dual design strategy. Business engineering can be defined as the integral design of organisational processes and the IS to support them. In other words, business engineering aims at the intersection between the domains of process-based organisational design and IS development and is also concerned with IS evaluation, which can be defined as the process of ensuring the alignment of process and system designs.

## *2.2. Business engineering*

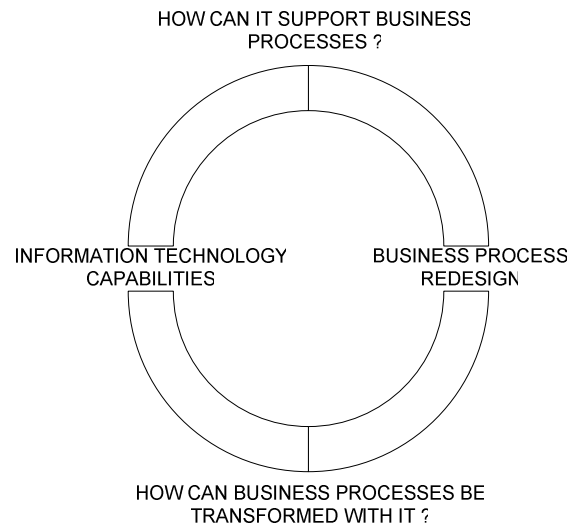
According to Davenport and Short (1990), although business process design and IT are natural partners, their relationships have never been fully exploited in practice. The authors define this relationship as a recursive pattern (Figure 1).

On the one hand, it is naturally expected that the choice of a particular way of conducting business in an organisation will influence the design and structure of the IS to support this process. On the other hand, advances in IT can generate completely new opportunities for organisations and hence influence the design of specific business process layouts. For example, the proliferation of the Internet in recent years has given rise to a multitude of new, previously unthinkable, ways of conducting business e.g. on – line shopping, virtual marketing, electronic distribution of products etc. (Bakos, 1998).

Such recursive relationships imply that organisations should align the design of IS with the design of corresponding business processes if maximum benefits from their synergy are to be achieved. Although the benefits of aligning the design of business processes with the design of their corresponding IS should be apparent in theory, such integrated design strategies have rarely been the case in practice. Business analysts and IS professionals have traditionally distinct roles within organisations, each equipped with their own tools, techniques, skills and even terminology (Earl 1994). There seems to be very limited support for predicting the consequences that changes in one organisational facet (business processes or IS) will have on the other (MacArthur et al 1994). To suggest that process designs can be developed independently of the IS, that will support them, is to ignore valuable tools for shaping processes (Davenport 1993). Business engineering takes a broader view of both IS and business processes and relationships between them. According to this view, IS should be viewed as a more than automating or mechanising force, but rather as an enabler of fundamental changes in the way business is done. Such a broad perspective can have a profound effect on business engineering approaches (Aguilar-Savén, 2004).



**FIGURE 1: THE RECURSIVE RELATIONSHIP BETWEEN IT AND BPR**



### 3. SIMULATION OF BUSINESS PROCESS

#### 3.1. Business Process Modeling (BPM) and IS Modeling (ISM)

The importance of the modeling process for organisational change has been heavily emphasized in the literature (for example in Curtis et al 1992, Hansen 1994). The term BPM has been used to incorporate all activities relating to the information of knowledge about business systems into models that describe the process performed by organisations. The term ISM is used in a similar fashion to denote approaches “seeking to make our abstractions of information systems look more like the real – world systems they represent” (Sol and Crosslin 1992).

Due to the complex and dynamic nature of organisations, it has been argued that carefully developed models are necessary for understanding their behavior in order to be able to design new systems or improve the operation of existing ones (Gladwin and Turnay 1994). However, this very complexity of business processes and information systems can make modeling and experimentation an arduous and problematic task, especially when there is a need to combine BPM and ISM in an integrated activity (i.e. during business engineering).

### *3.2. Business Process Simulation (BPS)*

Shannon (1975) has defined simulation as “the process of designing a model of a real system and conducting experiments with this model for the purpose, either of understanding the behavior of the system or of evaluating various strategies (within the limits imposed by a criterion or set of criteria) for the operation of the system”.

Practical simulation modeling usually will originate in a management perception of a problem requiring some decision or understanding (Paul and Doukidis 1987). The problem may involve the operation of some complex system on which direct experimentation may be impractical on grounds of cost, time or some human restriction.

Computer – based simulation has been used as a vehicle for modeling and analysis in a wide number of application areas. Within organisations, manufacturing systems is probably the most well-known application area of simulation use, albeit not the only. The increasing importance of the service sector in national economies has shifted attention from manufacturing and production processes towards the administrative and managerial tasks performed in organisations. Moreover, the proliferation and widespread attention being paid to change management approaches, like BPR, has created a market for organisational modeling techniques and simulation has naturally emerged as a prominent candidate application.

As a result, amongst the recently developing application areas of simulation, is the modeling of “soft” business processes (as opposed to “hard” manufacturing applications). In this paper the term BPS will be used to refer to the application of simulation for modeling such “soft” business processes.

### *3.3. Simulation of Information Systems (SIS)*

Many business process change initiatives are targeted towards types of processes that manipulate basically informational rather than physical components (Davenport 1993). As much as BPS focuses on and addresses such information – intensive processes, it differs significantly from other similar application areas, particularly simulation of manufacturing systems (Gladwin and Turnay 1994).

Simulation of manufacturing systems is mainly concerned with the manipulation of physical entities (for example, raw materials and products moving through a production line), the route of which is relatively easy to follow through the modeled system. Moreover, the resources that usually exist in such systems are also tangible, tractable and measurable (for example machines, equipment, conveyors, and workstations) and therefore allow for relatively easy observation and representation of the modeled phenomena. Indeed, this may have been the major reason for the apparent success of simulation as a modeling technique in such application areas (Mohsen 2004).

The difference of information – intensive processes is that they are mainly characterised by the flow of intangible components representing various forms of knowledge and information around a system that itself consists mainly of human and IS resources. These entities and resources, as opposed to those typically present in manufacturing systems, are significantly more difficult to observe and analyse for example, informational entities (such as invoice data held in an IS), can be created, transformed, distributed, viewed and deleted at any time during the system life cycle, and they can be present at more than one location at the same time. Despite a few theoretical and practical advances in BPS, very little attention to date has been paid in addressing the exact nature in which the effects of IS can be incorporated in BPS models. Even in the few published articles that deal with the matter (for example Warren and Scott 1992), the simulation of IS is treated at the level of technical system specifications rather than the level of organisational performance impact. This lack of research in SIS seems surprising given the importance of information in general, and IS in particular, for most contemporary business processes. In more and more of the businesses, especially in the service sectors, the end product is a unit of information (consulting services, insurance companies and media organisations etc.). Even in non-service organisations, many operational and managerial processes yield predominantly informational outputs (i.e. customer service processes, human resource management and financial processes, amongst others). Finally, even when a process deals primarily with tangible elements, it is likely that IS are used to support some aspects of the process execution. Inventory management processes and customer order fulfillment processes fall within this category (Giaglis 2004).

#### 4. THE BP CASE STUDY

##### *4.1. Introduction*

Materials management function is always a major concern to the management of any industrial organisation as high inventory and an inefficient procurement process affect the profitability to a great extent. Hence, existing materials planning and procurement processes and inventory management systems require a re-look with respect to a changing business environment.

Materials costs constitute approximately 60% of the total working capital of any industrial organisation. There is a great deal of evidence of loss of productivity due to inefficient materials management. The common issues that are associated with materials management functions are: receiving materials before they are required, causing more inventory cost and chances of deterioration in quality; not receiving materials at the time of requirement, causing loss of productivity; incorrect materials takeoff from drawing and design document; subsequent design changes; damage / loss of items; failure on installation; selection of type of contract for specific materials

procurement; vendor evaluation criteria; piling up of inventory and controlling of the same; management of surplus materials and any one of the above or all of the above or combinations.

A constant challenge faced by today's management is change. On one hand, change represents growth, opportunity and development. On the other hand, it represents threat, disorientation and upheaval. In such a context, restructuring alone is proving to be increasingly inadequate in achieving and sustaining the improvements needed to remain competitive. The business world today has acquired an aggressive momentum and has entered into an era of fundamental and accelerated change. Sustaining growth and remaining competitive are the greatest problems to management. In today's business environment, customer needs to evolve at an extremely quick pace due to increased mobility of the resources and development of media and technology.

#### *4.2. Methodology and application of BPR*

The following steps, illustrated in figure 2, are proposed to be carried out for effective process re-engineering. The installation under study has a materials management function for an uninterrupted supply of raw materials, spares for operation and maintenance of the equipment and project materials for constant capacity augmentation. However, the installation suffers from a large procurement cycle time, a huge inventory carrying cost and ineffective warehousing and surplus disposal methods for spares and project materials. Process re-engineering was proposed for improving the materials management function of the installation under study for spares and project materials. The following two processes were considered for the study:

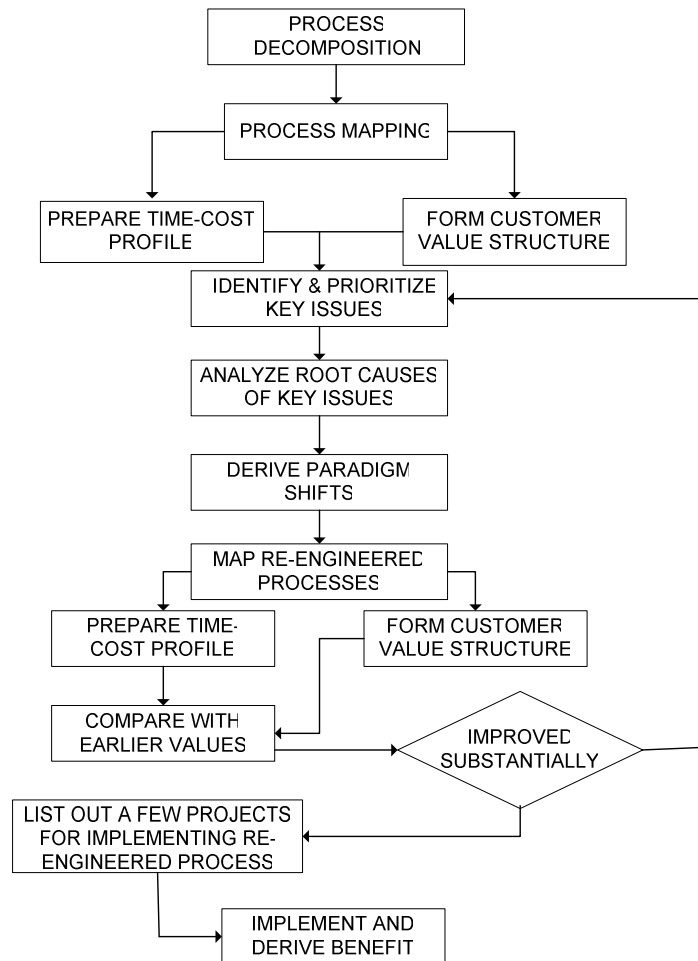
- 1. Materials planning and procurement process.*
- 2. Warehousing and surplus disposal method.*

A two-week workshop was conducted with the executives from different functional groups including materials management, for carrying out the process re-engineering. They have worked together to determine the re-engineered process, applying the above methodology. The following targets were made for improving effectiveness of materials management function:

- 1. Materials planning and procurement process:*
  - Reduce cycle time of receipt of indent to placement of order;
  - Reduce lead time (time between placement of order and receiving materials);
  - Establish long-term relationship with suppliers to create a reliable vendor base;
  - Reduce current inventory;
  - Rationalise and standardise spare parts amongst different plants;

- Introduce dynamic system for review and procurement of insurance spares and inventory holdings for various groups of items.
2. *Warehousing and surplus disposal method:*
- Introduce system to eliminate/minimise inventory build up of surplus material;
  - Start up disposal procedure for surplus material;
  - Ensure that inventory of non-moving items (not issued for more than five years) will be reduced to zero and suitable process to be implemented for monitoring the same.

**FIGURE 2: METHODOLOGY FOR BPR**



Detailed current processes were identified and mapped. A time cost profile and customized value structure were formed. Time-cost profile was formed by listing all tasks in sequence, determining time and cost for each task and plotting time vs. cumulative cost against milestone activities. The customer value structure was formulated by the attributes on which customer values have to be determined. Table 1 shows a typical customer value structure for the “materials planning and procurement process”. These lead to the identification and prioritisation of a few key issues as listed in Table 2. Root cause analysis of issues leads to the formation of re-engineered processes through a few paradigm shifts.

For designing re-engineered processes, the following stretched targets were made by the groups in order to achieve a quantum improvement with respect to quality, cost and delivery:

- Process time reduction – 50 percent
- Cost reduction – 30 percent
- Customer value enhancement – 20 percent.

**TABLE 1: CUSTOMER VALUE STRUCTURE**

<i>SNo</i>	<i>Needs (identified by customer)</i>	<i>Score (weights)</i>	<i>Performance (%)</i>	<i>Value</i>	<i>Gap</i>
1.	<i>Placement of order within validity period of offers</i>	20	40	8	12
2.	<i>Raising minimum techno-commercial queries to vendors during evaluation (appropriate tender specification)</i>	10	60	6	4
3.	<i>Inviting for price negotiation irrespective of position of the offer</i>	10	30	3	7
4.	<i>Timely payment and no bank guarantee</i>	40	60	24	16
5.	<i>Transparency in evaluation</i>	10	20	2	8
6.	<i>Forming long term relationship with client</i>	10	30	3	7
	<i>Total</i>	100		46	54

**TABLE 2: PRIORITISED KEY ISSUES**

<i>SNo</i>	<i>Description</i>	<i>Score</i>
<b>Materials planning and procurement process</b>		
1.	<i>Non-release of payment within stipulated time to vendor</i>	45
2.	<i>Too many techno-commercial queries to vendors during evaluation</i>	32
3.	<i>Incomplete enquiries forwarded to vendor</i>	25
4.	<i>Incomplete indents</i>	20
5.	<i>Weak follow-up system with vendors</i>	35
6.	<i>Too many management approvals</i>	40

7.	<i>Lack of infrastructure (fax, e-mail, Internet, telephone, computer)</i>	30
8.	<i>Mismatch of physical stock with computer system</i>	19
<b>Warehousing</b>		
9.	<i>Delay in inspection</i>	20
10.	<i>Non-availability of inspection certificates / documents</i>	25
11.	<i>Identification of space of storage</i>	34
12.	<i>Poor mobilisation of transport labour</i>	17
13.	<i>Non-availability of material handling equipment</i>	23
<b>Surplus disposal</b>		
14.	<i>Lower delegation of power (DOP) for write off approval</i>	15
15.	<i>Improper database</i>	20
16.	<i>Time constraints in physical verification of surplus</i>	26
17.	<i>Non-receipt of offers for spares</i>	30
18.	<i>Too much hierarchy for approval</i>	15
19.	<i>Lack of follow up with Materials and Scrap Trading Corporation (MSTC)</i>	12

Re-engineered processes were mapped with a few key assumptions. Time-cost profile and customer value structures were delivered for re-engineered processes. Participants quantified total improvement that could be achieved with the implementation of re-engineered processes as shown in Table 3.

**TABLE 3: TOTAL IMPROVEMENT THAT COULD BE ACHIEVED**

	<i>Total no. Of steps</i>	<i>Total hands on time (days)</i>	<i>Total elapsed time (days)</i>	<i>Total processing cost (Rs)</i>	<i>Total no. Of approvals</i>	<i>Customer value</i>
<i>Current Process</i>						
<i>Planning and Procurement</i>	48	8.2	170	9100	150	50
<i>Warehouse</i>	15	9.5	40	5200	12	72
<i>Surplus</i>	20	52	208	42000	15	55
<i>Total</i>	83	69.7	418	56300	177	59*
<i>Re-engineered process</i>						
<i>Planning and Procurement</i>	15	5.8	55	5160	34	120
<i>Warehouse</i>	7	6.3	17	2000	4	94
<i>Surplus</i>	5	40	130	25000	6	78
<i>Total</i>	27	52.1	202	32160	44	97.3*
<i>Difference</i>	56	17.6	216	24140	133	38.3
<i>Improvement</i>	67.5 %	25.3 %	51.7 %	42.9 %	75.1 %	64.9 %
<i>Note: Rs 45 = US\$ 1; * = average</i>						

#### *4.3. Re-engineered processes*

The re-engineered processes have been designed with the following features:

- Materials planning and procurement process:
  - Single window clearance;
  - More IT oriented system;
  - Standardisation of materials specification and categorisation;
  - Dynamic vendor performance rating;
  - Streamlining of indenting system;
  - Memorandum of understanding with vendors;
  - Development of long-term vendor relationship;
  - Dynamic review and updating of insurance items.
- Warehousing and surplus disposal process:
  - Payment through bank to be discouraged;
  - On-line information to users for pending inspection and mandatory visit of inventors twice a week;
  - Items with third party inspection certificate and proprietary items not to be inspected by indenter;
  - A task force shall recommend for corrective action against anomalies in quantities;
  - Vendor to write / attach metallic tag indicating description and code number on individual items;
  - Additional storage space creation;
  - Amenities to transporter;
  - Automatic identification of surplus for items not moved for more than five years;
  - Circulation of surplus item list through Internet;
  - Surplus to be disposed of at the first attempt only;
  - In case of proposal of procuring new equipment for replacement of old one, existing spares for the old equipment to be declared surplus and disposed off at first attempt;
  - One time procured items to be drawn by user immediately on receipt.

Table 4 contains the projects that were implemented in an integrated way to form a materials management system for the entire refinery based on IT.

Figure 3 shows the integrated procurement model for the installation under study. The centralised indent-processing unit processes on-line indents that raised by the various functional groups for procuring spares, materials for annual maintenance and augmentation projects. The centralised indent processing unit (CIPU) retrieves specification for each material, which is updated by respective user departments. CIPU maintains an updated vendor database. The inventory, surplus materials and cost



database help prepare on-line purchase proposals (tender documents) for receiving offers from prospective suppliers with due approval from the competent authority. The offers are then evaluated through a decision support system (DSS).

**TABLE 4: PROJECT EVOLVED / BENEFITS TO BE ACCRUED THROUGH RE-ENGINEERING**

SNo	Projects	Benefits
1.A	Cyclic inventory verification and stock reconciliation	Elimination of over-stocking
1.B	Develop and implement procedure for inclusion and deletion of items in stores with dynamic on-line system for replenishment of stocks	Proper monitoring of inventory ensuring high service level to customer
2.	Develop and implement procedure for inclusion and deletion of insurance and non-moving items through on-line process for balancing requirement	Improved plant reliability by eliminating down time, avoiding stocking of unwanted insurance spares resulting in inventory reduction
3.	Develop and implement procedure for planning, scrutinising, procurement and accounting of annual maintenance and project requirements	Timely completion of maintenance and projects resulting in improved number of on-stream days and early return on investment
4.	Review and implement process for preparation of technical specification for all items and developing system for updating	Reduction of lead-time in procurement due to elimination of technical queries. Standardisation of items resulting in interchange – ability
5.	Develop and implement on-line system for vendor master item wise including rationalisation of master code	Reduction of lead-time due to better source selection; Source selection on cyclic basis reduces over-loading on a particular supplier
6.	Develop and implement on-line system for indenting, enquiry, ordering, follow-up and documentation	Lead time reduction and increase in customer satisfaction level
7.	Review and develop system for updating of authority and responsibility manual on periodic basis	Lead time reduction; Better utilisation of time by senior management for development activity
8.	Develop a system for addressing the issues of materials planning and procurement, warehousing and scrap disposal for plant and corporate level	Compliance of procedural requirements, meeting market requirements in changed scenario
9.	Study and provision of on-line facilities to users	Faster Information sharing; Better availability of materials
10.	Develop system to have long term relationship with suppliers and create reliable vendor base	Long term vendor; Relationship and involvement in our progress
11.	Develop and implement on-line system for stores receipt / storage / MRR preparation / issue for project and maintenance of items	Improve traceability of items
12.	Develop and implement stores layout to optimize space utilisation and eliminate	Improve handling time; Improve traceability of items;

	multiple handling and ensuring physical control replenishments	Provide overall economy
13.	Study develops and implements system for identification and quick disposal for surplus items to optimise value realization approval and accounting policies	Reduce Inventory

**FIGURE 3: INTEGRATED PROCUREMENT MODEL**

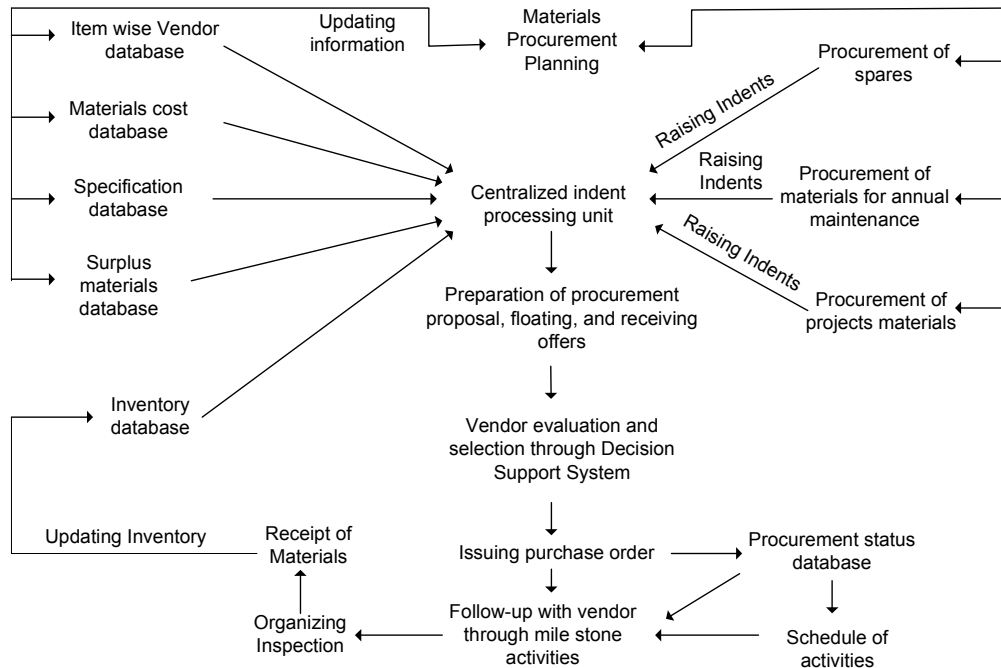


Figure 4 shows a typical DSS for vendor evaluation and selection. The DSS also provides information for dynamic vendor / vendors performance rating. The detailed description of the DSS is available elsewhere (Dey, 1997). The successful vendor / vendors then communicate the on-line through the purchase order. Subsequently, they are followed up periodically via Internet / fax / telephone. On receipt of materials from vendor on-site or at a specified warehouse, the inventory database is updated. Inspection of the materials is organised either through third party inspection agencies or inventors.

**FIGURE 4: VENDOR SELECTION MODEL IN ANALYTIC HIERARCHY PROCESS (AHP) FRAMEWORK**

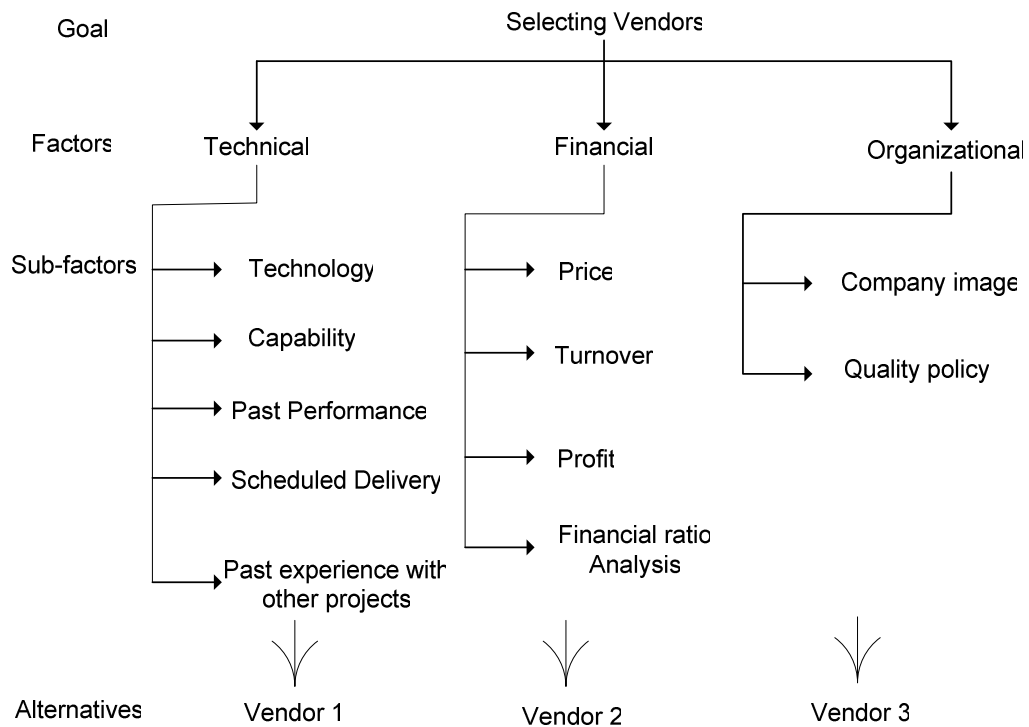
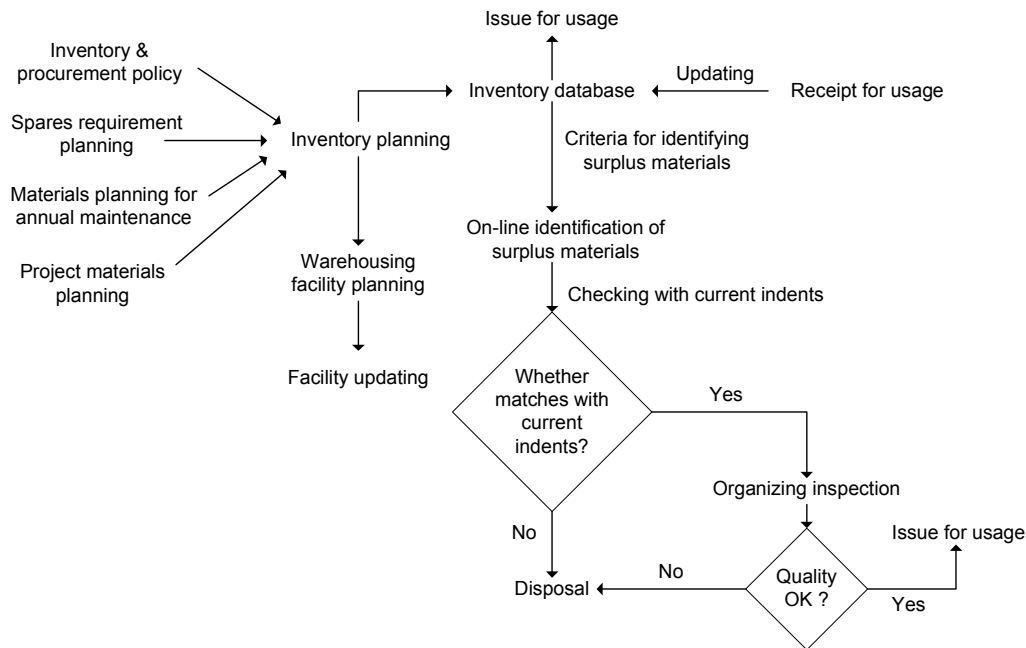


Figure 5 shows integrated warehousing and surplus disposal model. The anticipated spares requirement for plant operations, materials requirement for annual maintenance and bill of materials for augmentation projects along with the organisation's inventory and procurement policy form the inventory profile of the organisation.

Accordingly, the warehousing facilities were reviewed and updated every year. Dynamic monitoring and updating of inventory information (issue, receipt and surplus) kept those concerned well informed about any bottleneck in plant operations due to unavailable materials. Deriving surplus identification parameters and disposal policy and procedure, and linking these with the computerised inventory control system provide the on-line information on surplus materials and inventory accordingly is adjusted. On-line communication with the materials disposal agencies makes the disposal process very fast.

**FIGURE 5: INTEGRATED WAREHOUSING AND SURPLUS DISPOSAL MODEL**



## 5. DISCUSSIONS – RESULTS

The introduction of IT applications in the Greek petrochemical industry at the firm level focused on the implications of investments programmes in advanced manufacturing equipment and IT applications on the overall corporate performance.

In doing so, a qualitative methodology that was informed by the international experience of the introduction of IT applications in process industries was used. In the presentation of the sectoral context for the Greek case study, it was emphasized that IT investment was part of major corporate investment programmes and it examined the introduction of IT applications in conjunction with technological modernization and product diversification programmes.

The main finding was that investment in IT is increasingly becoming one of the priorities of corporate management in the Greek petrochemical installations. Investment in IT usually starts from very simple tasks such a routine paperwork for the administration and the payment of salaries. After a first period of learning, firms expanded the range of IT applications across many other administrative tasks,

including budgeting and sales monitoring which is much more demanding compared to routine applications and requires a more advanced level of skills for the personnel involved.

The diffusion of IT applications in the production process followed a different pattern. In the first phase, the introduction of IT was part of major investment programmes. A large number of IT applications were “embodied” in equipment, as automatic control and monitoring devices and they have been part of integrated investment “packages”. In this case, the real issue for corporate management was to make sure that new plants and additional capacity become operational. In this respect, they tend to invest significant resources for training in new IT applications and start recruiting well-educated and experienced personnel at an early stage. The role of engineering companies and competent consultants was also crucial at this stage, because of the increasing need for technical advice in project management. However, there was a second phase, the introduction of IT in the production and distribution process. Investment in IT supports the adoption of technical solutions for the compliance of already installed equipment to new environmental regulations and safety standards. In other words, they were an integrated part of modification projects in the production process as a response to new regulations. They were also aiming towards better access to the market through computerized sales networks and automatic loading systems. This second phase was the most demanding one.

Additional needs for highly qualified technical personnel for programming and systems operation were created. Technical experts had to design customer-oriented applications. These tasks required extensive knowledge of the local conditions and advanced capabilities in systems integration. At the same time, the efficiency of final product distribution had to be increased and had positive implications on the economic performance of petrochemical installations. From the comparative analysis was found that the skills and learning processes involved in the introduction of administrative and manufacturing production applications were different. To support this argument, no positive relationship between the extent of administrative applications and the successful introduction of IT applications in the production process was found. Instead, it became clear that the first phase of initial investment and learning in production and administration related IT application, exercised significant influence on the pattern of expansion of the use of IT within each one of these two distinctive areas. In the case of manufacturing, the successful involvement in the first phase of the assimilation of IT “embodied” in new equipment created the initial conditions for further expansion in the areas of modifications and computerized applications for monitoring purposes.

An important aspect of the assessment of investment decisions at the firm level was the contribution of IT applications to the successful implementation of major investment projects. An explanation might be that IT applications provide the mechanism for information flow, monitoring and co-ordination of the different phases

of the production process. Considering that technological trends were, to a large extent, increasingly determined by regulation bodies and technical standards, differences in technical efficiency and technological capabilities were being influenced by the quality of the IT infrastructure and by the introduction of mechanisms for the codification of tacit knowledge and working experience.

It appeared that the role of the decision-making process for IT investment was becoming increasingly independent of other considerations in the case of complementary and supporting investment. The Greek experience provides some interesting insights on the link between corporate investment decisions and the accumulation of technological capabilities. Among other things, the important role of specialised engineering consultants and the increasing involvement of firm's technical personnel in the installation and development of software applications are two very interesting aspects of the Greek case studies. However, endogenous technical capabilities remain at a level of development that is not adequate for independent operation and maintenance of imported advanced technological automation systems. Table 5 presents the following tangible benefits of this BPR project.

**TABLE 5: THE TANGIBLE BENEFITS OF THE BPR PROJECT**

<b>SNo.</b>	<b>Activities</b>	<b>Benefits</b>
1.	Formulation and updating of various database	Availability of information Easy retrieval of information Fast decision making
2.	Processing all indents centrally	Effective procurement processes Generation of less surplus Utilisation of surplus materials
3.	DSS for vendor evaluation	Appropriate selection of vendors Fast selection process
4.	On-line communication with vendors	Fast communication and decision making Easy follow-up Fast clearing of the payment Making the materials available on time
5.	Inventory planning	Reduction of inventory carrying cost Identification and fast disposal of surplus items
6.	Warehouse facility planning	Easy and fast retrieval of items Optimum space utilisation Reduction of inventory carrying cost
7.	On-line identification of surplus materials	Utilisation of surplus materials Fast disposal

It is estimated that the implementation of the integrated materials management system for the installation under study will reduce the inventory carrying cost by more than 30 percent and improve profitability by 18 % within the next two years.

Although the current research depicts the application of BPR to materials management function in a specific organisation and demonstrates its effectiveness in identifying key areas for radical improvement, the same methodology can be used by any organisation across various functions for achieving substantial improvement in productivity.

## 6. CONCLUSION

The presented research proved the positive effect of network infrastructure on BPR. Researchers should pay attention to IT dimensions to find their separate effect on BPR. Similarly researchers should take into consideration different contextual factors, which could unduly influence the strength of the effect of IT infrastructure on BPR. Future studies can examine different dimensions of IT infrastructure in depth and also compare the role of IT expertise, and organisational capabilities in BPR. Accordingly if quantitative data are available, there is the possibility to further develop these arguments with in-depth analysis of causality links between different strategies in the accumulation of capabilities, productivity and economic performance indicators.

Moreover, future studies can explore the relevance of organisational knowledge in BPR. This is important, because data integration is traditionally considered as a part of organisational memory and is not found to have any significant effect on BPR. However, many firms are trying to make extensive use of shared databases; therefore future studies should try to find the nature of relationship between data integration and BPR, especially the threshold level of integration to which data integration can be beneficial to BPR.

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## COACHING BEHAVIOR IN TEAM SPORTS OF GREECE

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BEBETSOS and CHRISTOS GALAZOULAS\*\*\*

### ABSTRACT

*The purpose of this research was to investigate the use of the questionnaire of Coaching Behavior, of Greek Team Sports' athletes, by checking its structural validity and reliability. The sample consisted of 422 athletes of basketball, volleyball, handball and soccer. The reliability analysis, confirmed satisfactory Cronbach's alpha rates from .63 to .73. At the same time through the confirmatory factor analysis two factors were discovered: Supportiveness / Emotional and Negative Activation. Supportiveness and negative activation were negatively, moderately correlated ( $r = -.38, p < .01$ ). In conclusion it supported the use of the questionnaire of Coaching Behavior within various samples of Greek athletes.*

*Keywords: Coaching Behavior; Team Sports; Supportiveness; Negative Activation.*

### 1. INTRODUCTION

There is a series of research into athletic psychology, (Chelladurai & Saleh, 1978; 1980; Smoll & Smith 1989), which is focused on the study of coaching behavior of team and individual sports. Considering the importance of the coaching behavior to define the quality and the success of the athletic experience of an athlete, surprisingly, there is a little research which identifies the best coaching behaviors and the factors that affect the effectiveness of special behaviors (Patriksson & Eriksson, 1990).

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The first purpose of the research was the examination and evaluation of the leading and coaching. Smith, Smoll & Hunt, (1977) in order to check those, made a

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Coaching Behavior Assessment System (CBAS), which is divided in two important categories of behavior (with the interaction between them), the reactive (is the amplification or not for the wrong, the potential encouragement, the potential technical instruction, the punishment, the correction of technical mistakes, the indifference of the mistakes, the maintenance of control) and the spontaneous (is the general technical instructions, the general encouragement, the system and the general communication).

The main though target of the research later, was the Leadership behavior of the coach and how this behavior relates to a series of factors and variables such as effort – performance, as well as the satisfaction of the athletes. In two phases, Chelladurai and Saleh, (1978; 1980) tried to develop the model of Leadership into sports, creating a Multidimensional Model of Leadership, via Leadership Scale for Sports questionnaire (LSS).

Rushall & Wiznuk, (1985) create the Coach Evaluation Questionnaire, (CEQ), with 36 questions that approach the coach from four sides, personal capacities, personal and professional relationships, organizing capacities and performance as teacher and coach.

Examining the importance that the coach behavior has, as well as the factors that affect it, a series of research presented mostly from Kenow & Williams, were conducted (1992; 1993; 1997; 1999). The researchers in 1992 and 1993 developed the Coaching Behavior Questionnaire, (CBQ). The tool of measure has as base the theoretical model of Smoll and Smith, (1989) and examines the concept of the male and female athletes for the coaches in relation to occasional factors and the personal characteristics of the coaches.

In 1999, Kenow & Williams, investigated if the compatibility of the relationships athletes – coaches has an important relation to the perception of the athletes for those of the behaviors.

Later in a research of Williams et al., (2003) the structural validity of CBQ was examined through Confirmatory and Exploratory Factor Analysis. The results showed a model of two factors: a) negative activation, b) supportiveness/ emotional.

Zourbanos et al (2004) investigated the relation of the behavior between the coach and the self-dialogue of the athletes. The samples were 243 athletes of team sports (soccer, basketball, and handball). The structural validity of the above questionnaire was investigated from the Confirmatory Factor Analysis, but the settlement of the selection of facts was rather poor. Same results regarding the structural validity through the Confirmatory Factor Analysis were presented in later research of Zourbanos et al (2006).

The purpose of this research is the extra investigation of the structural validity of the Coaching Behavior questionnaire, regarding its use in Greek Sport Teams.

## 2. METHOD AND PROCEDURE

### 2.1. Sample

The sample were 422 athletes of basketball (n=125), volleyball (n=103), handball (n=85) and soccer (n=109). The male athletes formed the 72,27% (n=305) whereas the female athletes the 27,73% (n=117). The total descriptive statistics are presented in table 1.

**TABLE 1: DESCRIPTIVE STATISTICS.**

	<i>Mean</i>	<i>Std. Deviation</i>
<i>Age</i>	21,39	4,61
Years experiences	8,83	4,45
Years on team	3,53	2,79
Days practice / per week	4,64	1,13

### 2.2. Questionnaire

The Coaching Behavior Questionnaire, (Williams, et.al., 2003) was used to check the perception of the male-female athletes in relation to their coaches. The translation of the questionnaire into the Greek Language was made by the method of double direction of both psychologists (Zourbanos, Theodorakis & Hatzigeorgiadis, 2004; Zourbanos, Theodorakis & Hatzigeorgiadis, 2006). The athletes had to answer questions regarding how they feel when performing their activities. The questionnaire consisted of 18 questions, involving two factors; a) the Supportiveness/ Emotional of their coach (8 questions for example: my coach uses the breaks to increase my confidence, when I need it, his tone of voice is calmative and balmy, etc.) and b) the Negative Activation of the coach (7 questions for example: The behavior of my coach and the expression of his feelings makes me fight badly, etc.). The answers were in a four numbered rate Likert type, from 1=disagree completely, 2= disagree, 3= agree and 4= agree completely. The questionnaire was given during the middle of sports period 2005-2006 before the athletes' practice and they were asked to complete it voluntarily.

## 3. RESULTS

The results of internal consistency have shown the satisfactory levels Cronbach's alpha (Supportiveness / Emotional 0.73 and Negative activation .63). The two factors were negatively, moderately correlated ( $r = -.38$ ,  $p < .01$ ). To examine the structural validity of the questionnaire the Confirmatory Factor Analysis was used, which was made through the statistic pack EQS 5.7 (Bentler, 1995).

For the level coaching behavior a model of four factors was examined first class with equivalent questions. The factor variation was defined in 1 and the factorial loadings were free to be estimated. At this model the variations between the factors were allowed but not between the mistakes of the items. The results showed that the specific model represented efficiently the variations between the variables. The index of this model were  $\chi^2 (89) = 217.279$   $p < .001$ , Bentler – Bonett normed fit index (NFI) = 0.834, Bentler – Bonett non normed fit index (NNFI) = 0.875, Comparative fix index (CFI) = 0.894, RMSEA = 0.060 and 90% confidence interval of RMSEA = (0.079-0.093). The descriptive statistics of every sub scale are presented on table 2 and the rates of every factor on table 3, as well as the MARDIA'S COEFFICIENT = 293.944.

**TABLE 2: DESCRIPTIVE STATISTICS OF EVERY SUB SCALE**

ITEMS	MEAN	SDV	SKEWNESS G1	KURTOSIS G2
Criticism from my coach is done in a constructive manner	3.06	0.595	-0.30	0.86
When I need it, my coach's tone of voice is shooting and relaxed	2.84	0.714	-0.42	0.24
My coach is appropriately composed and relaxed	2.43	0.929	0.01	-0.86
My coach shows support for me even when I make a mistake	2.87	0.646	-0.21	0.13
During timeout and halftime my coach emphasizes what should	2.98	0.711	-0.34	-0.00
My coach's mannerisms and display of emotions help me relax and play better	2.82	0.736	-0.14	-0.34
My coach uses timeouts and halftime to build our confidence	2.77	0.642	-0.48	0.55

My coach controls his emotions well during games	2.47	0.774	-0.11	-0.41
My coach's behavior during a game makes me feel tight and tense	2.28	0.742	0.31	-0.07
My coach's mannerisms and display of emotions contribute to me playing poorly	2.09	1.762	14.68	262.79
My coach's sideline behavior distracts my attention during a game	2.02	0.782	0.45	-0.15
When my coach appears uptight, I don't play well	2.27	0.701	0.11	-0.19
My coach's behavior during a game makes me worry about my performance	2.09	0.702	0.25	-0.06
I get more nervous watching my coach on the sidelines than I do playing a game	2.07	0.748	0.37	-0.06
My coach makes me feel uptight	1.83	0.690	0.41	-0.20

**TABLE 3: RATES OF EVERY FACTOR**

ITEMS	LOADING	ERROR	R SQUARED (%)
Criticism from my coach is done in a constructive manner	0.610	0.792	0.373
When I need it, my coach's tone of voice is shouting and relaxed	0.640	0.768	0.410
My coach is appropriately composed and relaxed	0.358	0.934	0.128

My coach shows support for me even when I make a mistake	0.636	0.771	0.405
During timeout and halftime my coach emphasizes what should.	0.512	0.859	0.262
My coach's mannerisms and display of emotions help me relax and play better	0.642	0.767	0.412
My coach uses timeouts and halftime to build our confidence	0.459	0.888	0.211
My coach controls his emotions well during games	0.259	0.966	0.067
My coach's behavior during a game makes me feel tight and tense	0.523	0.852	0.273
My coach's mannerisms and display of emotions contribute to me playing poorly	0.229	0.973	0.052
My coach's sideline behavior distracts my attention during a game	0.506	0.862	0.256
When my coach appears uptight, I don't play well	0.454	0.891	0.206
My coach's behavior during a game makes me worry about my performance	0.661	0.750	0.437
I get more nervous watching my coach on the sidelines than I do playing a game	0.575	0.818	0.331
My coach makes me feel uptight	0.750	0.661	0.563

**TABLE 4: FIT ASSESSMENTS**

COACHING. BEHAVIOR	
X <sup>2</sup> /(df)	217.279 (89)*
NFI	0.834
NNFI	0.875
CFI	0.894
IFI	0.895
GFI	0.933
AGFI	0.909
RMR	0.039
RMSEA	0.060

\* p<.001

#### 4. CONCLUSION

The purpose of this research was the investigation of the reliability and validity of the Coaching Behavior Questionnaire related to the perceptions of the Greek male and female athletes of team sports. The results have shown that the above questionnaire is satisfyingly credible and carries internal consequence for this population.

The rates of this internal consistency as mentioned were satisfactory, such as those of the researches of Zourbanos and his colleagues (2004; 2006) which ranged from 0.61 to 0.83. Furthermore, the negative relation between those two factors that were observed were negative alike the research of Zourbanos and his colleagues.

The research has shown that the Exploratory Factor Analysis (EFA) is effective to define familiar models from details of the samples (Gerbin & Hamilton, 1996), to show the usefulness of the EFA to define the model and the eventual development of the theory when used in relation to the Confirmatory Factor Analysis (CFA), (Fabrigar, Wegener, MacCallum & Strahan, 1999; Gerbing & Hamilton, 1996). We are counting on this common strategy using the CFA to compare the models that are identified in EFA. Continuous researches EFA and CFA should be carried on to increase the generalization and the validity of the established model.

In that way, regarding the structural validity in previous researches of Zourbanos (2004; 2006 ;) through the Exploratory Factor Analysis, the fit of the collection of the samples was rather poor; however in this research the fit of the samples was satisfactory. In future researches Exploratory Factor Analysis should be done in CBQ to increase the generalization and the validity of the established model. It would be very useful as well, to examine the above questionnaire in relation to others, for example to the satisfaction of the athletes, self dialogue, stress, confidence and other



capabilities, so as to draw important conclusions for the importance of the coaching behavior and its great role.

The questionnaire could be used from the coaches, the teams and with the help of athletic psychiatrists to draw important conclusions for the effects of the coaching behaviors and to perform the necessary interventions. For example, if the questionnaire of coaching behavior codifies that the athletes appreciate their coach with Negative activation, this fact could bring to the coach a change and a more positive and supportive attitude.

The future researchers should seriously consider the examination of other variables, individual of various athletes as well as coaches who maybe affect the behaviors of the coach and the perceptions and evaluative reactions of the athletes in these behaviors.

The two factors could be examined with other variables such as the athletic experience, the level of the category that they are fighting, how often they are coached, if they are professionals or amateurs, the sex, if they start as basic or substitute players, the profile of the sport, if it is team or individual, the cohesion of the team and the performance accomplished.

In conclusion, Smoll and Smith, (1989) have stated, “the effectiveness of the leadership appears into the behavior of the leader the eyes of the observer”. Consequently, it is important for those who are working as coaches to continue the research for the interactions of the variables that are noted in the Smoll and Smith, (1989) model, as well as the active aim of the exploration of additional variables which may contribute to the perception of the athletes.

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## INTRODUCING AN ELECTRONIC MARKETING MODEL FOR THE CYPRUS TOURISM ORGANISATION

HARIS MACHLOUZARIDES\*

### ABSTRACT

*Traditional marketing methods that have been utilised by National Tourism Organisations for promoting their destination need to evolve to accommodate the new era of customers who are interacting online in pursue of the best product offering. The paradigm illustrated in the current paper, entails the development of an electronic marketing deployment model that will optimise the implementation of the Cyprus Tourism Organisation's electronic marketing strategy propositions. The utilisation of the electronic marketing deployment model illustrated will facilitate the efficiency of the Organisation's marketing methods by adequately supporting customers' experience at every step of the tourism buying process.*

*Keywords: Electronic Marketing; Destination Marketing; Travel and Tourism.*

### 1. INTRODUCTION

National Tourism Organisations' (NTOs) role in this new era of electronic marketing communications involves the development and implementation of relevant strategies that will enable the optimised deployment of electronic marketing methods by the totality of the tourism industry. The successful implementation of these strategies will facilitate the optimisation of the destination's marketing processes, resulting in enhanced competitiveness with direct impact on the destination's economy (Fill, 2002).

Electronic marketing (eMarketing) methods enable the effective exchange of information between the NTO and the customers (B2C), the tourism service providers (B2B), as well as among the customers (C2C), in a dynamic environment that supports seamless information sharing across the time and space dimensions (Rowley, 2001).

According to the World Travel Monitor (2007), during the year 2006, global overnight trips increased by 6.3% in comparison to 2005. People's improved affluence in relation to liberalisation of travel restrictions promotes the weakening of international travel boundaries. International travel is expected to grow and reach over 1.56 billion tourist arrivals by the year 2020 (WTO, 2006).

Furthermore, the World Travel Monitor (2007), reports that in year 2006 expenditure reached 753 billion Euros, 7% increase over the previous year. However, the importance of travel goes beyond purely economic benefits. Social, political and

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educational reflections among people who engage in international travel are of vital importance.

Recognising the importance of both economic and non-economic benefits that the growth of the global tourism industry brings along, NTOs are expected to promote their tourist products and services. NTO's efficient promotion mechanisms will result into the effective communication of their marketing offer to their target market (Fill, 2002).

An increasing number of businesses from all commerce areas deploy online marketing tools for promoting their products and services on the Internet. While travel is the Internet's second largest commerce area (Frew, 2005; Buhalis, 2003; Lace, 2004), NTOs like the Cyprus Tourism Organisation (CTO) have been slow to utilise the potential offered benefits. Through the utilisation of the Internet, NTOs would be permanently available to their markets towards developing a global distribution channel.

## 2. LITERATURE REVIEW

Authors stress (Frew, 2005; Buhalis, 2003; Lace, 2004) that it is gradually being recognised that each and every destination in the world will somehow develop its online presence and will undertake some eMarketing activities. EMarketing tools and techniques application in the tourism industry have not received much attention by either academic studies or authors. Authors state (Frew, 2005; Buhalis, 2003; Lace, 2004) that the characteristics of successful management of new media within the context of marketing communications receive scant attention in academic literature. The majority of academic studies regarding eMarketing in the tourism industry focused on the use of the IT for destinations and the Internet as a means of global communication medium (Buhalis, 2003).

The 2001 report issued by the World Tourism Organisation (WTO): 'E-Business for Tourism: Practical Guidelines for Tourism Destinations and Businesses', was a very important publication that mentioned the future application of a number of online marketing techniques that could be used at that time by the NTOs. The WTO (2001) noted the potential and the importance of online marketing communication techniques for NTOs and issued guidelines on some of the techniques that were available.

Furthermore, the Handbook on eMarketing for Tourism Destinations issued by the European Travel Commission (ETC) in 2008 (ETC, 2008) illustrates in a practical manner the steps that NTOs should follow to effectively utilise eMarketing activities for promoting their destination.

The objectives of the strategic role of online marketing communications are encapsulated in the objectives associated with a Web presence and electronic Business (Rowley, 2001). Hence, for the purpose of this research paper it is important to explore the recent developments in eMarketing communication techniques in relation

to the methods of deployment of these techniques in the tourism industry for yielding the utmost benefits for the CTO.

### 3. IDENTIFICATION OF THE CTO'S MARKETING MODEL

The CTO marketing communication mix consists of a set of tools that can be deployed in a variety of combinations towards communicating with the target audience (Fill, 2002). The CTO is involved in a series of traditional marketing activities (Kotler & Armstrong 2004) internationally for promoting Cyprus as a tourism destination. These activities involve:

- Generic advertising campaigns,
- Organisation of promotional activities such as Cyprus weeks, Cyprus presentations, seminars, workshops and road-shows,
- Provision of hospitality to tourism professionals, travel journalists, V.I.P's and opinion leaders and
- Participation in Tourist and other specialised fairs.

Strategic Marketing at the CTO involves a number of activities towards the formulation of the organisation's marketing model. The conception of the organisation's marketing strategy is based on the definition of the overall objective of the organisation. The CTO's primary strategic marketing objective has been defined to be (CTO, 2004): "the establishment of Cyprus as a quality tourist destination which will appeal to more upscale discerning travellers, thus contributing in securing continuous improvement in the quality of life of the Island's population".

The significant changes that are being observed in the global tourism industry since the advent of eMarketing tools and techniques impose on the CTO the need for change.

The CTO's eMarketing strategy defines the path that should be followed by the CTO and its partners for marketing Cyprus through new media and by using modern marketing techniques to provide tourists with all the information and services they require. The eMarketing strategy sets the framework that will guide the CTO's actions towards the utilisation of the available online marketing communication methods for maximising their potential return for Cyprus (CTO, 2005). Its primary objectives involve:

- The enrichment of the CTO's worldwide marketing activities and their effectiveness and
- The improvement of the Organisation's support and services to its partners that would consequently improve their abilities in promoting of Cyprus.

The deployment of eMarketing methods by the CTO aims at facilitating travel and tourism by adequately supporting the individuals' online searching and booking experience. Through the formulation of well-defined eMarketing processes, the CTO

plans to provide the individual traveller and the travel organiser an exceptional online searching and booking experience that will involve the facilitation of every step of the tourism buying process (Briggs, 2001), which consists of the following stages:

1. Aspire (The dream – reason to visit)
2. Inspire (The instigation–encouragement and verification to visit)
3. Illustrate (The product – demonstration to visit)
4. Simplify (The accessibility – simple to visit)
5. Book (The purchase – value to visit)
6. Experience (The travel – live the visit)
7. Post-Experience (The Follow-up – re-assurance of the visit)
8. Revisit (The Return – recursive visit)

The successful implementation of the eMarketing strategy will enable the CTO to extend its overall marketing activities in an attempt to maximise its channel reach and focused promotion through integrated marketing campaigns. Through the optimisation of its marketing effectiveness, by successfully utilising eMarketing methods in accordance to traditional marketing activities, CTO aims at achieving its strategic objectives.

#### 4. CHARACTERISTICS OF CTO'S MARKETING ENVIRONMENT

##### *4.1. Markets*

A market can be defined as a set of all actual and potential buyers of a specific product or service. Markets contain groups of individuals who share similar features and respond in similar ways to marketing-mix stimuli. Kotler (1994) defines a market as consisting of “all the potential customers sharing a particular need or want who might be willing and able to engage in exchange to satisfy that need or want”.

In the European Commission's Notice on the definition of the relevant market for the purposes of Community competition law (EC, 1997), the definition of a relevant market is used to identify and define the boundaries of competition of an organisation in both the product and geographic dimensions. The term ‘relevant market’ combines the terms ‘relevant product market’ and ‘relevant geographic market’, which are defined as follows (EC, 1997):

- ‘A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products' characteristics, their prices and their intended use.’
- ‘A relevant geographic market comprises the area in which the firms concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogeneous.’

However, an appropriately defined relevant tourism market does not only involve the ‘relevant product market’ and ‘relevant geographic market’. A relevant tourism

market definition should contain a third dimension, time. The definition of Cyprus's relevant tourism market is highly influenced on temporal characteristics as traditionally most of the tourists that visit the island, do so during the summer season.

While the time dimension can be considered to be an extension of the product dimension, i.e. supply of a product on a temporal basis, it should be incorporated in the definition of a relevant tourism market. In the CTO's Strategic Growth Plan for Tourism (CTO, 2004), the Cyprus's relevant tourism market is defined across the three dimensions having the relevant product market dimension as the basis of the definition.

The definition of the relevant product market is based on a thematic segmentation that refines the Cyprus's relevant tourism market based on the following tourism products:

- Sun and Sea Plus,
- Culture,
- Conference and Incentive,
- Nature and rural,
- Walking and Hiking,
- Sports,
- Cycling,
- Marine Sports and Yachting,
- Mega Events,
- Weddings and Honeymoons,
- Religious,
- Sea Cruises.

Having the relevant product market as the basis of defining the Cyprus's relevant tourism market, the CTO's Strategic Growth Plan for Tourism (CTO, 2004), proceeds by identifying the relevant geographic market. The definition of the relevant geographic market is based on a national segmentation classifying as high priority markets the countries:

- United Kingdom,
- Russia,
- Greece,
- Germany,
- Ireland,
- France.

Given that traditionally most of the tourists that visit Cyprus do so during the summer season, a major consideration of the CTO's Strategic Growth Plan for Tourism (CTO, 2004) was the temporal dimension of the Cyprus tourism market, or the relevant temporal market.



The relevant temporal market has a direct impact or relationship on the other two dimensions in a number of ways. First, the major product identified in the relevant product market definition is the 'Sun and Sea Plus', which is highly influenced on seasonal variations (Alegre & Cladera 2006). Second, the major country identified in the relevant geographic market definition is the United Kingdom, whose outbound leisure tourism can be characterised as highly seasonal (Coshall, 2006).

As specified in the CTO's Strategic Growth Plan for Tourism (CTO, 2004), the foundation of Cyprus's relevant tourism market is the island's key product, 'Sun and Sea Plus', while the main market country is the United Kingdom. To achieve a wider temporal spread of the relevant tourism market, CTO should capitalise on these key market factors and should move on towards providing a clear and unique identity of the island's plethora of products, as they are prioritised in the Cyprus's relevant tourism market definition, to the high priority relevant geographic market countries. In this way the relevant temporal market dimension will be overturned through extending the relevant product market as well as the relevant geographic market.

Market definition is not an end in itself. It is a key step in identifying and defining the competitive constraints acting on an organisation supplying a specific product or service. All in all, market definition provides a framework for competition analysis.

#### *4.2. Competition*

Competition analysis is an ongoing process of identifying the competitive environment that an organisation operates in towards assessing its current and potential competitors' strengths and weaknesses. Being aware of its competitive environment, an organisation can better adjust its offered products and services towards enhancing its competitive position.

In order to evaluate the challenges imposed by the competitive environment on an organisation towards improving its marketing effectiveness the McKinsey's 7S model (Peters & Waterman 1982) can be utilised. The model proposes that an organisation consists of seven elements, namely:

- **Strategy:** The direction and scope of the organisation in the long term.
- **Structure:** The organisation's functions, hierarchies, management and boundaries.
- **Systems:** Formal and informal procedures that govern everyday activity.
- **Skills:** The capabilities and competencies available within the organisation.
- **Shared values:** The values and beliefs of the organisation that guide employees' behaviour.
- **Staff:** The organisation's human resources and their development, and motivation.

- **Style:** The management approaches and the organisation's overall leadership styles.

The 7S Model is a valuable tool towards providing the direction of an organisation as well as initiating change (Pascale, 1991). An organisation should systematically apply the 7S Model to determine the current state of each element and to compare this with the ideal state. Based on the results of this activity it will be possible for an organisation to develop action plans to achieve the intended state.

The Cyprus Tourism Organisation recognising the fast changing global tourism environment that leads to increasing competition and customer value consciousness, has reconsidered its traditional business model (CTO, 2005). The increasing world volatility and the fast changing customer behaviour, has driven the CTO to focus into new product development.

The emergence of new destinations that offer a similar tourism product to Cyprus, as well as the provision of better value by comparable destinations has driven the CTO to reposition Cyprus as a tourism destination. Having as the key driver the motivation of the island's key markets the CTO has focused on market segmentation and product development in an attempt to enhance the quality of the visitor's experience.

Towards achieving the objective of improving the island's competitiveness, the CTO recognised the need for innovation through information and Communication technologies (ICT) deployment and continuous human resource development (CTO, 2006). Having established a firm eMarketing strategy, the CTO will be able to guide all industry segments' actions towards facilitating enhanced communication and distribution of the Cyprus tourism product.

## 5. EMARKETING GLOBAL DEPLOYMENT MODELS

Organisational eMarketing deployment models evolve continuously and can be categorised in many different ways (Timmers, 1998; Eisenmann, 2002). While categorising eMarketing deployment models is a challenge, below a logical approach to their categorisation is presented (Rappa, 2005):

**A. Brokerage Model:** The brokerage model describes organisations that have as their core business the facilitation of transactions between buyers and sellers (Law & Huang 2003). Broker organisations provide the necessary tools for enabling the successful performance and completion of such transactions in business-to-business (B2B), business-to-customer (B2C), and customer-to-customer (C2C) markets. The revenue model of broker organisations is usually commission based on transactions. An example of a broker organisation is paypal.com.

**B. Advertising Model:** The advertising model describes organisations that have as their core business the distribution and broadcasting of advertising messages to customers (Novak & Hoffman 2000). Advertising organisations distribute and

broadcast advertising messages that are relevant to the viewers' requested information mixed with other content and services. The revenue model of advertising organisations is usually commission based on the viewer reach/response of the advertising messages. An example of an advertising organisation is doubleclick.com.

**C. Infomediary Model:** The infomediary model (information intermediaries) describes organisations that have as their core business the collection and analysis of customers and/or producers/products data. Infomediary organisations collect and analyse customers' data that are related to their consumption habits as well as producers/products' data towards assisting buyers and/or sellers understand a given market (Hagel & Singer 1999). The revenue model of infomediary organisations is usually commission based on the provided information validity and value to target marketing campaigns (for producers), and the information usefulness when considering a purchase (for customers). An example of an infomediary organisation is overture.com.

**D. Merchant Model:** The merchant model describes organisations that have as their core business the sale and distribution of goods and services (Handfield & Nichols 2002). Merchant organisations provide the necessary tools for enabling the sale and distribution of goods and services through e-shops and/or e-auctions in business-to-business (B2B), business-to-customer (B2C), and customer-to-customer (C2C) markets. The revenue model of broker organisations is usually commission based on sales. An example of a broker organisation is amazon.com.

**E. Manufacturer (Direct) Model:** The manufacturer or 'direct model' describes organisations that utilise ICT to reach customers directly, completely overriding the distribution channel (Stewart, 2002). Manufacturer organisations are characterised by efficiency, improved customer service, and a better understanding of customer preferences. The revenue model of manufacturer organisations is usually commission based on transactions. An example of a manufacturer organisation is dell.com.

**F. Affiliate Model:** The affiliate model describes organisations that provide the opportunity for customers to link-through and purchase their products or services from a number of affiliated web sites (Fiore & Collins 2001). An affiliated web site is one that facilitates the purchase by enabling the customer to click-through to the affiliate organisation. The revenue model of affiliate organisations is usually commission based on transactions or 'click-throughs'. An example of an affiliate organisation is ebay.com.

**G. Community Model:** The community model describes organisations that have as their core business the creation of virtual communities for contributing to the achievement of a common goal (Kim, 2000). Community organisations are based on their user's loyalty that contribute to the organisation's operations by delivering content in various forms. The revenue model of community organisations is usually contribution based. An example of a community organisation is wikipedia.com.

**H. Subscription Model:** The subscription model describes organisations that charge their users a subscription to their offered services (Kauffman, 2007). Subscription-based organisations offer levelled services to their customers based on varied subscription fees. The revenue model of subscription-based organisations is usually a combination of subscription based and advertising. An example of a subscription-based organisation is date.com.

**I. Utility Model:** The utility model describes organisations that charge their customers for the services they receive on an on-demand basis (Malhotra, 2000). Utility organisations provide metered services that are based on actual usage rates. The revenue model of utility organisations is based on actual usage of the provided services. An example of a subscription-based organisation is skype.com.

An organisation can implement one or a combination of the above eMarketing deployment models towards achieving its strategic marketing objectives (Bradley, 2003). However, since organisational eMarketing deployment models evolve continuously, an organisation should constantly revise its deployment model by regularly evaluating its marketing environment.

## 6. A CONCEPTUAL EMARKETING MODEL FOR THE CTO

The CTO eMarketing strategy focuses in transforming the CTO into a knowledge-driven organisation. Through the optimisation of electronic channel deployment the CTO will act as a knowledge hub for its partners and individual tourists, enabling interactive internal and external communication (Machlouzarides, 2009).

The business processes that should be introduced by the CTO to sustain the execution of the proposed eMarketing actions should be based on metrics for evaluating the results at each stage of the eMarketing process implementation. In contrast to the difficulty in evaluating traditional marketing activities outcomes, the effectiveness of eMarketing activities can be continuously monitored and ad hoc corrective measures can be taken to enhance their effectiveness.

The challenge encountered by the CTO, in the process of formulating its marketing action plan, is finding the correct balance between traditional and modern marketing channels. The implementation of a well-balanced marketing action plan that will involve the exploitation of traditional as well as modern marketing channels will significantly enhance the process of achieving the CTO's marketing objectives (Machlouzarides, 2009).

Modern eMarketing channels should be deployed to enable the process of identifying and analysing target market demands and distributing quality products and services to satisfy those demands providing customer value in pursue of customer satisfaction.

The distinguishing feature that eMarketing channels provide in contrast to traditional ones is the wealth of information that can be generated during the process

that can be deployed to enhance the effectiveness of the channels at the velocity at which everything moves. Consequently, e-Marketing enabled marketing processes can be constantly managed in an efficient manner towards achieving a competitive advantage (Fill, 2002).

The CTO can deploy e-Marketing methods to manage its marketing processes by facilitating relationships with customers in pursue of sustainable tourism development. Individual customer interaction with the CTO's eMarketing channels can be managed through the identification and analysis of the individual behaviour and preferences thus providing a unique experience at every point of contact.

The ability of the CTO to analyse, segment and target customers in real time through the deployment of eMarketing methods will enable the provision of unique customer experiences, engaging customers, leading into strong customer relationships. Operating within the strategic market – product segments (CTO, 2004), the CTO can further segment customers based on their behavioural and preference patterns.

Customers interacting with the CTO through the eMarketing channels may be segmented based on their (Hass, 2005):

1. Accessibility: Ease to reach them efficiently.
2. Differential: Responsiveness differences to different marketing mix.
3. Actionability: Product or service availability for segment.
4. Measurability: Ease to measure their size and purchasing power.
5. Substantial: Size and profitability of the segment.

Segmenting customers based on the above criteria will enable the CTO to formulate and define specific customer profiles, which will lead to personalised interaction. Deploying the possessed knowledge about the specific customer segments, the CTO can continually refine the marketing mix at a segment level and provide a customised interaction experience at an individual segment level.

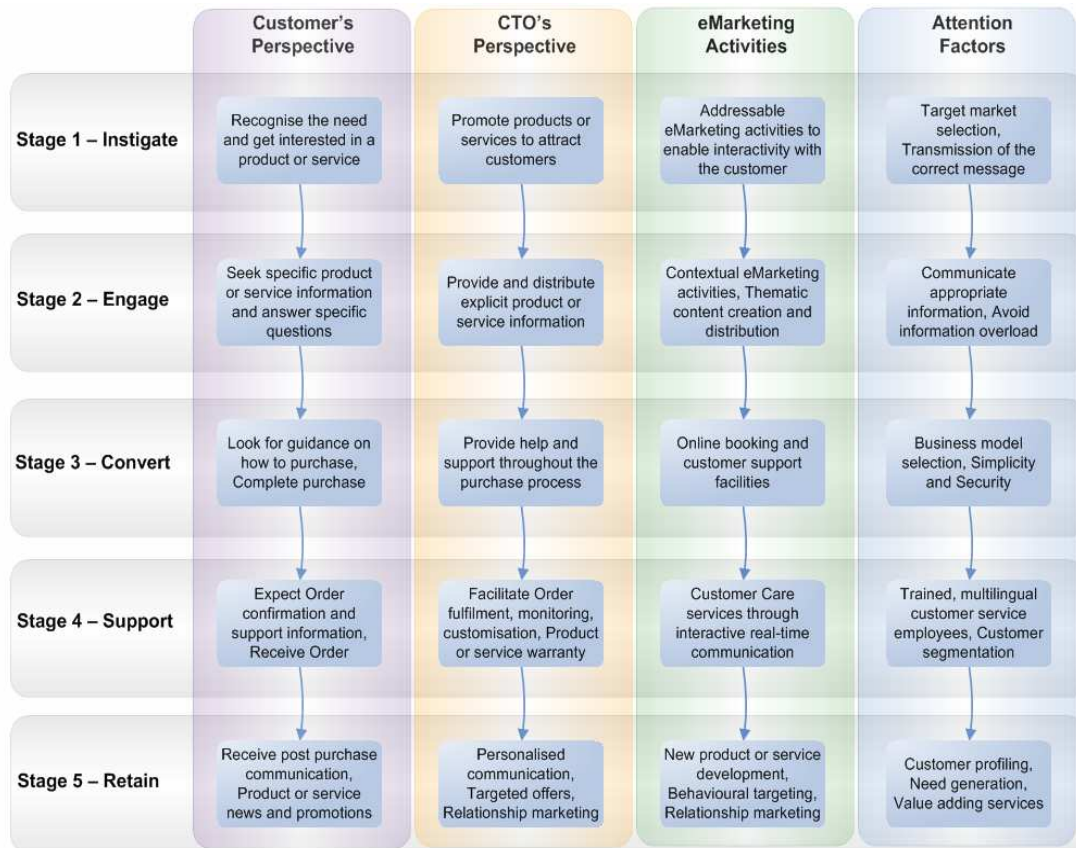
The analysis of the information about customer interaction through the multiplicity of eMarketing channels will enable the CTO to continuously refine individual segment profiles in an attempt to enhance customer interaction. The outcome of the above process will be the generation and management of strong customer relationships towards achieving the CTO's marketing objectives (CTO, 2004).

## 7. THE CTO'S E-MARKETING MODEL

Reflecting on the results of the analysis of the relevant data to the research constructs considered (Machlouzarides, 2009) and following the evaluation of a number of alternative e-Marketing models (Briggs, 2001; Kotler, et al., 2006; Chaffey, et al., 2005; Schwede, 2007), the researcher has concluded that the most appropriate approach that should be followed for the development of an e-Marketing model for the CTO is a combined one. Hence, the researcher in his attempt to capture and represent to the best possible extent the CTO's eMarketing model, has encompassed traditional

as well as modern marketing models like the ‘four P’ model (Borden, 1964), the ‘seven P’ model (Bitner, et al., 1990), the ‘AIDA’ model (Rowley, 2001), the ‘three C’ model (Ohmae, 1991) and the ‘four C’ model (Lauterborn, 1990). As a result, the developed model manages to address all the aspects of the eMarketing process that are relevant to the current research paper. Moreover, the proposed model encompasses both the customer’s perspective and the CTO’s perspective at every stage, the specific e-Marketing activities that the CTO should employ as well as the attention factors that should guide the successful deployment of these activities.

**FIGURE 1: THE CTO’S E-MARKETING MODEL**



Source: (Machlouzarides, 2009)

Figure 1 illustrates the eMarketing model. The implementation of the model aims at setting the framework for the optimal execution of specific eMarketing actions

within the existing marketing environment towards the attainment of the objectives put forward by this research paper.

A detailed illustration of the model's stages follows:

**A. Instigate and Engage:** Within the context of the first two stages of the model which aim at creating customer awareness and generating sales leads, both offline and online channels should be deployed complementing each other. Traditional marketing activities such as generic advertising campaigns tourism fairs, workshops and road shows as well as familiarisation and hospitality trips of tourism professionals, may be deployed in combination with electronic content distribution and interactive online rich media advertising towards the attainment of efficient interactive communication with customers (Kotler et al, 2006).

The integrated marketing approach will facilitate the successful creation of customer awareness for satisfying their specific needs and as a result develop new sales demand. In heading towards this direction, the CTO should deploy addressable online advertising activities that should aim at serving the correct message to the appropriate target market at the right time, based on the target market's behavioural attributes. Furthermore, the CTO should set up a content distribution strategy that will guide its activities towards coordinating content creation and distribution across different communication channels across the time and place dimensions for maximising the intended message's impact (Schwede, 2007).

Through the successful integration of traditional and electronic marketing activities for the first two stages of the model, the CTO will manage to increase customer response rates which will lead to maximising the number of customers that engage and move to the next stage of the process, with better possibilities of sales lead generation.

**B. Convert and Support:** As the customer moves to the next two stages of the model, the CTO is expected to provide online and offline support to guide the customer through the sales process and to facilitate order fulfilment. Through the provision of a call centre that should be available in both an offline and an online environment as well as through the availability of online help and support services on the CTO's portal, the satisfaction of customers' expectations will be facilitated resulting in the successful completion of the purchase process (Briggs, 2001).

Cross selling facilities aiming at enticing customers with specific product or service offers that are relevant to the individual customer's profile should be offered at this stage through online communication channels. The analysis of the individual customer's behaviours and characteristics, in relation to the purchased products and services, through relevant customer relationship models, will enable the optimisation of cross selling services, which will aim at enhancing the customer's experience with the destination.

The quality of customer service during the process is guided by the availability of bookable products and services in an online booking system within the organisation's online portal. Additionally, the provision of supporting applications that will assist the customers in the process of organising their visit is of critical importance. The quality of communication during the process is guided by information accuracy, completeness and timeliness as well as by the security measures established for ensuring that customer transactions involved are completely safe and carried out as smoothly as possible (Choi, et al, 2008).

During the visit of the customers to the destination the CTO is expected to provide customer care and support services. Through the provision of a combination of traditional and electronic customer support services the CTO will manage to maintain close contact with the customers in its attempt to anticipate and satisfy their expectations. This will be possible through the analysis of the relevant customers' information to derive their individual preferences and employ the appropriate procedures to support them.

By employing relevant applications that can support individual customer's expectations across the time and place dimensions, the CTO will manage to maximise its customers' travel experience by facilitating the satisfaction of their needs throughout their visit. Through the deployment of proximity marketing activities (BLIP, 2005) the CTO will manage to communicate with its customers based on their behavioural attributes. The utilisation of these applications will enable the derivation of valuable knowledge towards understanding customers' behaviour in relation to their interests and preferences. The combination of this knowledge with the knowledge about the customers' online and offline behaviour during the buying process will enable the implementation of advanced customer segmentation strategies by the CTO in an attempt to enhance the quality of the visitor's experience.

As a result, the contribution of valuable feedback in the destination's product development processes will be made possible. This will enable the customisation of the offered products and services to satisfy the specific customer segments' requirements. The realisation of a close relationship among the CTO's product development and marketing services will result to the optimisation of the CTO's marketing processes, augmenting the competitiveness of Cyprus as a tourism destination worldwide.

**C. Retain:** During the final stage of the model the CTO should carry out post purchase communication with the customers in the form of online satisfaction surveys in an attempt to recognise the degree of customer satisfaction through the provided services and identify any product or service weaknesses. Through the collection and analysis of the results gathered, the CTO will be able to derive valuable conclusions about the customers' expectations and their corresponding satisfaction levels for taking the relevant corrective measures in the product development as well as the service quality standards (Hair, et al, 2003).



## 8. IMPLICATIONS FOR PRACTICE

The proposals of this research paper have specific implications for the CTO in regards to the implementation model of its e-Marketing strategy. This research paper identifies the key attributes into which the CTO should invest resources towards the enrichment of the Cyprus Tourism Organisation's marketing activities towards augmenting the competitiveness of Cyprus as a tourism destination worldwide.

The implications that this research paper has on the CTO, relate directly to the expected impact of the model outcomes that are relevant to the specific objectives set (CTO, 2006). By reflecting on the e-Marketing model developed in this research paper, a number of implications are evident that when implemented will achieve the desired outcomes. In pursuing the paradigm proposed by the eMarketing model developed for this research paper, the CTO will manage to gain comprehensive understanding of customer expectations that will enable new strategic directions for facilitating their satisfaction. As a result of the optimised deployment of eMarketing activities, a positive impact will be observed on the sustainable development of the Cyprus tourism industry.

This research paper is premised on the belief that in a highly competitive business environment, the only way forward for the CTO is maximising the effectiveness of its marketing efforts worldwide. This could only be achieved through the integration of e-Marketing processes into traditional marketing processes for enabling the:

- Improvement of the CTO's communication efficiency with its customers.
- Enhancement of the CTO's brand image.
- Enrichment of customer service through eMarketing channels.
- Facilitation of customer profiling and the achievement of relationship marketing.
- Improvement of knowledge distribution across the Cyprus tourism industry.
- Reinforcement of tourist loyalty as a result of increased customer satisfaction.

The interactive nature of eMarketing activities will assist the CTO in the process of identifying customers' preferences for delivering value adding services in the process of building long term relationships with them. The optimisation of the process of e-Marketing strategy implementation by the CTO will enhance customer satisfaction, towards achieving retention and loyalty (Galbreath, 2002).

Additionally, the initiation of customer loyalty schemes which will be supported by a Customer Relationship Management and an online booking system can lead to effectively maintaining valuable customer accounts. This will facilitate Cyprus's tourism product and service differentiation towards personalising the offering to its customers making the notion of "one product fits all" irrelevant. The successful implementation of the eMarketing strategy based on the proposed model, will enable the attainment of on-demand, customised and dynamic product creation achieving a "one product or service to one customer" marketing strategy. As a result, customer

value will be enhanced, facilitating the sustainable development of the Cyprus tourism industry.

In the process of pursuing a customer orientation strategy, the CTO is advised to segment customers according to their value to the organisation as to cost effectively implement the organisation's retention strategies. Keeping and serving the right customers requires a good understanding of customers' preferences and delivering value depending on their needs and wants. An understanding of customers' variances on demographic and experience variables will provide insights for the CTO marketing executives in planning and implementing effective customer acquisition and retention strategies. Segmentation of customers should be connected to customer behaviour profiling in order to derive knowledge of the range of values that are expected to be delivered to groups of customers or individuals.

During the process of implementing its e-Marketing strategy, the CTO should continuously evaluate the outcomes against the relevant objectives to ensure its effective implementation. Reconsidering value adding services and understanding customers' current needs as well as anticipating their future needs are among the critical criteria that need to be assessed in order to stay competitive in the modern marketplace. Therefore a key factor for the successful attainment of the CTO's strategic objectives is the synchronisation of the e-Marketing activities with the traditional marketing activities.

Based on this, the CTO is advised to focus on integrating its marketing efforts for efficiently targeting its customers. Hence, the CTO's marketing plans should involve a comprehensive approach that will lead to customer engagement through a combination of integrated marketing activities. This will drive the CTO towards serving the customer's preferences more efficiently and will enable new strategic directions for benefiting the CTO from enduring customers' relationships.

Through the integration of its marketing processes the CTO will manage to establish a common knowledge repository which will enable the derivation of valuable conclusions about understanding customers' preferences and segmenting them according to their value to the organisation. The integration of knowledge management models with the CTO's strategic objectives will enable the execution, management and monitoring of holistic marketing campaigns across alternative communication channels that will enable interaction with the customers in an attempt to satisfy their varying needs at a personalised level (Galbreath, 2002).

Through enabling the provision of integrated marketing services to the customers, the CTO will manage to improve customer satisfaction and in extend build long lasting relationships with customers towards gaining a competitive edge.

## 9. LIMITATIONS AND FUTURE DIRECTIONS OF RESEARCH

During the course of writing this research paper a series of questions have arisen that are interesting for future investigation and which cannot be answered by the work performed as they are outside the scope of the current paper. These questions involve:

- The investigation of ways through which customer relationships can be catered for online,
- The analysis of customer loyalty determinants and their provision through e-Marketing channels,
- The realisation of the eMarketing model presented through the implementation of relevant eMarketing tools,
- The maintenance of customer databases for deriving knowledge that will facilitate customer retention,
- The exploration of new customer satisfaction determinants for implementing advanced customer segmentation strategies.

This research paper is concerned with the optimisation of the implementation of the CTO's eMarketing strategy. Although the CTO is advised to adopt the proposals of this research paper, the expected benefits may vary depending on the implementation scale. A relatively small destination like Cyprus may not be able to fully utilise the potential of the eMarketing model developed due to constraints in resources. Hence, eMarketing implementation in various business scenarios merits further investigation.

Moreover, while this research paper assumes a positive relationship between e-Marketing and satisfaction, eMarketing features may have changed rapidly since the point of time this study was conducted. Therefore additional research may be necessary to incorporate other factors of eMarketing not included in this research paper.

The results of this research paper may be applied to other countries with similar levels of eMarketing deployment in the tourism industry or to other industries and business environments. Potential areas of study are whether other factors of eMarketing, which influence assessment of satisfaction, can be identified in regions where customers' behaviour may differ depending on culture, beliefs and technology acceptance level. Therefore, before conclusions and implications can be made to other countries, further research should be conducted.

## 10. CONCLUSIONS

The key for optimising the CTO's marketing processes is the successful integration of traditional marketing activities with e-Marketing activities based on the model illustrated in this research paper. The model development was founded upon the CTO's marketing executives' mindset and expectations and facilitates the

satisfaction of its online visitors / customers' expectations. Moreover, it reflects on the Organisation's existing marketing services and the Cyprus tourism industry's electronic marketing deployment levels.

The impact of this research paper's outcomes will be reflected on the people living in Cyprus (locals and tourists) through the sustainable socio-economic developments that the implementation of the CTO's integrated tourism marketing model will bring along. The CTO, by closely monitoring and fine-tuning the performance of its marketing activities, will realise real-time customer segmentation, facilitating customer experience optimisation throughout the tourism buying process. This will have a direct impact on the tourism product development processes and the quality of the offered services, reinforcing Cyprus' competitive position in the relevant tourism markets.

The utter objective that is aimed to be achieved by the implementation of this model's outcomes is the improvement of Cyprus' competitiveness as a tourism destination worldwide.

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## E-ADVERTISING AS A MEANS OF PROMOTING THE HOSPITALITY INDUSTRY

MARIOS CHARALAMBOUS\*

### ABSTRACT

*The study concentrates on the Hospitality sector and its relation with the technological improvements. In particular the study investigates how e-mail advertising is effective to the Hospitality Industry and also searches which organizations are using e-mail advertising. Firstly theories and concepts, collected from relevant books are discussed, associated with the marketing mix, the promotional mix, the internet advertising and finally e-mail advertising is examined in more depth. Advantages and disadvantages are provided in terms of identifying its effectiveness in general. Then these theories are integrated with data and reports, from validated sources, related to the topic and the results show that indeed e-mail advertising generates benefits to the Hospitality Industry. In fact, any organization becomes able to enhance the service quality, improve efficiencies, increase of competitive advantage, maintain customer relationships and finally to increase of profitability.*

*Keywords: Technological Improvements; E-mail Advertising; Customer Relationships.*

### 1. INTRODUCTION

This section outlines what is to be achieved in context. It specifies the main aim and the major objectives of the work and also indicates the reason why the particular topic has been chosen. Finally it presents the main research questions, which are expected to be investigated.

The research includes five sections. The first section consists of a concise introduction that sets the research in context, clearly specifies the main aims and objectives, indicates the reason why the particular topic has been chosen and finally sets the questions to be researched.

The second section reviews and discusses theories, contexts and issues on which the project is based. This section is associated with the marketing mix and the promotional mix theories, advertising and internet advertising. The main area of interest – e-mail advertising and its advantages and disadvantages – is examined in more depth.

Section three presents a clear sequential statement of the methodology that has been used for the collection and the analysis of the secondary data relevant to the research aim. Limitations of the research are also indicated.

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The fourth section presents and analyses the significant information collected in order for the objectives to be met. The work at this point demonstrates how effective e-mail advertising is for the Hospitality Industry. Several reports are expected to validate the provided literature.

As a last section is the reassessment of the topic and the discussion that shows how the main objectives have been met. This part also includes recommendations and suggestions for further development.

### *1.1. Research aims*

The primary aim of this study is to consider the types of on-line advertising available for the Hospitality Industry and therefore to concentrate to the characteristics of e-mail advertising, as a tool for online direct communication.

### *1.2. Research objectives*

There are a number of objectives which are required in order for the study to achieve the learning outcomes. Those objectives are listed as follow:

- To discuss the methodological process used to answer the research question.
- To introduce the marketing mix elements, with particular emphasis regarding the promotional mix.
- To identify the promotional mix elements.
- To analyze the concepts of e-mail advertising.
- To demonstrate how e-mail advertising is effective when used by the Hospitality Industry.
- To conclude and make recommendations for the hospitality industry to use e-mail advertising.

E-mail advertising, therefore was chosen to be examined in more details, due to the fact that it is believed to be the most widely used and the least expensive internet application. Moreover it is supposed to be an effective direct advertising tool useful for the Industry to provide customer value and produce profitability. All these however are expected to be investigated and confirmed by this study.

### *1.3. Research questions*

As a final result of the work, is the provision of several reports which challenge to ask two main research questions:

- a. How e-mail advertising is effective in the Hospitality Industry?
- b. Which Hospitality organizations use e-mail advertising?

#### *1.4. Conclusion*

This section has provided details of the research aim, objectives and the research questions. The next section, which is the main body of the whole work, provides a review of literature by outlining and arguing existing theories and concepts, related to the research topic.

## 2. LITERATURE REVIEW

### *2.1. Introduction*

The aim of this section is to review and discuss the theories and the concepts on which the project is based on. The interactive review begins with an outline of the marketing mix, the promotional tools available particularly for the Hospitality Industry and finally with the analysis of e-mail advertising.

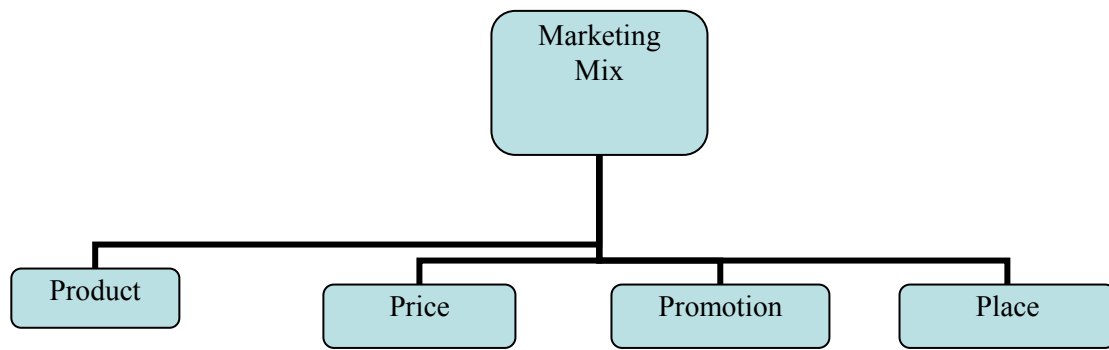
### *2.2. Marketing mix*

The aim of this section is to summarize the marketing tools available specifically for the hospitality industry to provide customer value and business success. For the study, particular attention is paid on the promotional aspects of the marketing mix. The following figure illustrates those tools which contribute to the formation of the marketing mix.

*“The four-P framework calls upon marketers to decide on the product and its characteristics, set the price, decide how to distribute their products and choose methods for promoting their products”* (Kotler, 1999, p. 96).

Those models had been arranged to be called the 4P's, also known as the marketing mix, which is the combination of stages or elements necessary, in terms of planning the total marketing operation. It includes such elements as product, price, place (distribution) and promotion (marketing communication).

FIGURE 1: THE 4-P FRAMEWORK



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Adapted from: Kotler, (1999)

In addition to these, relationship communication is adjoined for the simple reason that Internet marketing causes remarkable changes in customer relationship management practices. According also to O'Connor (1999), the marketing mix approach is too limited to provide a usable framework for assessing and developing customer relationships in many industries. Communication is essential for the Hospitality Industry in order to develop customer relationships, the foremost customer requirement. It finally helps the industry to keep in touch not only with the existing, but also with the prospective customers.

Focusing on the marketing communication (promotion), the study highlights those communication tools, also called the promotional mix, which can deliver a message to a target audience. The tools fall into four broad classes.

### *2.3. Promotional mix*

The Promotional Mix consists of such essentials, necessary for the promotion process to take place. Each one has its own use to the industry and it is applied based on its context. Going after, the promotional elements are listed and defined in brief.

1. **Advertising** is any paid form of no personal presentation and promotion of ideas, goods, or services by the identified sponsor.
2. **Sales promotion** is short-term incentives to encourage the purchase or sales of a product or service.

3. **Public relations** is used to building good relations with the company's various publics by obtaining favorable publicity, developing a good corporate image and handling or heading off unfavorable rumors, stories and events.
4. **Personal selling** is an oral presentation in a conversation with one or more prospective purchasers for the purpose of making sales (Kotler, 1999, p.489).

After presenting in brief the promotional elements, it is obvious that each component can be used for a different purpose, based on the primary requirements of any organization. Advertising is the study's most interested topic.

#### *2.4. Advertising*

Advertising is *"a nonverbal communication of information, usually paid for and usually persuasive in nature about products (goods and services) or ideas by an identified sponsor through various media"*. (Strauss, 1999, p.220)

Based on Jefkins (2000), *"advertising presents the most persuasive possible selling message to the right prospects for the product or service at the lowest possible cost"*.

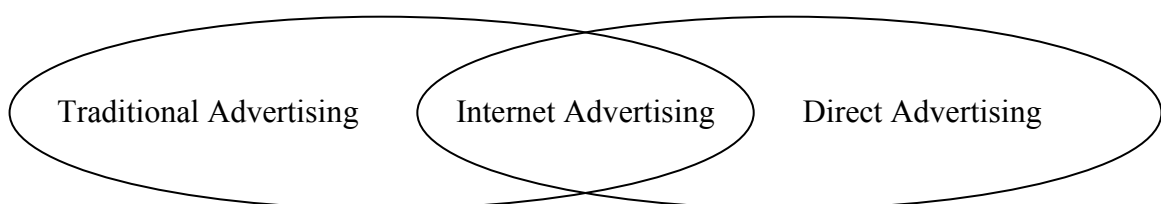
Both authors perceive advertising as a communication tool (message). That means that advertising has to do more than just inform as it aims to persuade people, influence choice and buying decisions and create positive attitudes about products and services.

At this point, advertising can be further broken down into the "advertising media mix" that specifies how much emphasis is placed on advertising by the use of television, radio, newspapers, internet and magazines. Due to its growth internet advertising is called to be further examined.

#### *2.5. Internet advertising*

*"Internet Advertising is the convergence of traditional advertising and direct response marketing"*.

**FIGURE 2: INTERNET ADVERTISING**



Adapted from: Zeff, (1999)

*“Internet advertising, like all advertising channels, attempts to give out information so as to affect a buyer-seller transaction”.* (Zeff, 1999, p.13)

It is obvious that Internet advertising differs from other media, like television or radio. Consumers get information directly, they are able to purchase products or services, and so they interact with the advertisement and become active members. The most important factor is that consumers are able to have a direct contact with the organization and make preferable suggestions.

When and if the Internet advertising satisfies the consumers, then any Hospitality organization gains profitability and success. This is the study's main concern and is being proved after the examination of the effects that they boast to the industry.

Online advertisement however consists mainly of e-mail, web site and banner advertising. The study primarily aims to research e-mail advertising. The following section reviews theories related to this topic.

## *2.6. E-mail advertising*

The following part deals with a more extensive examination of the e-mail advertising, it looks at the advantages and disadvantages, seeking finally to demonstrate its usefulness in the hospitality and consequently to answer the question of “how e-mail advertising is effective in the Hospitality Industry”.

As e-mails are messages transferred via the internet, similarly e-mail advertising is a method used to advertise by directly contacts with the customers. Messages in this case are being sent direct to customers who are interested on the advertisement. To attract people and cultivate a loyal clientele, organizations make use of the opt-in process, which is necessary firstly for legislation purposes and secondly to get the customer's permission to send the message, and avoid unsolicited messages.

The rate at which e-mail has been adopted by businesses is a testimony to its value. Based on Whelan (2000, p.4) *“The UK Department of Trade and Industry points that, 78 % of Japanese businesses, 68 % of US and 62% of UK businesses have internet access and use the email to operate more efficiently”*. It is obvious that the e-mail popularity is expanded and grown all over the world.

Certainly e-mailing has strengths and weaknesses. The following sector describes e-mail advertising as a direct marketing process, it looks at each of the main characteristics of e-mail, particularly when it is used for advertising purposes and finally presents its effectiveness and contribution to a successful Hospitality Industry.

*“E-mail is a quick, convenient, easy-to-use, low-cost way of communicating both internally and externally and businesses should use it effectively”* (Whelan, 2000, p 5). As O'Connor (1997, p.85) agrees, *“Direct marketing can be a more cost effective alternative for generating sales”*.

Firstly, email advertising has as a primary advantage its low cost of use. Among other advertising media, certainly e-mailing is the least expensive, even than the traditional media advertising.

According to Strauss (1999 p.224), statistical reports illustrate the advertising expenditures in 1999 (Figure 3).

**FIGURE 3: STATISTICAL REPORT**

Banner	56%
Sponsorships	27%
Interstitials	4%
E-mail	2%

Despite that, Whelan (2000) also supports that *“e-mail advertising is convenient, as messages can be sent and received anytime, anywhere. It is quick, usually taking few minutes to travel around the world and it is available 24 hours a day, seven days a week”*.

Secondly, E-mail advertising has the advantage of being an online direct marketing channel. Customers seek for more long-term relationships and attention became a desirable commodity. So when advertising via e-mails the advertising material is sent directly to the customer (O'Connor, 1997).

Apart from that, *“Direct e-mail advertising has the advantage to be personalized, gives good message and timing is flexible, can easily carry sales promotions and is the best for measuring effectiveness because of response tracking capability”* (Strauss, 1999, p.252). Obviously, e-mail advertising provides a direct relationship with the consumer.

In addition, based on Zeff (1999), when advertising via e-mails, it is then possible to track an accurate number of people. E-mails are targeting the people who are willing to get the message. Through a specific promotion, included in a web page, customers are asked to provide their e-mail addresses. This is a way, known as “opt-in strategy” through which businesses develop their customer lists, for directly contact them. The benefit lies down both to the business and the customer; firstly, consumers interested on a specific topic have the ability to directly get the desired information and secondly firms avoid sending unwanted spam to thousands of Internet users who are not interested in what the business has to offer.

Furthermore, *“e-mail newsletters are an excellent tool for communicating and tend to be more conversational than other written communications”*. (Strauss, 1999, p.242) Their use promotes the company to clients in a frequent and legal manner, provides personalized communication with customized content and also directs recipients back to the company's Web site.

In addition to the above, *“the cost of distributing the newsletter approaches zero and the size of the newsletter is not constrained by print format, so e-mail newsletters have become one of the favoured means for firms to reach out to customers on-line”* (Merisavo and Raulas, 2004).

So, any form of e-mail advertising paybacks any organization in terms of communication, legality and cost. Thereupon all customers get the advantage of getting aware of new products and services and updated information and on the other hand, the business provides customer value and satisfaction and results to profitability.

Even if e-mail advertising provides all of the above benefits, it also consists of some weaknesses through which the industry rather than achieving success, it collapses. Accordingly, its disadvantages are being presented below.

E-mail direct marketing when is done right, can be extremely effective for any industry and it can attract many customers. On the other hand, when e-mail direct marketing is done wrong, it can be worse than doing no advertising at all. Drawbacks may easily contribute to the failure of the industry. This is a reason why many advertisers often *“overlooked and scoff at the idea of e-mailing advertisement”* (Zeff, 1999, p.36).

The main disadvantage of e-mail advertising is the so called Spam. *“Spam is an unsolicited e-mail message considered to be a dangerous marketing tactic and it is not recommended. Spamming is considered a high crime by the online community. On the most basic level, spammers lose customers”* (Zeff, 1999, p. 27).

Careless application of e-mail advertising, results to the decrease of customers' responds and so organizations fall down. Despite that, marketers are able to avoid spamming by using “opt-in” lists. Opt-in means that a person has to ask to receive the e-mails. At any time that person can just easily opt-out and stop receiving the e-mail messages.

Conversely, e-mail's disadvantages include difficulty in finding appropriate e-mail lists. Lists though can be generated through web site registrations, subscriptions or purchase records. Many sites require registration in order to access free information. At the time of registration, the site learns the user's e-mail address among with his personal details. The same applies when subscribing or purchasing. Another way to harvest addresses is from newsgroups or online e-mail directories. (Strauss, 1999)

Furthermore, despite the fact that e-mail is the least expensive advertising medium, costs are in existence in terms of design, construction, regular maintenance and updating. Also in relevance to security issues, active viruses are able to harm not only a computer but also the reputation of the industry.

Based on all the above, disadvantages are limited to the advantages, therefore e-mail advertising is effective, since it is a direct communication tool and provides long-term relationships, is cheap and easy to be used, is personalized and tracks an accurate number of people.

This section has shown the effectiveness of e-mail advertising in general. The following section provides details of the methodological process followed.

### 3. METHODOLOGY

The study outlines that for the data collection secondary research was contacted and relevant to the topic books and magazines were used. Also for the investigation of how and which Hospitality organizations use e-mail advertising, validated websites were explored.

Needless to note that during the attempt of integrating theories and practices in more depth, time was too limited and the assignments was required to be expanded shortly. Also the study could accomplish its requirements greatness, but no primary research was required.

The next section aims to show how e-mail advertising is effective in the Hospitality Industry and to answer both the research questions.

### 4. FINDINGS, ANALYSIS AND DISCUSSION

This section aims to demonstrate how e-mail advertising is effective in the Hospitality Industry and to illustrate which Hospitality organizations use e-mail as an advertising tool.

Based on the literature review, e-mail advertising is directed to customers who are interested in an organizations' specific advertisement which allows the consumers to react and make orders. Based on this, hotel bookings through the internet are increasing. This statement can be substantiated by the increase in hotel bookings. In 2003, 15% of all revenues were generated from the internet, this increased to 20% in 2004 and as it has been predicted, and 25% of all revenues will be generated from the internet in 2005. (Starkov and Price, 2004)

The study also stated that e-mail advertising has the advantage of being an online direct communication channel. Several major brands such as Marriott, Hilton and Hyatt already boast a Direct Vs Indirect online revenue average, as high as 75% for direct sales and 25% for intermediary sales. (Starkov and Price, 2004) Thus e-mail advertising as an online distribution channel generates sales.

Furthermore, the following figure shows the results form a survey conducted by the Hospitality Sales and Marketing Association International (HSMAI) and PKF Hospitality Research, to identify the outlets used by organizations when investing in person-to-person sales (Koumelis, 2005).

Therefore, the above table shows that e-mail advertising is highly in terms of return on investment and consequently it suggests its effectiveness.

The fact that on average only 5 percent of recipients have ever unsubscribed from any travel related list. Indeed, some travel-related email campaigns report response



rates as high as 25 % (Forrester Research). This confirms the preference of consumers to use e-mail to learn about travel specials and promotions. (Starkov and Price, 2004)

**TABLE 1: HOSPITALITY RESEARCH**

<b>Outlets</b>	<b>%</b>
Web Site	89.7
Links with other Web Sites	75
E-mail advertising	66.2
Keyword search optimization	47.1
Banner ads	33.8
Other Internet outlets	2.9

In addition to this, because e-mail advertising is more personal, people are apt to be more receptive to it as they have more time to pay attention to their e-mail. (Janis, 2000)

The Director of Sales and Marketing Information services of the Hyatt Hotel brand, states that the Corporation plans to complete an e-mail database system that will enable it to send millions of targeted e-mails to segments of its established customer base and track the responses (Nemes, 2000). It seems like hoteliers are embracing e-mail advertising as an effective promotional tool

Taking into consideration the second research question, of which Hospitality organizations use e-mail advertising, there are several organizations which use e-mail advertising. Whilst conducting the secondary research for this project, it was identified that Marriott, Hyatt, the Banyan Hotels and Resorts, are users of the e-mail advertising tool.

This section worked for the study's fulfilment. Statistical reports had answered the research questions and shown that e-mail advertising is effective as it is easy, to be used, cheap and personalized and finally contributes to the generation of sales. All in all, mainly major hotel brands were found to utilize e-mail advertising and this certainly excuses its effectiveness.

Hoteliers are recognizing the importance of direct-to-consumer online distribution, the long term competitive advantages of creating interactive relationships with their clients and the customer satisfaction. They are now committing more resources on the direct channel and broad Internet services to secure their own robust presence on the web and reinforce direct communication with their customers.

## 5. CONCLUSIONS AND RECOMMENDATIONS

This section is the conclusion of the whole work and also recommendations are presented for future development of the e-mail advertising usage in the hospitality industry to use e-mail advertising.

To make general conclusions, the work has achieved to meet the main objectives. The results reveal that regular e-mail marketing has positive effects to the Hospitality Industries, in terms of profitability and customer satisfaction, as the percentage of users is getting increased year by year. These results encourage marketers to keep in frequent contact with customers via e-mail, aiming to enhance profitability and provide customer value.

All in all hoteliers who embraced the use of email marketing as a direct distribution tool looks like they have another potent weapon in their arsenal. *“We have revisited email because this e-Marketing format has developed remarkably in hospitality over these few years”*. (Starkov and Price, 2004)

In this paper it has been argued that e-mail marketing is important in enabling hotel firms to offer new and improved customer services, while simultaneously hotels to strengthen customer relationships. Those two elements are the key ingredients that the Hospitality Industry needs to consider if they are to ensure their firms' future survival.

Email Marketing is an important aspect of the hotelier's Direct Online Distribution and e-Marketing Strategy. Email and e-Marketing in general can be used both as a direct response vehicle (short-term, results-oriented) and as a branding tool (long-term and strategic goals). Email advertising allows hoteliers to engage the customer in a strong, personalized and mutually beneficial interactive relationship at a fraction of the cost of traditional marketing. And most importantly, email marketing allows the hotelier to “own the customer” in this new online distribution and marketing environment. (Starkov and Price, 2004)

Nevertheless, the study wants to place some recommendation in order for the above e-mail marketing to become a more effective tool.

E-mail communications need to be treated carefully so as to maintain the goodwill and interest of our customers. (Merisavo and Raulas, 2004) Unskilled users are more likely to make their business collapse rather than being successful.

It is important for the industry to consider the design of specific segment of existing and potential customers. The recipients of e-mail advertising should be identified and grouped. This provides the most successful e-mail campaigns, but also gains the permission of the recipients for the e-mailings. (Cox, 2004)

In the final analysis it is important to note that e-mail is not simply postal mail minus the paper and postage. E-mail offers marketers the chance for real dialogue with individual customers, as well as a way to develop broad and deep customer relationships instead of merely using it to acquire customers. (Strauss, 1999)

The study states at the end that has achieved to accurately answer the research questions and thus notifies that indeed e-mail advertising is effective and that Hospitality Industries have come to rely on it.

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## COMPARATIVE ANALYSIS OF THE MARKETING STRATEGIES USED IN THE BANKING SECTOR BETWEEN AFRICAN AND EUROPEAN COUNTRIES: THE CASE OF GHANA AND CYPRUS

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### ABSTRACT

*While a vast number of literature have pointed out the importance of marketing strategies in consumer markets, little attention has been given to the value to which marketing strategies can be used by banks to mobilize bank deposits. The purpose of this study is to compare the marketing strategies used by banks between African and European countries by focusing on Ghana and Cyprus. The findings from the data collected identified the potential outcomes of using diverse marketing strategies in the banking sector and the influences these different marketing strategies on customers. The study further recommends the need for banks to use more technically competent staff that can easily think outside the box and map out strategies for banks to mobilize more deposits from customers.*

*Keywords: Banks; Marketing Strategies; Deposits; Ghana; Cyprus.*

### 1. INTRODUCTION

The banking industry has for many years enjoyed a profitable journey of success in business. Until recently, where many banks in the world have suffered their fair share of the world's on-going credit crunch. Cyprus and Ghana which were used as the case study for this paper are yet to probably experience their share of the current financial turmoil with its last recorded bank deposits standing at €56 billion. Indeed the Annual report of Bank of Cyprus (2007) indicates that quasi-money grew by 22% in 2007 compared with 12.5% in 2006. This accounted for 54.6% and 19.4% of total loans to both personal/professional and construction loans in 2007 compared with 50.6% and 18.8% in 2006, respectively.

Similarly the Ghana banking survey report (2008) suggests industry increases of deposits from 3.55 billion cedis (2006) to 3.63 billion cedis (2007) accounting for an increase in the industry's net loans from 2.29 billion Ghanaian cedis to 3.87 billion Ghanaian cedis.

Notwithstanding these accomplishments in the industry, anecdotal evidence accumulated over the years suggests an astonishing high degree of deposits could be mobilized from customers if the needed attention is given to marketing strategies that could create, communicate and deliver value to customers and for managing customer

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relationships in ways that benefit the organization and its stakeholders (American Marketing Association, 1995) on the need to a good savings culture that may possibly help sustain the banking systems. Until now there has been no systematic collection database of marketing strategies used in the banking industry to essentially reposition the banking industries in Cyprus and Ghana to avert experiencing their share of the world's on-going financial crisis except to rely on the various bailout plans sort to by various country governments. This ignorance of facts provides some fertile grounds for further investigations into the existing marketing strategies that are currently being used in the industry.

## 2. LITERATURE REVIEW

Alvin and Bush (2008) define Marketing strategy as: “selecting a segment of the market as the company's target market and designing the proper mix of the product/service, price, promotion, and distribution system to meet the wants and needs of the consumers within the target market”. Doyle (2000) proposes a value-based marketing strategy as the set of coherent decisions about the firm's approach to the market, which aims to maximise shareholder value.

The importance of using marketing strategy in the banking industry was also illustrated with a practical example by Cravens and Piercy (2003) in which the study showcased the importance of effective implementation and control approaches by re-branding strategy at Continental Savings Bank (CSB) to become what is now known as Home Street Bank to differentiate better against competition, build strong links to the customer as “a bank that's like a family” and “a bank for life,” designed an identity system covering all contacts with customers, and systematically implemented the new strategy with the public launch in May 2000.

In relation to its effectiveness, the sole criterion for measuring marketing effectiveness is profitability, if improved sales performance is achieved. Expectations must be set for the outcomes attributable to the confirmation of marketing activities employed to attract business. This involves measuring sales ratios and trends (Melchinger, 1992).

Nonetheless, the increasing demand for banking services have accounted for the commercial banking industry like many other financial service industries to face a rapidly changing market, new technologies, economic uncertainties, fierce competition and more demanding customers that have created an unprecedented set of challenges (Lovelock 2001:Flier et al. 2001). Alam et al (2003) in a study on innovation strategy, process and performance in the commercial banking industry insist that “such a rapidly changing business environment has prompted a number of notable changes in innovation activities and the overall bank marketing strategies.

### 3. RESEARCH METHODOLOGY

To increase knowledge and understanding of the subject for the research, a combination of methods of both qualitative and quantitative nature are used. The first task that was achieved was the development of specific and directional hypotheses linking the different marketing strategies that are and could be used to mobilise more deposits for banks.

What is important here is that the hypotheses were not only based upon the literature but also upon a stage of preliminary exploratory research. This exploratory work took the form of in depth personal interviews with some top bank officials in Ghana and Cyprus. The data collected in this exploratory phase was analysed to develop preliminary findings in the study. This was further used to develop a questionnaire to create a pool of marketing strategies that could be used by banks to compliment their efforts in deposit mobilization.

To further compliment the initial findings from the literature and the personal interviews, a quantitative and qualitative survey on marketing departments of various banks were conducted in Ghana and Cyprus. Samples of 22 different banks in Ghana were given questionnaires out of which 12 banks administered and gave back questionnaires to the researchers.

### 4. QUALITATIVE AND QUANTITATIVE APPROACH

Aaker et al (1998) suggest that qualitative research is “designed primarily for exploratory purposes, such as getting oriented to the range and complexity of consumer activity, clarifying the problem, and identifying likely methodological problems; examples are individual and group interviews, project techniques, and case studies”. The qualitative approach could also be an inquiry into subject matters aiming at having a purposive sample for a specific discipline. In view of this, qualitative studies could have a strong and definite role in research and may well probe into areas which answers are unattainable by quantitative means. Quantitative approaches may well be designed to elicit response to predetermine, standardized questions from a large number of respondents involving the statistical analysis and responses (Baines and Chansarkar, 2002).

#### *4.1. Primary data*

The primary data are limited to surveys and interviews. In the case of interviews, topics such as the Market, Target Customer, Competition, Offerings, Messages, Mobilization and Deposit processes as well as Pricing were thoroughly discussed. In addition, more quantitative questions such as how interest rates are determined on

various accounts and what accounts for a bank to become the market interest rate leader.

#### *4.2. Secondary data*

The secondary data are all the data available and collected for purposes differentiated from the present problem. In this regard, Books, Articles and Periodical reports were found in libraries in support of this work. The Internet and the database of Google provided many useful websites regarding various subjects that have been helpful in completing this research paper.

### 5. MARKETING STRATEGIES IN AFRICA (GHANA)

#### *5.1. Designed products/ services*

Bajada (2008) point out that the scope of service design compasses, new or changed services, service management systems (particularly the service portfolio), technology architecture and management system processes, and measurement methods and metrics. This assertion is general to all services provided by organizations in the world.

Banking in Ghana requires more than being constantly glued with the same service or product. Thus, the industry, due to its competitive nature and drive, makes it impossible for any bank to remain in the market without constantly making strenuous efforts to introduce new or changed products. According to the banking survey report (2008), many banks within the last five years have introduced branded variations of the same range of products – spots of virtual banking (e.g. e-banking and m-banking products), zero balance accounts, interest-bearing current accounts, checking savings accounts, school transactions solutions, juvenile savings accounts, card-based solutions, and so on. Some of the specific products introduced to the market by banks are Credit card; Ecobank Ghana Limited, Deal of a lifetime; Intercontinental Bank, EasySave; Amalbank, KiddySave; CAL Bank.

The efforts made in introducing these new products to the industry attracted a pool of customers and consequently increased the savings rate of customers to the banking sector. As the Monetary Policy Committee of the Central Bank of Ghana monthly report (October, 2008) indicates, the banking industry growth in assets from January to September, 2008 was funded mainly by deposits which amounted to GH¢6.238 billion representing an annual growth of 45.2% as compared to 42.7% for the same period in 2007.

Even though Ghana is a developing country, its banking sector remains vibrant and resilient. Undeniably, the industry could be said to be far ahead of other sectors in respect of Ghana's economic growth. Services technology and computerization

support systems are generally the base of banks product designs. Computerisation of these designed products makes it easy for these banks to strategically market these products through their branches to target customers.

Finally, Bajada (2008) explains that metrics enables process control. That metrics means something measured and reported on to manage a process. According to Bajada they show the value that is brought to the business from the definition and use of good metrics (“if you can’t measure it, you can’t manage it”) as he put it. From the feedback that was received by the authors on the field, although these metrics are in place, in most cases the metrics are not adequately used by the banks as some banks were not able to readily provide up-to-date information on depositors as of the time the research was been conducted.

### *5.2. Branding*

Kotler and Keller (2006) propose that “branding involves endowing products with the power of brand”. That a brand is a name, term, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors. In an industry that has already been described by industry experts as highly competitive, banks in Ghana have chosen brand elements that easily necessitate strategies for brand recalls. In that it is imperative on banks to have a name, symbols, slogans and logos that could easily be identified and remembered by target customers.

Banking in Ghana involves more than just banking associations with customers. Banks continue to establish images that try differentiating each of them from the other and have succeeded in suggesting to customers the need of doing business with them. The industry continue to attract, retain and maintain highly qualified personnel to fill their most sensitive positions to have customer confidence, credibility, trustworthiness and be more attractive to customers.

### *5.3. Website and internet marketing*

Internet marketing, also referred to as web marketing, online marketing, or e-marketing, is the marketing of products or services over the Internet. The Internet has brought many unique benefits to marketing, one of which being lower costs for the distribution of information and media to a global audience. The interactive nature of Internet marketing, both in terms of providing instant response and eliciting responses, is a unique quality of the medium. Internet marketing is sometimes considered to have a broader scope because it refers to digital media such as the Internet, e-mail, and wireless media; however, Internet marketing also includes management of digital customer data and electronic customer relationship management (ECRM) systems.



To help minimize marketing costs and save time, website and internet marketing are becoming more and more popular with the banking industry. Thus, websites of many banks in Ghana are well constructed and designed to convey messages that are simple, easy and are even intended to inform, persuade and effectively remind customers about the various products that are provided by banks. A field assessment by the authors, also reveal how internet banking in Ghana has gone beyond the traditional services offered by banks. The majority of banks allow the customer to pay utility and other related bills on behalf of the customer through the internet. As customers, they are able to sit at home, work and to access banking services from anywhere without any cost to them. These banks strategically use their websites to attract customers to their offerings. The consequence of this is that it helps banks to increase the rate of deposit mobilization.

#### *5.4. Sales promotion*

McDonald (2008) defines sales promotion as a non-face-to-face activity concerned with the promotion of sales. Sales promotion seeks to influence customers to buy and use products in order to satisfy customer value.

It is a promotional mix that banks in Ghana use through the use of a contest, an event in which two or more customers engage in competition. Banks periodically promote their products (services) through these contests such as raffle draws to attract customers to deposit more to banks. Banks adopt the strategy of inducing a customer to deposit and keep a minimum balance of account for some time in order to win an attractive reward such a Jaguar or Mercedes Benz car or in some cases a house.

#### *5.5. Public relations*

Weiner (2006) in his book "*Unleashing the power of PR: A contrarian's Guide to Marketing and Communication*" makes a pointer to the Public Relations Society of America's definition, in which he outlines that: As part of its definition of Public Relations (PR), the Public Relations Society of America describes PR in these terms: As a management function, public relations encompass anticipating, analyzing and interpreting public opinion, attitudes, and issues that might impact, for good or ill, the operations and plans of the organization; Counselling management at all levels in the organization with regard to policy decisions, courses of action, and communications; Researching, conducting, and evaluating, on a continuing basis, programs of action and communication to achieve the informed public understanding necessary to success of an organization's aims; and Planning and implementing the organization's efforts to influence or change public policy.

### *5.6. Personal selling*

Personal selling is oral communication with potential buyers of a product with the intention of making a sale. The personal selling may focus initially on developing a relationship with the potential buyer, but will always ultimately end with an attempt to "close the sale". (tutor2u.net, 2008)

To proficiently and effectively apply this promotional mix, Banks in Ghana have in place a team of trained sales personnel recruited purposely by banks to communicate with potential customers at vantage points. In some cases these personnel go to various other organizations and institutions to sell the products of these banks to the employees of such organisations. This reinforces, persuades and constantly reminds these target customers about the services being provided by a bank and its associated benefits to the customer.

### *5.7. Sponsorship management*

In Ghana, sponsorship management is a big business opportunity particularly for banks to strategically build brand awareness with target customers. Banks invest large sums of money to support sport events, activities, organisations and individuals with the aim of maximising all potential media opportunities.

### *5.8. Collateral materials*

Collateral materials include a wide range of documents that companies use to promote themselves. They differ from advertising materials in that they are generally more of a soft-sell and often designed to provide on-going PR for a company more than generate immediate sales. Collaterals may or may not be tied to specific advertising campaigns. These may include, but not limited to banks, the use of brochures, reports, newsletters, data sheets, folders, notebooks, pens, jugs, cards and advertisements. (Desktoptpub, 2008)

## **6. MARKETING STRATEGIES IN EUROPE (CYPRUS)**

### *6.1. Designed products/ services*

Armstrong (2006) insists that Product design describes the features of a product. It shows how the general characteristics outlined in the operations strategy are translated into actual products. Furthermore, Ennew et al (1993) suggest that, building society of customers derive satisfaction and benefits from the services they are offered and used (e.g. high interest accounts; financial advice). Thus, the decisions that are associated

with the planning, development and offering of a society's range of services are central to its success.

Banking in Cyprus calls for a more technological design for the product being offered. As Bajada (2008) points out: "the scope of service design compasses, new or changed services, service management systems (particularly the service portfolio), technology architecture and management system processes, and measurement methods and metrics".

Increasingly, banks in Cyprus are driven by internal and external forces to develop and improve new products and services. These forces include micro and macro factors, inflation, and investor confidence, volatility of businesses and stability of the economy. Because of this, banks are forced to offer services that are new to banks but not new to the market.

### *6.2. Branding*

In an industry that has been described by financial pundits as "haven eroded barriers to entry", allowing new entrants in the market, with relatively little investment, trying to rapidly take market share, banks will need to persistently concentrate on aggressive branding strategies in order to have a place in the market. A bank could therefore survive in such a flooded market with the bank having its brand equity to be well managed to occupy a distinctive place in the minds of target customers.

In this light, banks in Cyprus present an image that depicts them as personally responsible to meet the needs of individual customers. Considering the positioning of bank images to attract businesses, the industry presents a very professional line of handling business related issues.

### *6.3. Advertising*

Bank advertisements are carried out in most electronic and print media. To make individual banks distinctive from competition, banks convey an image of being caring, welcoming and appealing to customers.

These are often done by informing customers about new products. In addition, the banks in some cases advertise with the aim of reminding customers about their existing products.

However, unlike Ghana where customers are seen as been in more need of banking services, in Cyprus, banking services drives most of the private and commercial activities of persons and businesses. Because of this, not much money is spent on advertisement to persuade customers about the existence of banking products.

#### *6.4. Website and internet marketing*

Internet marketing does not simply entail building or promoting a website, nor does it mean placing a banner advertisement on another website. Effective Internet marketing requires a comprehensive strategy that synergizes a given company's business model and sales goals with its website function and appearance, focusing on its target market through proper choice of advertising type, media, and design.

In relation to these benefits and lesser costs, banks seize the opportunity to display and promote all their products on the website. They thus communicate every aspect of banking businesses including vacancies on the websites to benefit customers and the public.

#### *6.5. Sales promotion*

McDonald's (2008) view point on sales promotion as a non face-to-face activity is concerned with the promotion of sales. In Cyprus however, the banking industry could be seen as fully utilizing this promotional strategy. As an example, some banks in Cyprus, have instituted a system known as "money return scheme" in which customers gain some points on their credit cards for every purchase they make using the cards. This means that, the more a person uses the card, the more that person increases his or her points on the card and thus the more money returns for them.

#### *6.6. Public relations*

As a cardinal strategy to every professional organization and industry, banks in Cyprus portray the industry as friendly and socially responsible for the customers' personal needs. The sector maintains and keeps good relation with the general public in the conduct of to-day-today businesses making the public and investors to have confidence in the industry.

#### *6.7. Personal selling*

Personal selling is often not used by banks in Cyprus. This is largely due to the fact that, the culture has been people having no transaction made without the active or partial involvement of banks. Due to this culture, one can argue that the customer is said to be obliged to associate more with banks than banks associating with customers.

#### *6.8. Sponsorship management*

Sponsorship management is traditionally seen by marketers as an essential platform for businesses to indirectly persuade customers about the existence of an

organization's product. To manage this, some banks in Cyprus recognising the publicity that football attract from the media networks sponsor teams through the Cyprus Football Association. For instance the football league in Cyprus is being sponsored by the "Laiki Bank". In addition, the bank also has in place a scheme in which the most valuable player (MVP) for every match is presented with a cash prize and this is often awarded right after every football match where most fans are usually either behind their television sets or at the stadium to witness.

In addition to this, banks also sponsor concert shows, buy buses for charitable organizations with their logos and corporate values displayed on these buses to persuade and remind potential and existing customers about the socially responsible nature of these organizations.

#### *6.9. Collateral materials*

Banks operating in Cyprus, as part of their marketing strategies, use collateral materials such as brochures, reports, newsletters, data sheets, folders, calendars, pens, note pads, cards etc. These collaterals are different from advertising materials as they are generally more of a soft-sell and often designed to provide on-going PR for a company more than to generate immediate sales.

### **7. FINDINGS**

#### *7.1. Survey results and analysis*

In all, the research's sample composed of eleven out of twenty-four banks (Ghana) and six out of seventeen (Cyprus) representing 46% of the banking population in Ghana. This, according to Hair et al. (1995) can be considered satisfactory for the objectives and statistical analysis of the study. 73% respondents of this sampled population were mainly marketing executives who take part in mapping out a strategy for marketing a bank's products or services whereas 27% were not involved in making marketing decisions for these banks. On the other hand, 67% respondents were found to be part of developing marketing strategies for their banks while 33% falls within the category of non-marketing executives such that they do not help in making marketing decisions for their banks.

The authors' prior knowledge and understanding from the preliminary interviews suggested the need for the survey to include the following banking services: deposits, loans, electronic banking, financing, investment and treasury, mobile/telephone banking, private and business banking, special packages and other services. The survey revealed that, all the sampled banks in Ghana agreed on offering services such as deposits to customers, loans, electronic banking, financing, investment and treasury, and private and business banking. However, 28% admitted using

mobile/telephone banking whereas, 55% acknowledged offering special services mainly customized services for loyal customers and 73% providing other services other than the afore mentioned products.

Conversely, the findings from the banking industry in Cyprus suggest 100% of the sampled banks in the industry render services such as deposits, loans, electronic banking, financing, investment & treasury, Mobile/Telephone banking, private banking, business banking whilst 17% of banks were identified with special packages and 50% supported the idea of providing other services other than those that are enumerated.

The results further uncovered the following ranges as the branches for the various respondent banks.

### *7.2. The markets*

Alvin and Bush (2008) put forward that in pursuing a particular market, the appropriate marketing strategy will be segmentation, targeting and positioning the product in the minds of customers. The Ghanaian banking market has its market segments as industry and sectors, private and business, institutions and organizations, medium small and large organizations. All the respondents from these two countries use the following groupings as their market customer segments: corporate entities and businesses, medium and small enterprises, individuals, associations, clubs etc.

The results further revealed that engineering marketing strategies are mainly dependent on other macro and micro-economic factors such as inflation, interest rates, competition. Banking services are also often affected by seasonal business cycles such as Christmas where many customers become more conservative, restraining the rate of deposits to banks. Indeed, all the eleven banks who participated in the research were being affected by these market trends.

### *7.3. Target customers*

Dowling (2004) propose market targets are the segments of consumers that the organization chooses to serve. Two of these banks had their main target markets as upper and middle classes respectively. The upper and middle classes represents 9.09% of the target market while the rest focus on lower and middle classes of people in Ghana as the target markets. The target market investigations also revealed that 27% of the banks in Ghana believe target customers had good customer service and loyalty, and image as the primary reason of wanting to do business with banks in Ghana whereas 83% of these banks in Cyprus subscribed to a combination of good customer service, convenience, loyalty and image as the key strategies sustaining them with the target market.

Comparatively, the results from the Cyprus banking Industry, hints that 33% had their targets as Upper and Middle classes while 17% had its prime markets focused on the lower class. Meanwhile all the banks in Cyprus admitted having all the three classes as target markets. Responding to the reasons why a customer may want to do business with a bank, 33% of the sampled banks indicated good customer service as the key to attracting more deposits from customers, 17% pointed to convenience and, loyalty and image with all the sampled banks favouring the combination of three factors as the main reasons for wanting to do business with these banks.

In responding to questions on the concerns that are usually expressed by customers, the findings from Ghana suggest 91% of the banking population had a shocking turnaround time in delivery of services to customers with 9% admitting to high charges whereas in Cyprus 33% had commented on delivery time, high bank charges and other concerns that had been described as others. Banks images in Ghanaian market has 9% of banks having the strongest image, 55% having a stronger image with only 36.36% of the population with a strong image in the market and this was due to fact that they enter in the market not long ago. On the contrary, 67% of banks have an image as strongest amid 33% with a stronger image.

Customer preference of banks as the findings suggest are mostly influenced by the level of bank charges in the market according to affordability, low bank charges, negotiable interest charges, indeed some of these banks implied using all of these levels of charges.

#### *7.4. Deposits/savings methods*

Banks in both countries are effectively using marketing strategies such as direct personal sales, direct online sales, indirect through channels, off shoring to raise more deposits from in selling services to customers. However, the efforts made by banks in these two countries were mainly through customers depositing cash by themselves, cash pick by banks authorised officials from customers. In addition to these two main methods, Banks in Cyprus use the ATM extensively to mobilize more funds from customers.

#### *7.5. Pricing (interest rates)*

When respondents were asked the extent to which interest rates were important in the decision processes of deposit mobilization, there were no major differences concerning the views that were gathered from the two countries. Indeed, all the respondent banks from Ghana and Cyprus agreed that interest rates were extremely important. Thus, the nominal interest rates given to customers on savings are in some cases negotiable whereas the real interest rates given to customers on loan facilities are often occasioned in parallel cases that, they are dependent on other uncontrollable

factors such as prime rates from the respective central banks, level of inflation, risk levels of businesses, competitions interest rates, macro and micro economic indicators.

## 8. CONCLUSIONS

### *8.1. Theoretical implications*

As earlier suggested, marketing strategy has been explained by Alvin and Bush (2008) as selecting a segment of the market as the company's target market and designing the proper mix of the product/service, price, promotion, and distribution system to meet the wants and needs of the consumers within the target market. According to Doyle (2000) a value-based marketing strategy is the set of coherent decisions about the firm's approach to the market, which aims to maximise shareholder value. Based on the results from the findings, there is a correlation between banks marketing strategies and increasing rate of deposits mobilization.

The results suggest that the use of more sophisticated marketing strategies such as the automated teller machines in Europe (Cyprus) for deposits together with cash picks and deposits by customers themselves makes it more attractive and yet persuasive for customers to save more cash with banks in Cyprus as compared to banks in Africa (Ghana) limiting its marketing strategies to the traditional methods such as deposits by customers and cash pick from customers by banks authorised officials.

In reviewing banks images in relation to marketing strategies, the results indicated that banks' images in the industry of Ghana has 9% banks as having the strongest image, 55% having a stronger image with only 36.36% of the population with a strong image in the market. On the contrary, 67% of banks had the image as strongest amid 33% with a stronger image in Cyprus.

Customer preference of banks from the two countries are mostly influenced by marketing strategies with banks differing the levels of charges in the market to affordability, low bank charges and negotiable interest charges. The results revealed banks use these diverse strategies to attract more customers.

The investigations made known that 27% of these banks believe they have their target customers largely due to marketing strategies translated into good customer service and loyalty, and bank images in Ghana whereas 83% of these banks in Cyprus subscribed to a combination of good customer service, convenience, loyalty and image as the key strategies sustaining them with the target customers.

### *8.2. Practical implications and recommendations*

The instrument used in this study is available for marketing managers and executives to measure how banks diverse marketing strategies to mobilize deposits.



Although the analysis focused on deposits mobilization in the banking industry, the results could have implications to other services that have similar characteristics such as insurance, mutual funds management services etc. The result compiled from the study illustrates how banks in Ghana and Cyprus provides good customer services, good & negotiable interest charges, and low bank charges as marketing strategies mobilize more deposits and thus, consequently capture more market share in the industry. Because of this, marketing managers and executives should be keen on adopting marketing strategies to attract more savings from customers.

Bajada (2008) explains that metrics enables process control. That metrics means something measured and reported on to manage a process. According to Bajada, they show the value that is brought to the business from the definition and use of good metrics as Bajada rightly put it “if you can’t measure it, you can’t manage it”. From the feedback that was received from the banks by the authors on the field, although these metrics are already established marketing strategies used by banks in these two countries, in most cases the marketing strategies are not adequately used by the banks as most banks were not able to readily provide up-to-date information on depositors as of the time the research was conducted. Bajada (2008) further proposes that measurement selection should encourage meeting business objectives, assist in behavioural change, change the way people work so as to know what is known and what is happening, identify excellence and the need for improvement. In understanding this, the authors believe managers should, according to Alvin and Bush (2008), monitor marketing performance through image analysis, such as bank image, tracking studies and customer satisfaction studies to lure more customers to cultivate the habit of saving with banks.

Future research should mainly be based on the current limitations since the present findings cannot be generalised based on the fact that a relatively small sample was used even though more than 30% of the banking population in both countries were studied. For this reason, the following research questions are worthy of exploration: Under which circumstances can staff of banks with little or no knowledge contribute to mapping out a marketing strategy to attract more deposits to a bank?; Based on what reasons can one say that commercial banks include rural and cooperative banks which are mainly found and operated within communities?

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